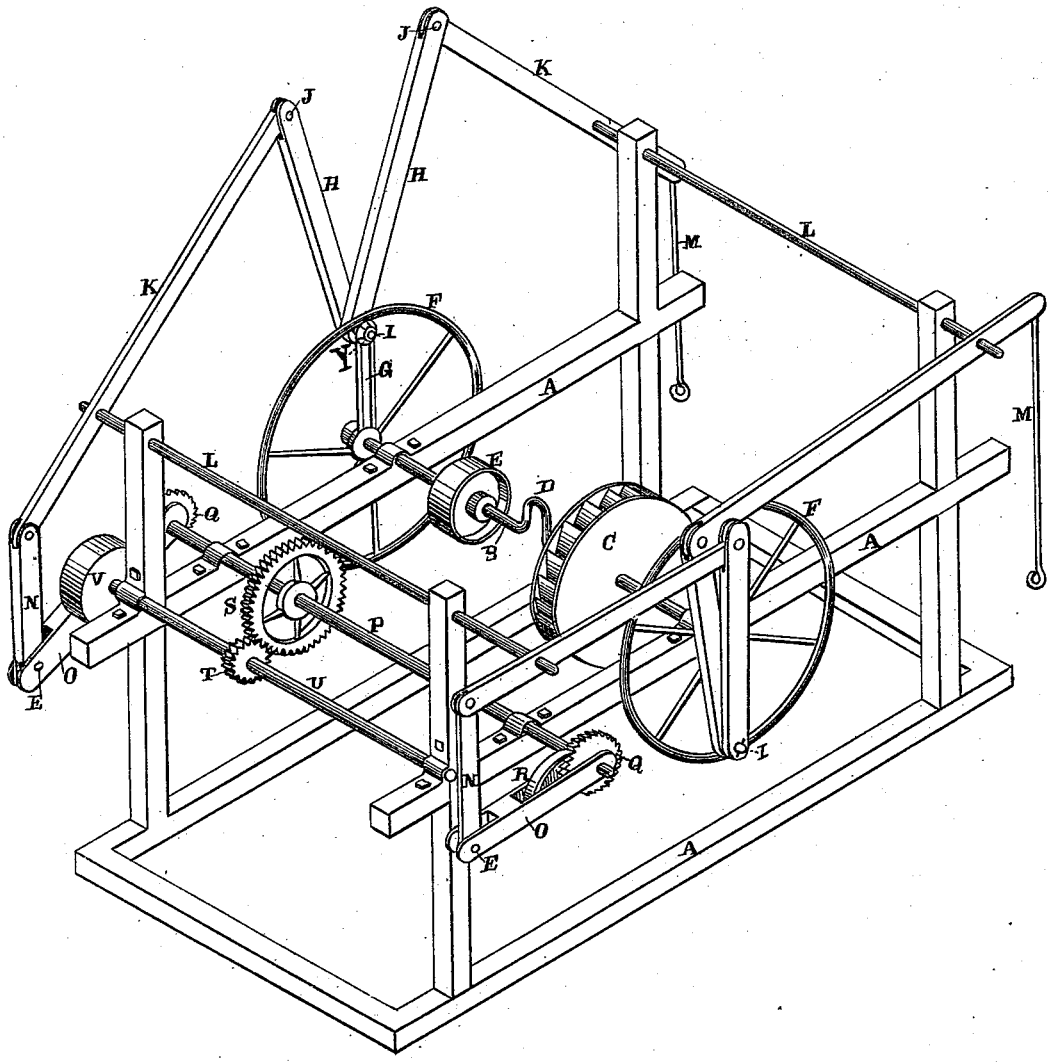
W. MEYERS.

Converting Motion.

No. 208,325. Patented Sept. 24, 1878.

Fig. 1.



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WILLIAM MEYERS, OF OAKLAND, CALIFORNIA.

IMPROVEMENT IN CONVERTING MOTION.

Specification forming part of Letters Patent No. **208,325**, dated September 24, 1878; application filed July 8, 1878.

To all whom it may concern:

Be it known that I, WILLIAM MEYERS, of Oakland, county of Alameda, and State of California, have invented an Improved Machine for Transmitting Power; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing.

My invention relates to an improved machine for transmitting power; and my improvements consist in the combination, with a driving water-wheel, crank, or pulley, and its shaft, of certain combinations of mechanism, whereby I am enabled to transmit the power, either increased or diminished from that of the source, and to distribute it so that it may be easily employed at four or more different points at once, or it may all be concentrated, if desired.

My mechanism will be more fully described by referring to the accompanying drawing, in which the figure is a view of the machine.

Let A represent the frame-work of my device. Across this frame-work I mount a horizontal shaft, B, on suitable journals, on which is either a wheel, C, for applying water-power, a crank, D, for man-power, or a pulley, E, for steam-power, as desired. On each end of said shaft B is a wheel, F, having a wide slotted spoke, G, the remainder of the spokes being made in the ordinary manner. Each of these has the upward-projecting arms H, their lower ends being connected with the slotted spokes G of the wheels by means of a crank-pin, I, having a nut, Y, and washer at one end, and a hook or pin at the other, as shown. To the upper ends of these arms H are hinged, by means of a pin, J, the arms or levers K, the ends of the horizontal shaft L passing through these arms K, supporting these outer ends and forming the fulcrum on which they move. To the short arms of these levers K may be attached a rod, M, which may be connected directly with the piston-rod of the pump, or the rod may be attached to the crank of any machine and furnish a rotary motion of said machine.

Where it is desired to connect the machine with other machines by means of a belt, continuous rotary motion is transferred to a shaft as follows: To the short arm of the levers K may be hinged the short arms N, which are in turn pivoted in the pawl-bars O, the other end of said pawl-bars being journaled on the shaft P. These pawl-bars are made in two parts, so as to inclose the ratchet-wheels Q on the shaft P, the pawls R being fixed to the bars, as shown. On the shaft P is a spur-wheel, S, engaging with the gear T on the shaft U, on which is also a pulley, V, for the belt.

Now, by revolving the shaft B by water, steam, or other power, the wheels F are revolved, thus giving motion to the arms H, which operate the levers K. The short arms of these levers move the pawl-bars up and down alternately, and as the pawl-bars thus move, the pawls engage with the ratchets Q and revolve the shaft P. The spur-wheel S, by engaging with the pinion T, revolves the shaft U, thus revolving the pulley V and transmitting the power. It will be seen that by the revolution of the machine one lever is moved up and the other down at the same time, so that one of the levers is operating the shaft P at all times, making the motion continuous.

As there are four levers on my device, each one may be applied for operating a different machine or doing different work. When it is not desired to operate the belt-shaft U, by removing the pivot-pin E, connecting the short arms N with the pawl-bars O, the stout arms may be connected with other mechanism. If a shorter stroke is desired at any time, by loosening the nut I, connecting the arms H to the wheels F, the arms may be slid down the slot G in the spoke to the proper point nearer the center of the wheel, and there secured. If desired, a straight bar having the slot in one side and a counterbalance-weight in the other may be used instead of the wheel F for connecting the arms to the driving-shaft.

This device may be used for transmitting power for pumping, sawing wood, operating different machines, and all purposes for which any power may be used.

A short stroke may be obtained on one side of the machine and a longer on the other by the means herein described, and each separate lever may be connected as stated, so as to do different work.

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

The driving-shaft B, with its power-producing wheel or crank, and the exterior wheels F, with their connecting-arms H, and levers K, in combination with the pawl-bars O, pawls and ratchets R Q, shafts P U, gear N, and pinions S T, all arranged to operate substantially as herein described.

In witness whereof I hereunto set my hand.

WILLIAM MEYERS.

Witnesses:
GEO. H. STRONG,
FRANK A. BROOKS.