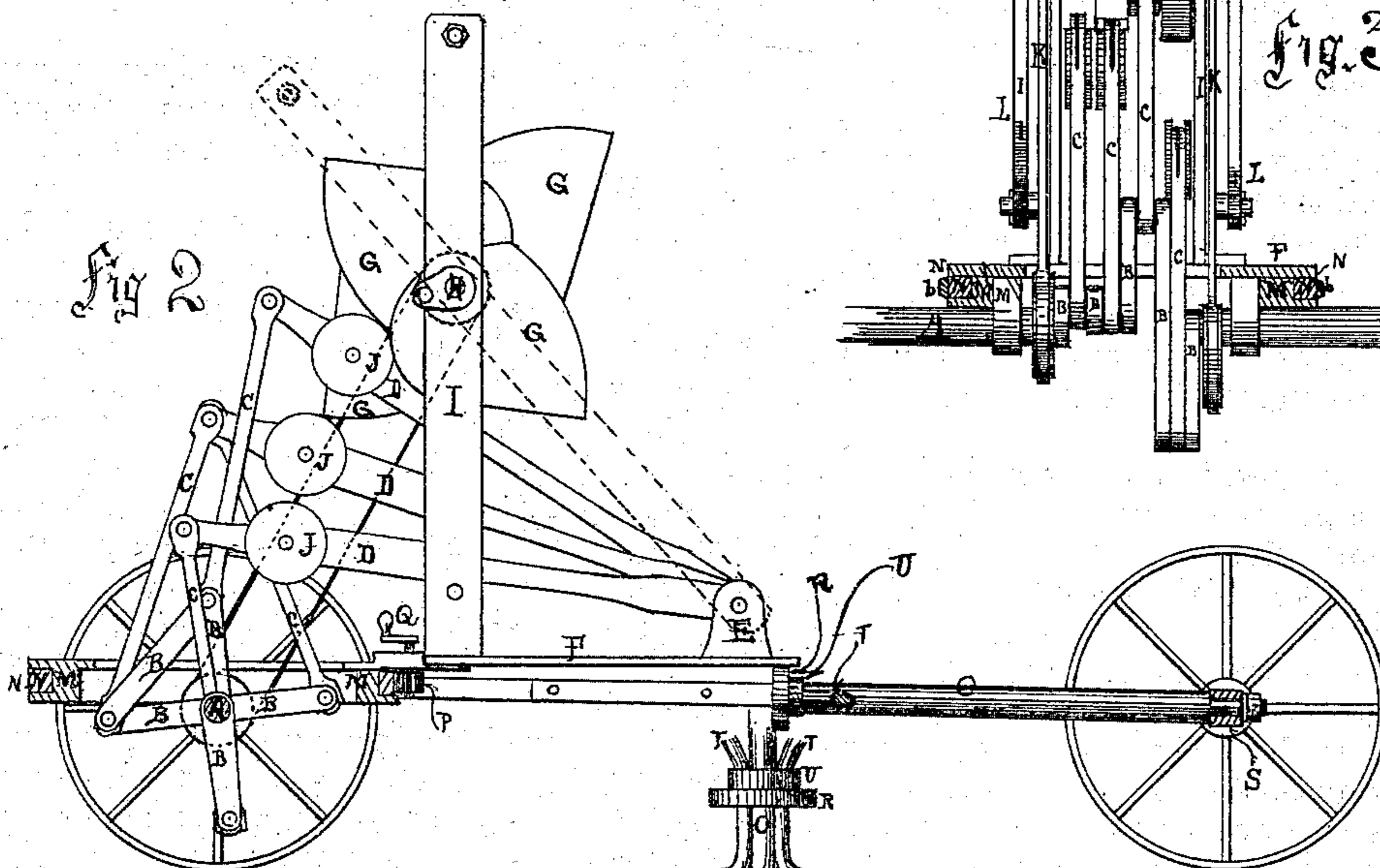
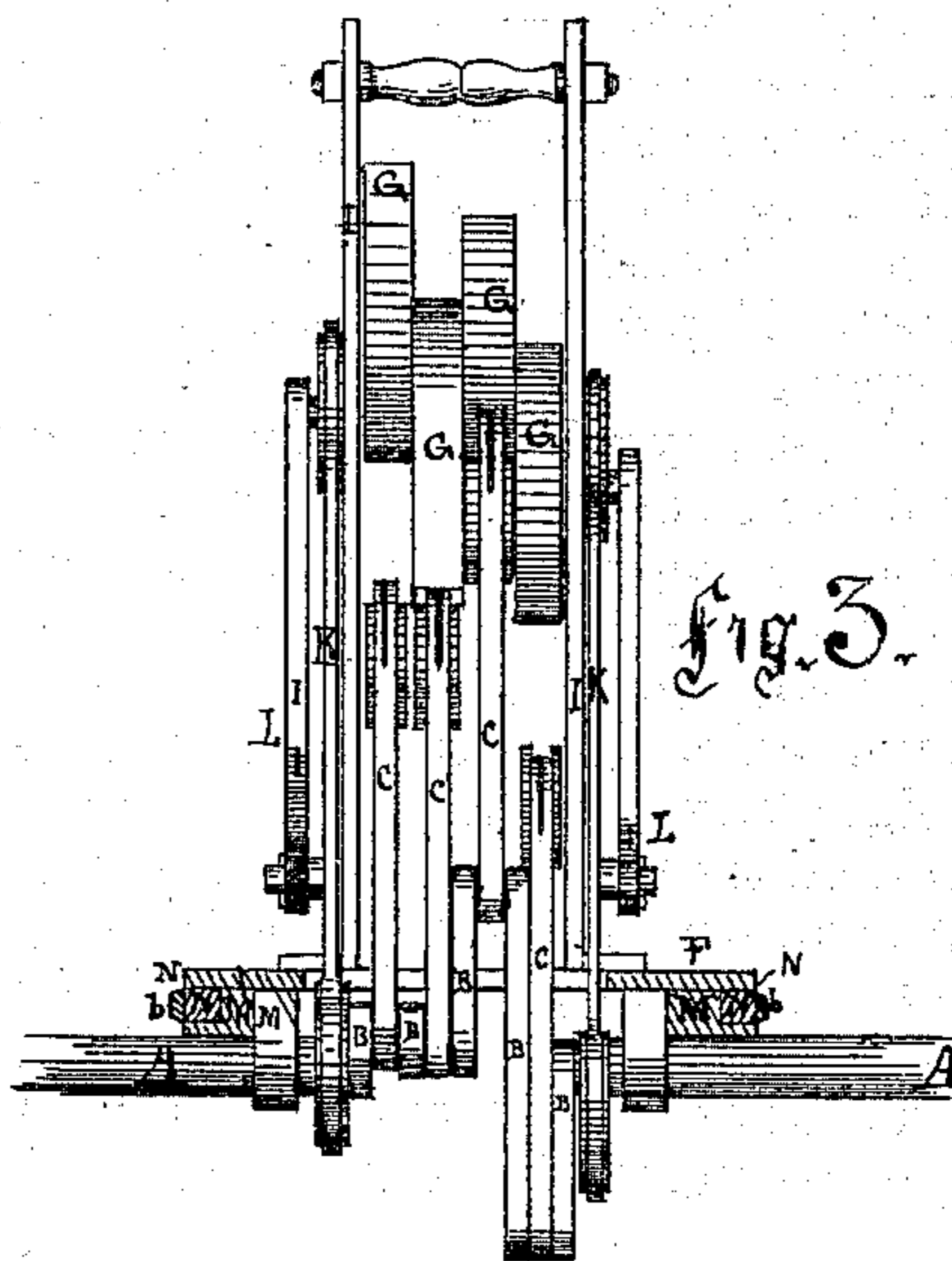
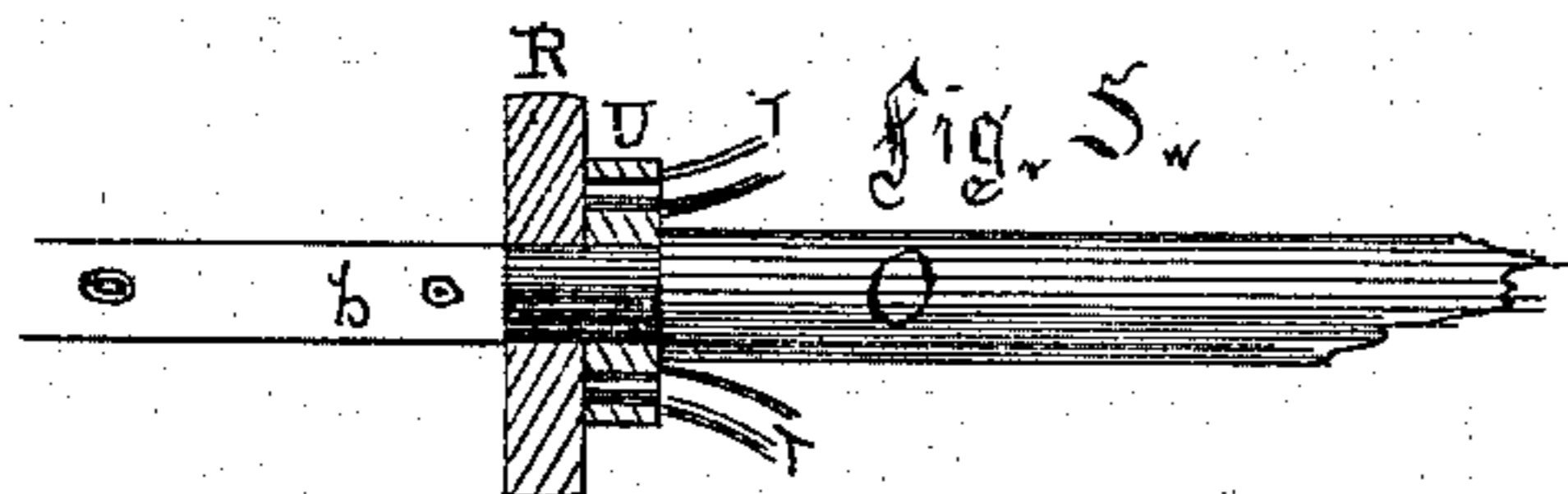
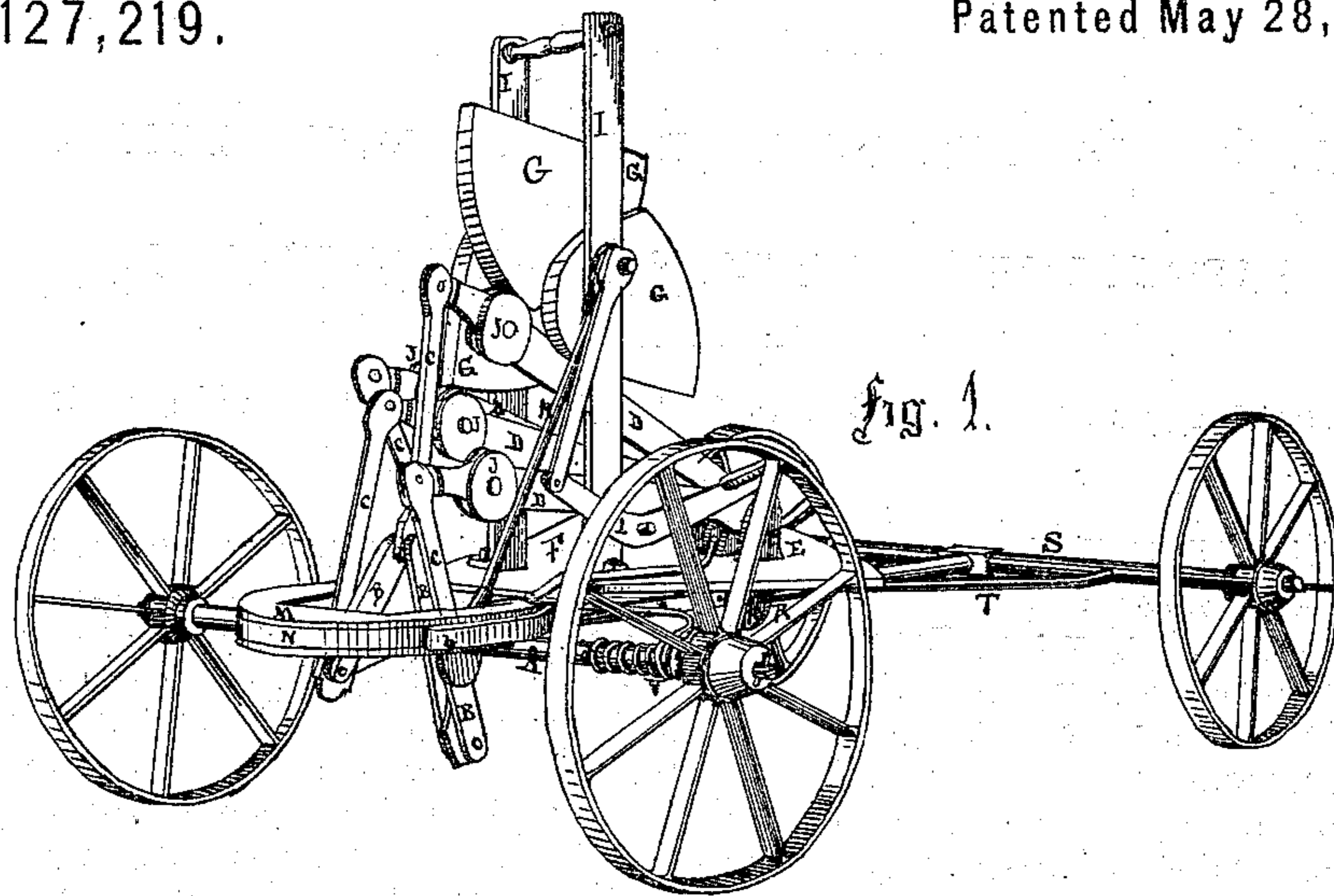


A. C. BURNER.

Improvement in Mechanical Movement.

No. 127,219.

Patented May 28, 1872.



Witnesses

Eli S. Prime,

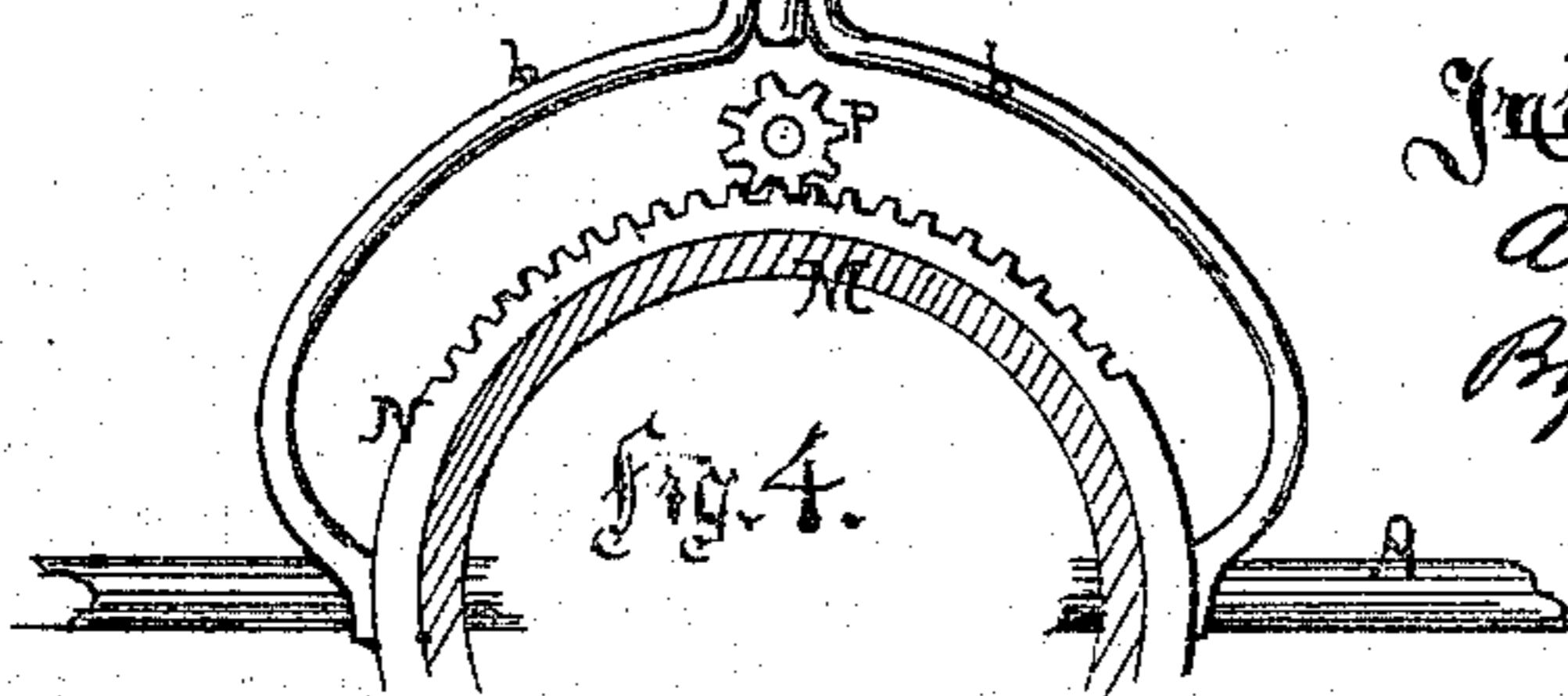
J. S. Brown.

Inventor

Allen C. Turner

Pyris atty

Rohm
113 West



UNITED STATES PATENT OFFICE.

ALLEN C. BURNER, OF GREEN BANK, WEST VIRGINIA.

IMPROVEMENT IN MECHANICAL MOVEMENTS.

Specification forming part of Letters Patent No. 127,219, dated May 28, 1872; antedated May 11, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, ALLEN C. BURNER, of Green Bank, in the county of Pocahontas and State of West Virginia, have invented a new and useful Improvement in Mechanical Movements; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of my invention applied to a carriage. Fig. 2 is a side elevation of the same. Fig. 3 is a front elevation of the same. Fig. 4 is a sectional plan of steering devices. Fig. 5 is a sectional view of the reach-coupling.

That others may fully understand my invention, I will particularly describe it.

I propose to employ a series of heavy cams, alternately acting against levers or rods connected to a corresponding series of cranks upon the main axle. Said cams I propose shall be of weight sufficient to effect the required revolution of the main axle, so that friction at the axle upon which said cams revolve will be mainly neutralized, as the weight of said cams will rest upon the levers or connecting-rods, and be thereby imposed upon the main axle, instead of resting in the bearings of the cam-axle.

I do not propose to confine myself to locomotive-carriages in applying my invention, as it will appear evident that it may be applied as a motor for shop purposes with equal facility.

A is the main axle, which is constructed with a series of cranks, B, preferably four or more in number. These cranks may be located at the ends of the main axle A when the machine is not intended for locomotive purposes. The cranks B B are set so as to receive power successively at the same point in their revolution, as shown in Fig. 2. The connecting-rods C C transmit power to the cranks B B. These rods are jointed at their upper ends to the levers D D, though they may be jointed to guides moving in vertical ways when the machine is intended to be stationary. The levers D are shown as jointed to studs E at the rear end of the platform F, upon which the mechanism rests. The driving-cams G G are mounted upon an axle, H, which is supported, in any suitable manner, above the levers D. In the

drawing said cams are shown as being supported by a stationary frame, I; but, as the weight of said cams should be sufficient to drive the machine, the frame I may be made inclined and pivoted at its foot to the rear end of the platform, at or near the point where the levers D D are pivoted, and the entire weight of cams and frame will then rest upon the levers D, and the weight of said frame will then be utilized. This arrangement is shown by dotted lines in Fig. 2. Friction-rollers J J are located upon the levers D to receive the action of the cams G G and decrease frictional resistance. The cams G G are so formed that each actuates its crank upon the main axle during a certain part of its revolution, and the several cams are so adjusted to each other that one comes into action a little in advance of its predecessors ceasing to act, as is clearly shown in Fig. 2.

In some respects it will be advantageous to locate the axle H vertically above the axle A, and to arrange the connecting-rods C C correspondingly.

The connecting-rods K, Figs. 1 and 3, connect cranks or eccentrics upon the main axle A and the cam-axle H directly. These cranks are set at right angles to each other, and their purpose is to prevent any independent movement of either axle, and therefore to prevent lost motion and jar between the cams G and levers D. If more convenient, a belt, K', and pulleys may be employed, as shown in Fig. 2, instead of rods K and cranks or eccentrics.

The cams G may be rotated by power applied to the treadles L, by cranks, or by any other means.

When used for locomotive purposes means for steering are required. I attach the platform F to a stationary ring, M, which supports the bearings of the main axle. The ring M has an annular groove in its edge, into which is fitted a ring, N, and to this latter ring the hounds or braces b for the perch O are attached, as shown clearly in Fig. 4. Upon one side of the ring N I make a rack, and a pinion, P, meshing with said rack, enables the conductor to vary the angular position of the main axle with reference to the perch at will. For this purpose the pinion P is provided with a crank, Q, or other means of operating it at pleasure. R is a friction-wheel, placed on the perch O to

support the rear end of the platform F and enable it to pass from side to side with ease in the operation of changing line of progression. In order to enable the wheels to pass over obstruction in the road with the least possible disturbance of the machinery the rear axle S is pivoted to the rear end of the perch O, and is supported in its correct position by the braces T T, and said braces are rigidly secured to a collar, U, loosely placed on the perch O.

Clutches V may be placed upon the axle A to render the front wheels fast or loose, as may be required.

Having described my invention, what I claim as new is—

1. The combination of the heavy cams G G

with the connecting-rods C C and cranks B B upon the main axle A, substantially as described.

2. In combination with the cams G, connecting-rods C, and cranks B, the eccentric or crank-rods K K, substantially as described.

3. The pivoted levers D D, in combination with cams G, connecting-rods C, and cranks B upon the axle A, substantially as set forth.

4. In combination with the axle A and ring M, the rack-ring N and steering-pinion P, substantially as set forth.

ALLEN C. BURNER.

Witnesses:

EDWARD C. FORD,
R. D. O. SMITH.