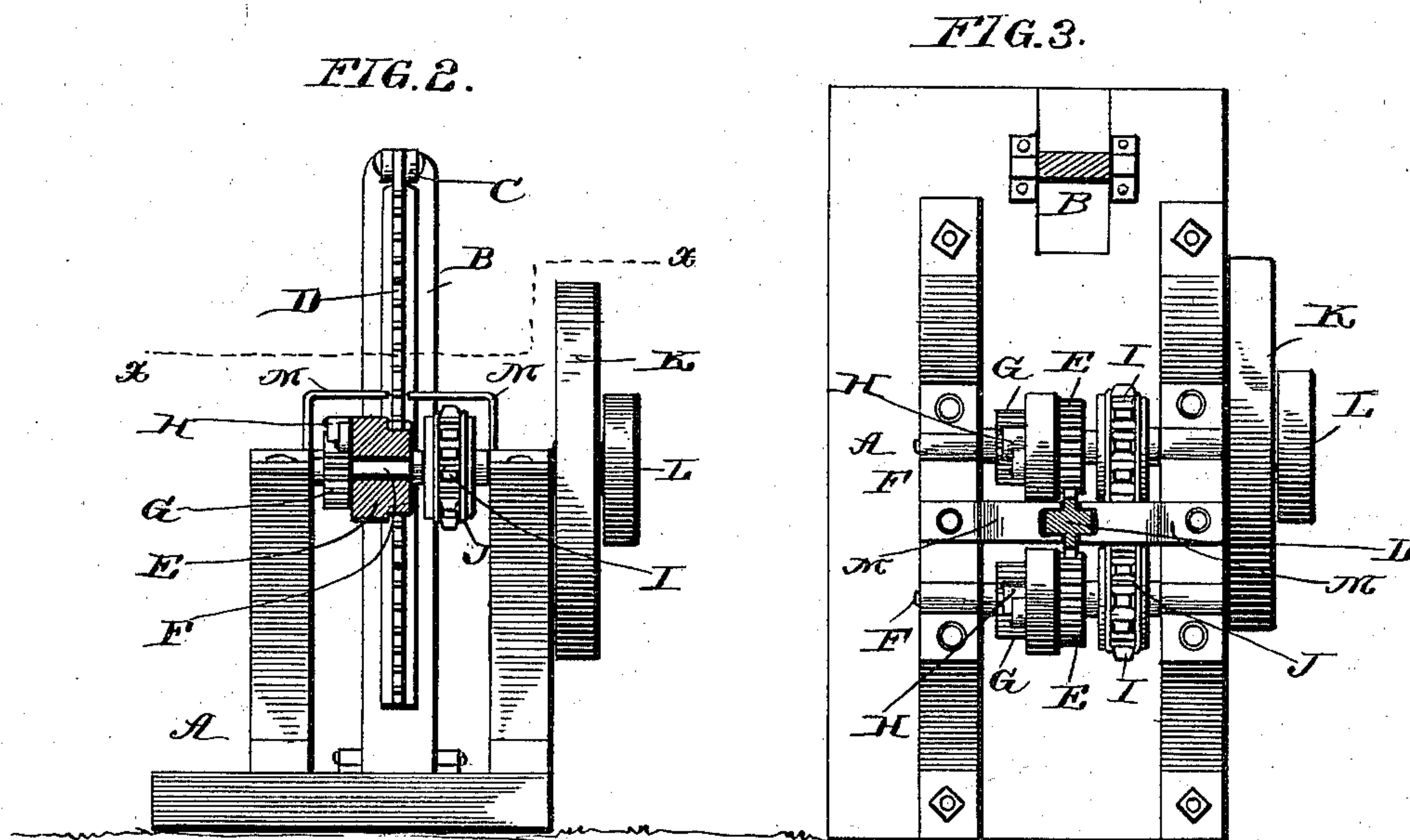
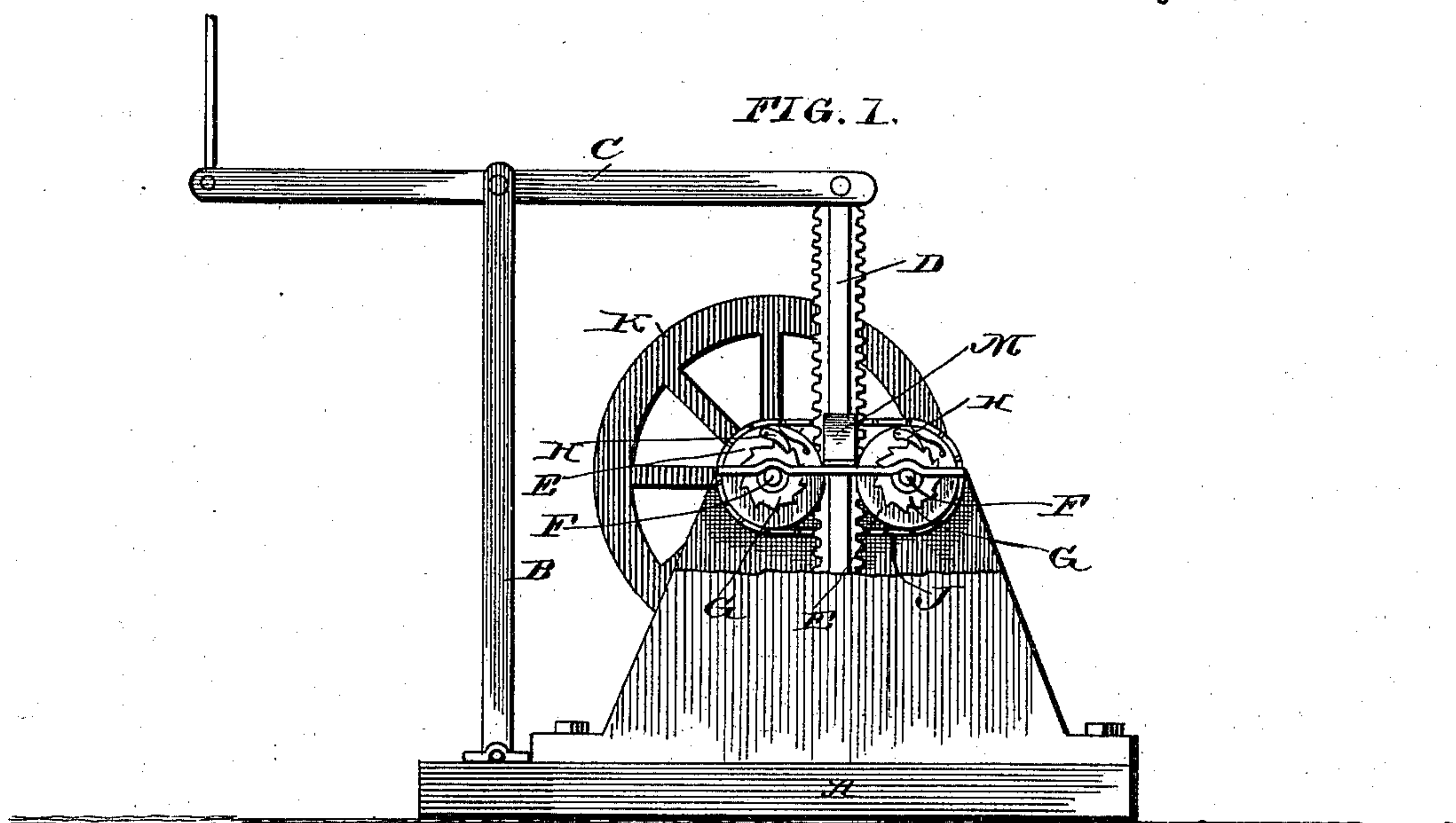


(No Model.)

R. BROTHERTON, Jr.  
DEVICE FOR CONVERTING MOTION.

No. 385,406.

Patented July 3, 1888.



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# UNITED STATES PATENT OFFICE.

ROBERT BROTHERTON, JR., OF ALBION, NEBRASKA.

## DEVICE FOR CONVERTING MOTION.

SPECIFICATION forming part of Letters Patent No. 385,406, dated July 3, 1888.

Application filed March 24, 1888. Serial No. 268,378. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT BROTHERTON, Jr., a citizen of the United States, residing at Albion, in the county of Boone and State of Nebraska, have invented a new and useful Improvement in Devices for Converting Motion, of which the following is a specification.

My invention relates to improvements in devices for converting motion, and is especially applicable for attachment to wind-wheels; and it consists in certain novel features hereinafter fully described, and then pointed out in the claim.

In the accompanying drawings, Figure 1 is a side elevation, and Fig. 2 is an end view, of my improved device. Fig. 3 is a horizontal section on the line *x x* of Fig. 2.

Referring to the drawings by letter, A designates a suitable base having a vibrating standard, B, erected at one end, and C is a rocking lever pivoted at an intermediate point of its length to the upper end of the vibrating standard, as shown. One end of this rocking lever is pivoted to the pump-rod of the wind-mill and its other end is pivoted to a double-faced rack-bar, D, which hangs freely from the rocking lever.

E E designate two similar cog-wheels mounted loosely on parallel shafts F, journaled in suitable bearings on the base and meshing with the opposite sides of the rack-bar D.

G G designate two ratchet-wheels, which are rigidly mounted on the shafts F, and are engaged by the pawls H, secured to the sides of the gear-wheels.

I I are sprocket-wheels mounted rigidly on the shafts F F and connected by an endless sprocket-chain, J, as shown.

K designates a fly-wheel mounted on the extended portion of one of the shafts F, and L is a band-pulley mounted thereon and adapted to receive a belt to transmit the power to the machinery to be driven.

M is a guide mounted between the parallel shafts, through which the rack-bar passes, and by which it is guided and steadied in its movements.

In operation the pump-rod of the wind-wheel imparts a rocking motion to the lever, which in turn imparts motion to the rack-bar, and the standard vibrates sufficiently to permit the rack-bar to have a vertical motion at all times. It will be observed that the rack-bar is at all times in engagement with the gear-wheels, and consequently rotates the same alternately in reverse directions as it reciprocates. It will also be observed that one of the pawls will thus be made to slip over the teeth of the corresponding ratchet-wheel as the other pawl and ratchet are in engagement. A continuous circular motion is thus imparted to the shafts, which are geared together by the sprocket-wheels and chain, and consequently to the band-pulley L.

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

The combination of the vibrating standard, the rocking lever mounted at the upper end thereof, the rack-bar pivoted to and depending from the rocking lever, the guide through which the rack-bar passes, the parallel shafts, the gear-wheels loosely mounted on said shafts and engaged by the rack-bar, the sprocket-wheels, the sprocket-chain connecting the same, and the pawl-and-ratchet connection between the gear-wheels and the shafts, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

R. BROTHERTON, JR.

Witnesses:

GEO. M. MONTGOMERY,  
W. H. HAMILTON, Jr.