(No Model.)

H. D. BIXLER & G. C. FERGUSON.

WINDMILL ATTACHMENT.

No. 483,206. Patented Sept. 27, 1892.

Fig. 1.

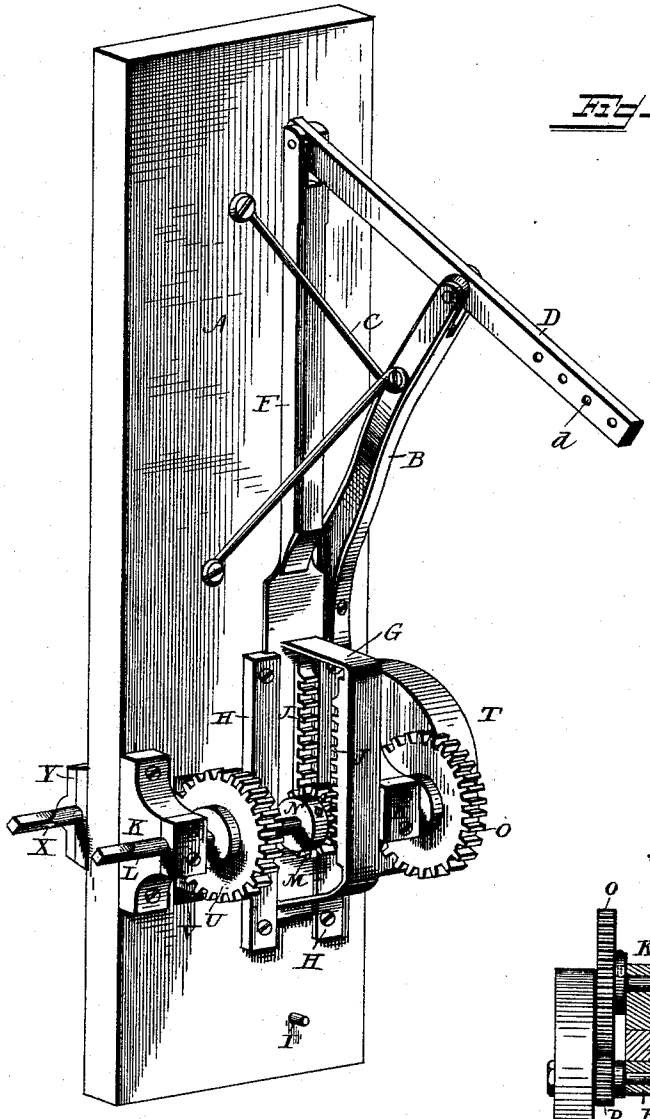


Fig. 3.

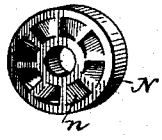
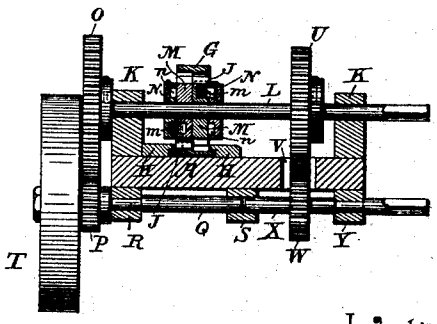


Fig. 2.



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WINDMILL ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 483,206, dated September 27, 1892.

Application filed November 23, 1891. Serial No. 412,813. (No model.)

To all whom it may concern:

Be it known that we, HENRY D. BIXLER and GEORGE C. FERGUSON, citizens of the United States, residing at Odell, in the county of Gage and State of Nebraska, have invented a new and useful Windmill Attachment, of which the following is a specification.

This invention relates to power-transmitters; and it has for its object to provide a machine of this class that is adapted to be connected with the pump-rod of a windmill and convert the reciprocating motion thereof into rotary, which motion can be utilized to operate churns, ice-cream freezers, corn-shellers, or any other light machinery, and also to provide a device of this character whereby the tendency to stop at a dead-center of motion is entirely overcome, and also to provide means for the utilization of different speeds from different shafts of the transmitter, and also one in which the pump-rod of the windmill may be readily connected to or disconnected from the transmitter while said pump-rod is in motion.

With these and many other objects in view, which will readily appear as the nature of the invention is fully understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a power-transmitter constructed in accordance with our invention. Fig. 2 is a transverse sectional view of the same through the parallel shafts of the same. Fig. 3 is a detail in perspective of one of the ratchet-disks.

Referring to the accompanying drawings, A represents a suitable framework carrying the various parts of the transmitter and located at some suitable point adjacent to the pump-rod of the windmill. An offstanding arm B, having a bifurcated upper end and secured to said frame and braced off from the same by the angular bracket C, is secured at each end to said frame or base and at its outer apex to said arm, in order to relieve the arm from strain and place the strain upon both legs of the bracket. Pivoted in the upper end of said arm is the horizontal lever D, provided at its outer end with a series of perforations *d*, which by means of a pin connection may be readily attached to and detached from the pump-rod, even while the same is in motion. To the extreme inner end of said lever D and working upon the face of said frame or base is pivotally secured the vertical drive-rod or pitman F, reciprocating over the face of said frame and communicating motion to the various parts of the transmitter. Secured to and carried by the lower end of said drive-rod is the hollow oblong casting G, the base of which travels under and works between the parallel guide-strips H, secured to said frame, and the limit of the downward stroke of said casting is limited by the stop-pin I, located below the lower end of said guide-strips and below the base of said casting. The said oblong frame or casting is provided upon opposite inner sides thereof with the vertical integral racks J, located to the right and left of each other or, more accurately speaking, disposed in different parallel planes. Journaled in the bearings K upon the front of said frame A is the horizontal rotary shaft L, extending from said bearings and directly through said oblong frame. Mounted side by side upon said shaft L are the cog-wheels M, loosely working upon said shaft and each engaging with one of the opposite racks J of said oblong frame or casting, and said cog-wheels are provided upon the outer faces thereof with spring-actuated pawls *m*, located in recesses in the faces of said wheels and adapted to engage or travel over, as the case may be, the side ratchet-teeth *n*, located in the face adjacent to the faces of said cog-wheels in the ratchet-disks N, secured tightly upon said shaft and close up to the said cog-wheels working between each opposite ratchet-disk N. It can be readily seen as motion is imparted to pump-rod to the oblong casting or frame that while the same is going down each cog-wheel will be turned in a reverse direction to each other, one of which necessarily has the pawl thereof engage the ratchet-teeth of the adjacent ratchet-disk, and thus rotate the shaft, while the pawl of the other cog-wheel rides unengagingly over the teeth of the opposite ratchet-disk. The upper stroke of the casting causes a reversal of the movements of said wheel, but a continued turning of the shaft.

Keyed upon one end of the shaft L is the large spur-wheel O, that is adapted to engage

the small cog-wheel P, speeded thereby and mounted upon one end of the stub balance-wheel shaft Q, parallel with the main shaft L, but journaled directly opposite thereto upon the opposite side of the frame in the outer bearing R and the intermediate or central bearing S, which accommodates the extreme inner end of said shaft, which extends half-way into said bearing, and the extreme outer end of said balance-shaft carries the weighted balance-wheel T, which effectually carries the shafts of the transmitter beyond the dead-center, and, according to the size of the wheel O, may be speeded according to the requirements.

Intermediate of one of the bearings K and the oblong casting G a large gear-wheel U is keyed upon the shaft L and extends through the slot V in said casting and meshes with the smaller gear-wheel W, mounted upon the parallel stub counter-shaft X, the inner end of which is journaled in the bearing S and the outer end thereof in the bearing Y in a line with the bearings R and S, and thus while the said shaft X is independent from the balance-wheel shaft the same appears as if forming a continuation thereof, while the two shafts are revolving at different rates of speed. It can be readily seen that the free outer ends of the rotating shafts L and X rotate at different speeds and may be used to operate at the same time different machinery requiring different speeds or interchangeably used with each other. The advantages and operation of the herein-described power-transmitter is now thought to be apparent without further description.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

In a power-transmitter, the combination, with the frame, of a horizontal rotary shaft mounted in bearings upon the front of said frame, means for imparting motion continuously to said shaft on the windmill, large spur-wheels mounted upon said shaft and of different diameters, a stub balance-wheel shaft parallel with said main shaft and journaled in bearings on the opposite side of said frame and provided at one end with a balance-wheel, and a small cog-wheel meshing with one of said spur-wheels and having its inner end terminating in a centrally-disposed bearing, a stub counter-shaft parallel with said main shaft and journaled upon the same side of the frame as the balance-wheel shaft and in a line therewith having its inner end terminating in the same central bearing and provided with a small cog-wheel meshing with the other large spur-wheel upon the opposite shaft, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

HENRY D. BIXLER.
GEORGE C. FERGUSON.

Witnesses:
L. H. VALENTINE,
E. B. COX.