

UNITED STATES PATENT OFFICE.

DAVID NELSON, OF BURMA, ARKANSAS.

MECHANICAL MOVEMENT.

No. 840,581.

Specification of Letters Patent.

Patented Jan. 8, 1907.

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To all whom it may concern:

Be it known that I, DAVID NELSON, a citizen of the United States, residing at Burma, in the county of Sebastian and State of Arkansas, have invented a new and useful Improvement in Mechanical Motions, of which the following is a specification.

This invention relates to a mechanical motion in which the reciprocation of a lever by hand or by a pitman or crank-rod or the partial rotary movement of a rock-shaft when rocked is transformed into continuous rotary movement in one direction.

The invention consists in the novel features of construction and combination of parts hereinafter described, pointed out in the claim, and shown in the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a plan view. Fig. 3 is a section on the line 3 3 of Fig. 2.

In the drawings, A represents a frame in which are journaled parallel shafts B, C, D, and E. On the shaft B are fixed gear-wheels B' and B². On the shaft C are loosely mounted gear-wheels C' and C². The gears B' and C' are intermeshing. The gears B² and C² do not directly mesh, but are entrained, meshing each with a pinion D' on the shaft D. On the shaft E are slidably keyed pinions E', adapted to be brought into mesh, respectively, with the gear-wheels C' and C². Adjacent each of these last-mentioned gear-wheels, which, it will be remembered, are loose on the shaft C, a ratchet F is fixed on the shaft C, and each gear-wheel C' and C² carries a pawl J, adapted to engage its adjacent ratchet F, the said pawls and ratchets being oppositely disposed and held in engagement with their ratchets by a spring J'.

The construction being described, the operation will be obvious. I have shown a handle G to rock the shaft C; but the handle

or lever G may consist of a crank pivotally connected to an engine-pitman, as the device may employ hand-power, being driven from an engine or from a motor, as may be most convenient. The rocking of the shaft C will impart alternate opposite rotary motion to the wheels C' and C² and a continuous rotary motion in one direction to the gear-wheels B' and B² and consequently to the shaft B. The rotation of the shaft B can be employed in driving machinery in any suitable manner. When it is desired to have the machine driven readily reversible, the pinions E' are brought into play, the machine being driven in any desired manner from the shaft E. By sliding the pinions E' and bringing first one and then the other into engagement with the gear-wheels C' and C² the rotation of the shaft E is reversed, and in case the gear-wheels C' and C² are of the same diameter but one pinion E' will be required.

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

A device of the kind described comprising a shaft, means for rocking the shaft, gear-wheels loose on the shaft, a fixed ratchet adjacent each gear-wheel, a spring-pressed pawl carried by each of the gear-wheels and adapted to engage the adjacent ratchets, said pawls being oppositely disposed, a parallel shaft, gear-wheels fixed thereon, one of said gear-wheels meshing with one of the loose gear-wheels, an intermediate shaft, a pinion thereon, said pinion meshing with the remaining loose and fixed gear-wheels, respectively, a third shaft, and a slidable gear thereon adapted to mesh with said loose gears, as and for the purpose mentioned.

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Witnesses:

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