

KILNER & SIMMONS.
 Motive Power for Velocipedes.
 No. 103,895. Patented June 7, 1870.

Fig. 1.

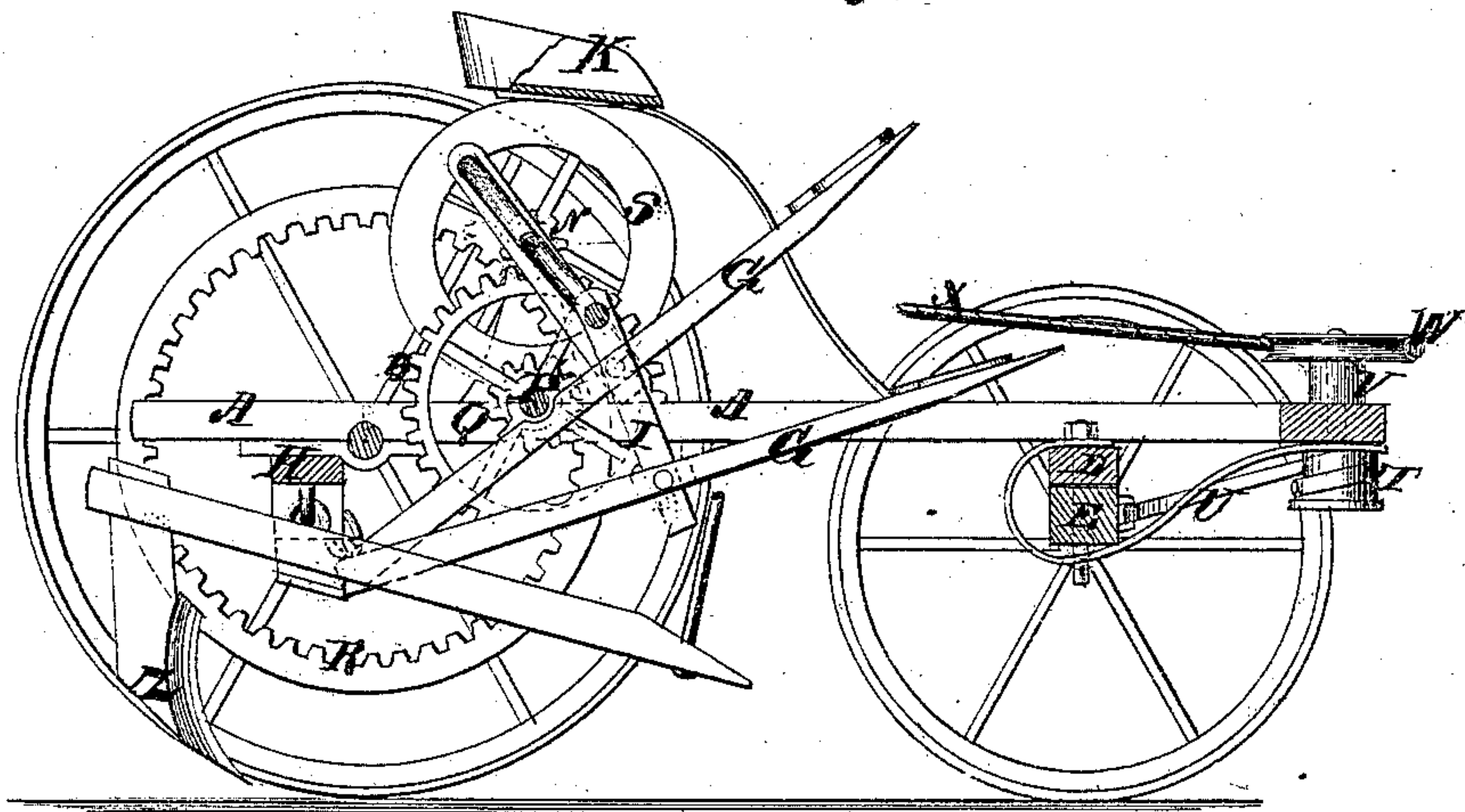
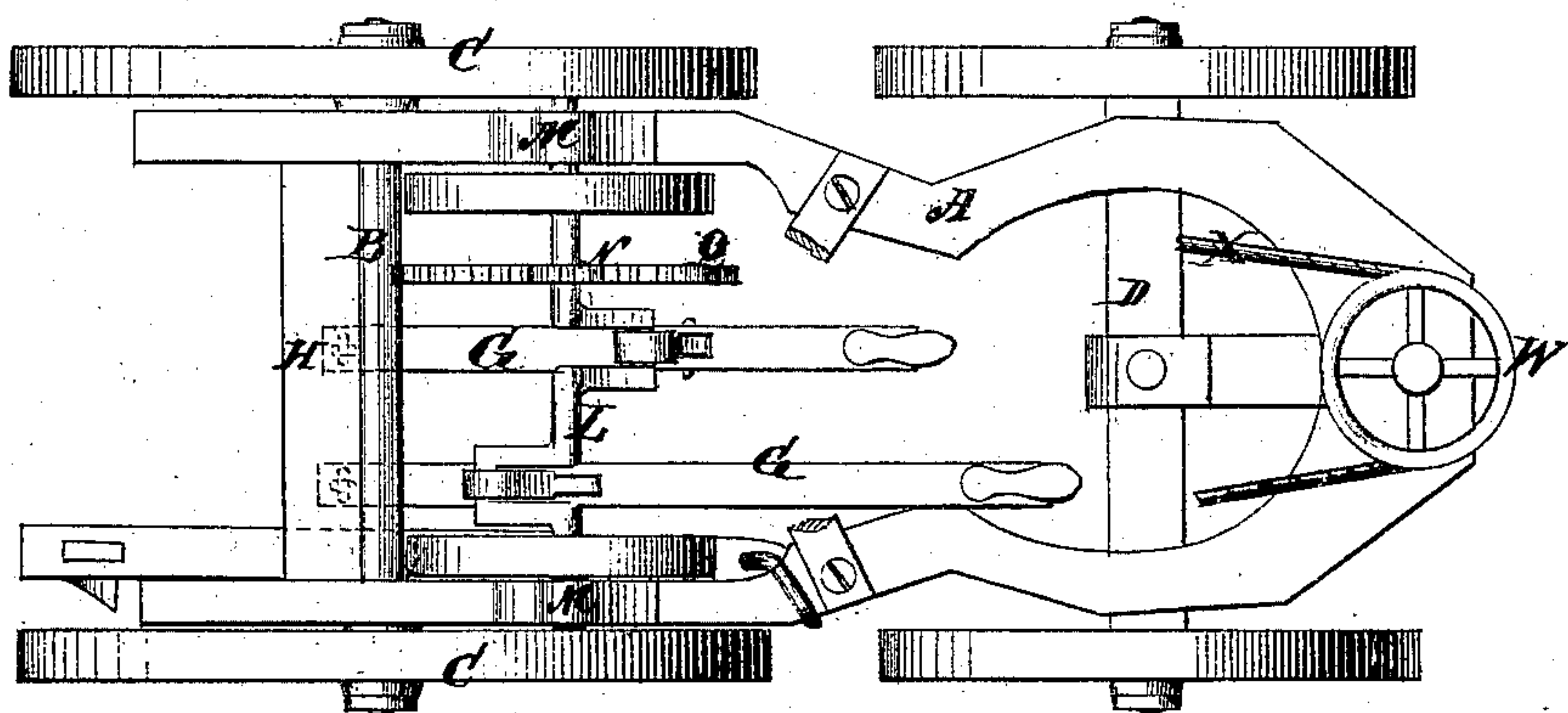


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE KILNER AND FRANCES H. SIMMONS, OF SULLIVAN, ILLINOIS.

IMPROVEMENT IN MOTIVE MECHANISM FOR CARRIAGES.

Specification forming part of Letters Patent No. 103,895, dated June 7, 1870.

To all whom it may concern:

Be it known that we, GEORGE KILNER and FRANCES H. SIMMONS, of Sullivan, in the county of Moultrie and State of Illinois, have invented a new and Improved Motive Power for Carriages; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

This invention relates to improvements in motive-power apparatus for land-carriages; and it consists in a combination of foot-treadles, crank-shaft, pinion, master-wheel, pinions, and cog-rims, applicable to the propulsion of all land-carriages whether for road use or agricultural purposes, and applicable also for driving other machines.

It also consists in improved steering apparatus for the carriage to be propelled by the said improved motive power.

Figure 1 is a longitudinal sectional elevation of our improved propelling apparatus applied to a four-wheeled vehicle for the attachment of plows, and Fig. 2 is a plan view of the same.

Similar letters of reference indicate corresponding parts.

A represents a frame, mounted on an axle, B, having driving-wheels C permanently attached to it. The other end of the frame is mounted on a bolster, D, pivoted in the ordinary way to the axle E, on which the guiding-wheels F are arranged.

G represents foot-treadles, hinged at one end to the cross-bar H, and rising at the other end up in front of the seat K for the operator, so as to be conveniently worked by him when sitting thereon. They are connected by rods I to the cranks of a shaft, L, supported in bearings M on the top of the frame A, and carrying a pinion, N, which gears with the master-wheel O on a transverse shaft, P, also mounted on the frame A, and carrying pinions Q, one on each end, gearing with the

large cog-rims R attached to the spokes of the wheels C. The cranks of shafts L are arranged on opposite sides of the shafts, so that when one treadle is forced down by the foot the other is rising up to be similarly acted on. This shaft L also carries heavy balance-wheels S to carry the cranks over the centers.

T represents a winding-drum suspended from the under side of the front end of the frame A, and U is a belt or cord, made fast to it and to the axle E. It is so connected to the drum as to wind on one side as it winds off the other side. This drum, or an extension, V, thereof, rises up through the frame, and carries a pulley, W, or arms, to which a guiding-cord, X, is attached, so that the operator, sitting on the seat K and propelling the machine by his feet, may also guide the machine.

It will be seen that by this arrangement of propelling apparatus the operators will be enabled, by easy and quick movements of the feet, to apply very great propelling force to the wheels for drawing plows or other articles.

We have in this example represented a plow, Z, suspended from the beam H, so as to be drawn thereby; but other articles may be attached instead of plows.

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

1. The combination, with the wheels C, of the toothed rims R, pinions Q, shaft P, master-wheel O, pinion N, crank-shaft L, balance-wheels S, and foot-treadles G, all arranged substantially as specified.

2. The combination, with the frame A and the axle E, of the belt or cord U, drum T V, and cord X, all substantially as specified.

GEORGE KILNER.
FRANCES H. SIMMONS.

Witnesses:

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