

(No Model.)

L. D. FARRA.
MECHANICAL MOVEMENT.

No. 321,199.

Patented June 30, 1885.

Fig. 1.

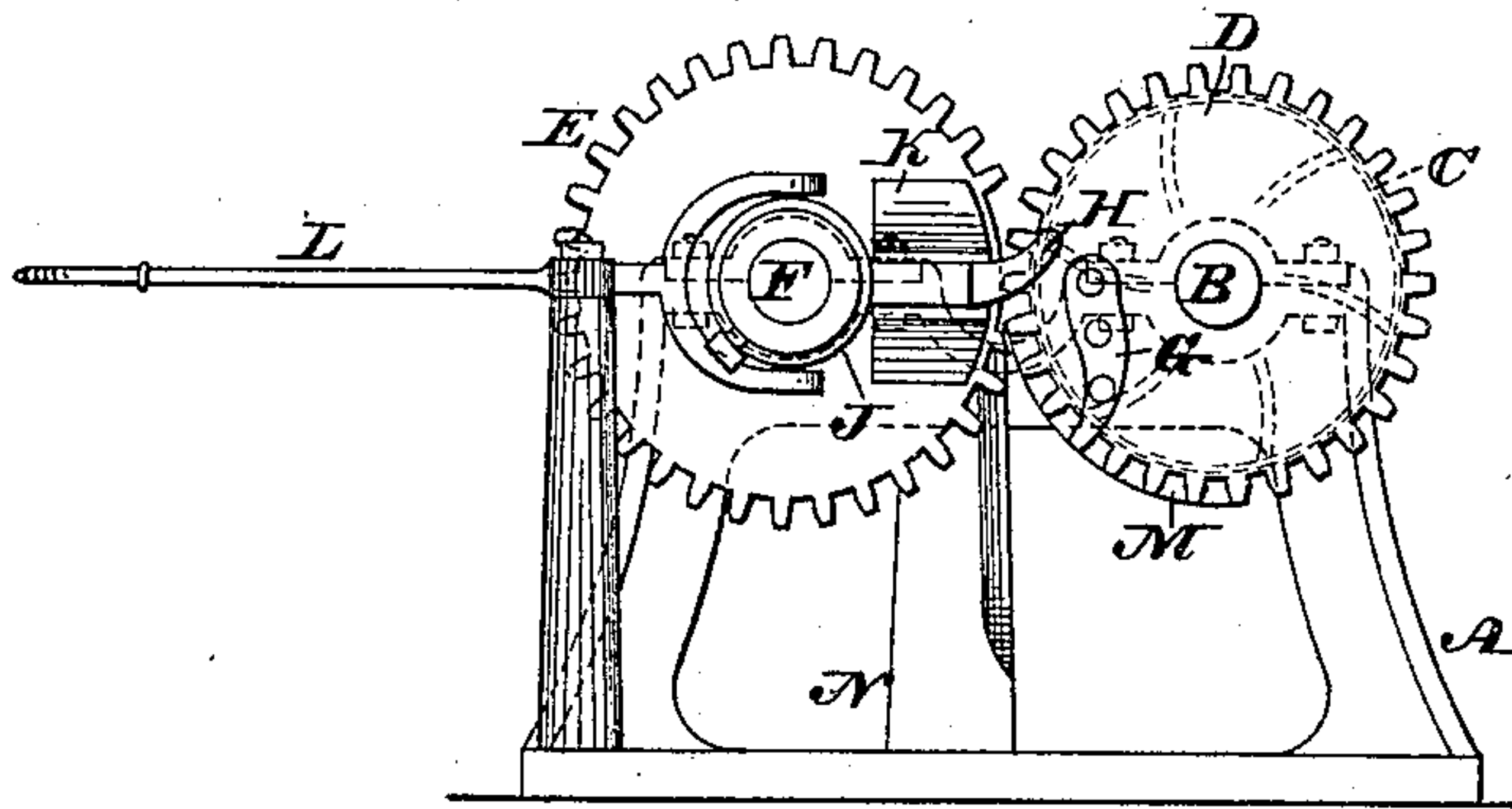


Fig. 2.

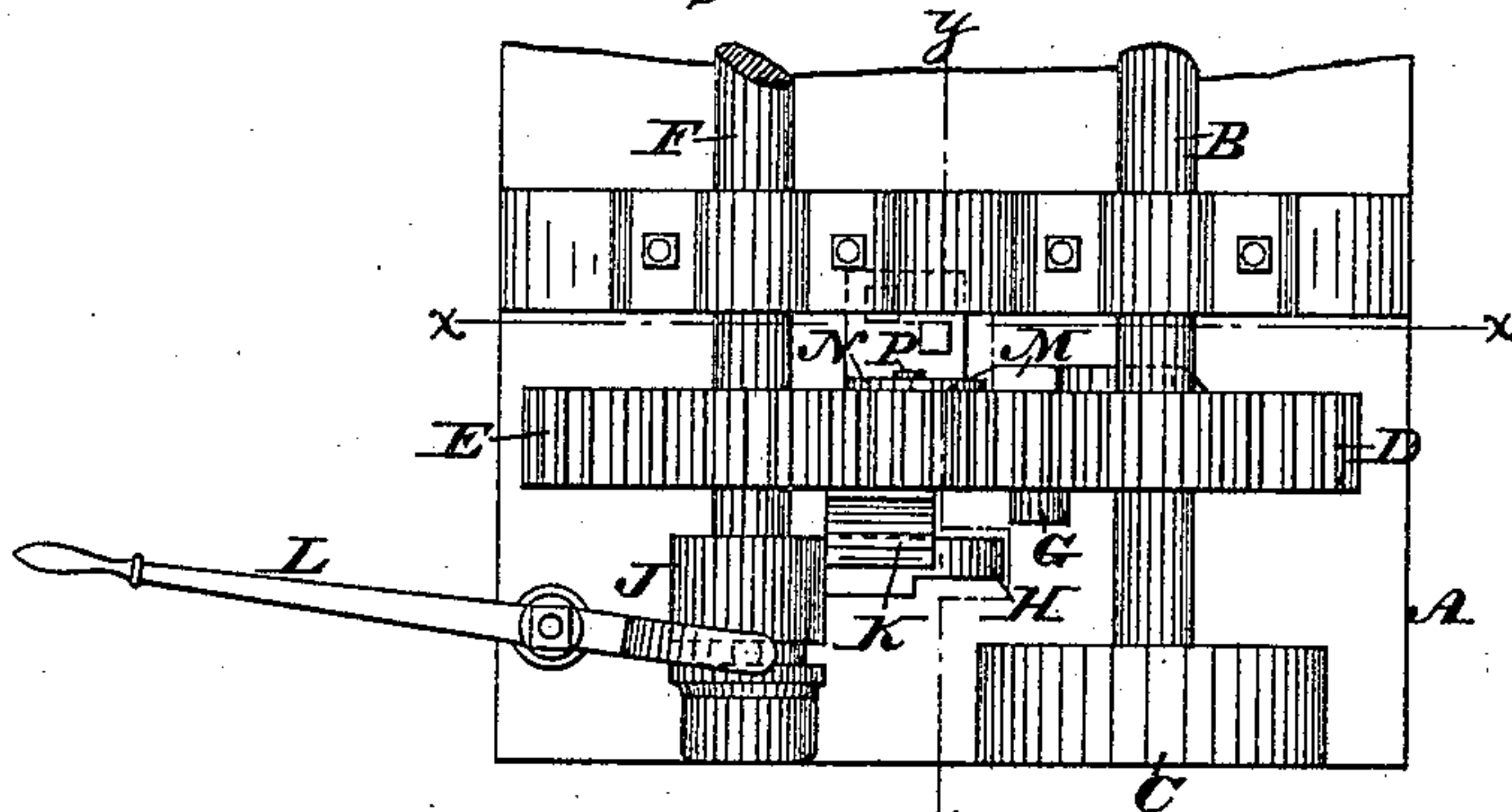


Fig. 3.

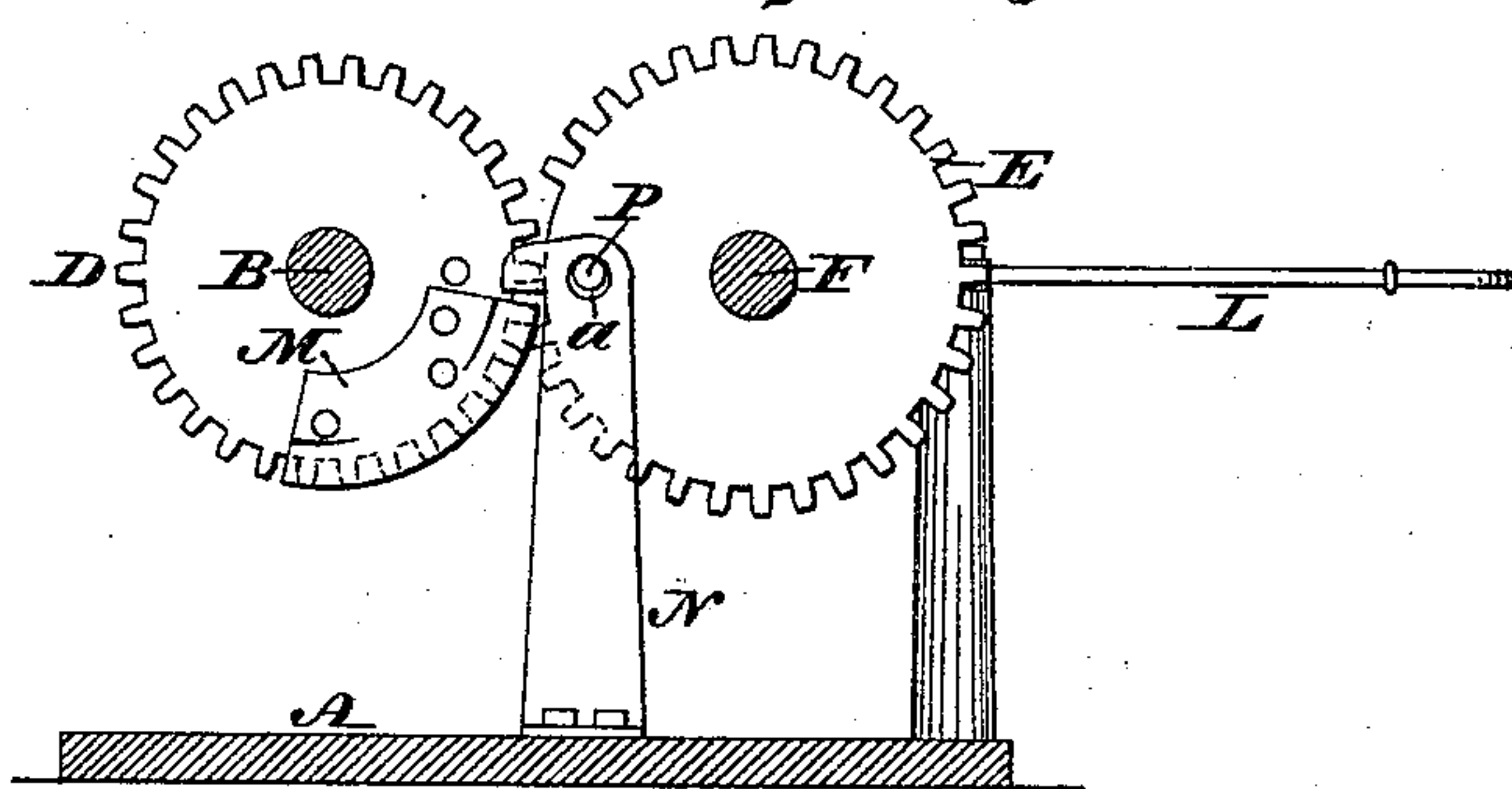
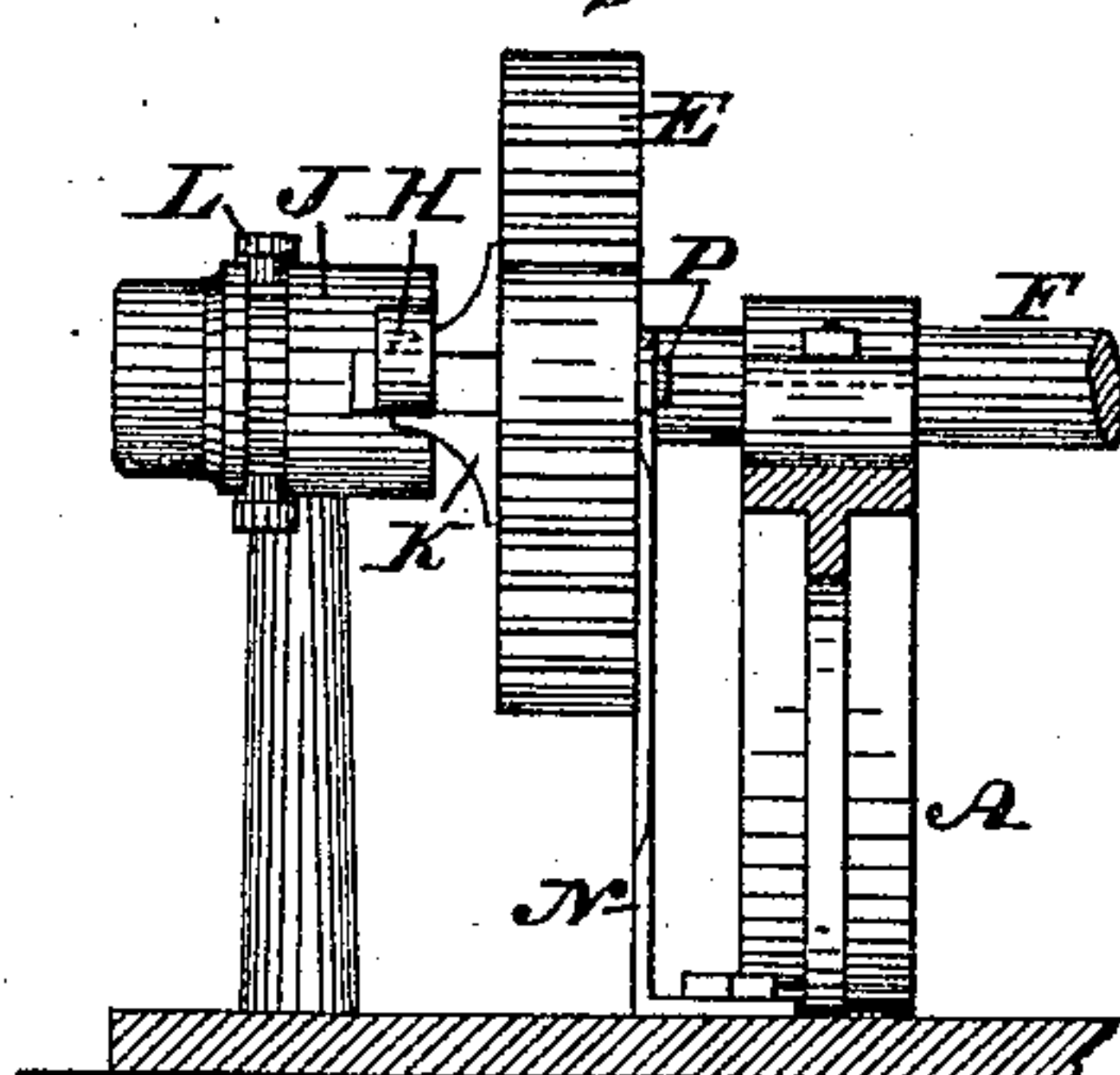


Fig. 4.



WITNESSES:

So. P. Grant,
W. F. Kirches

INVENTOR:

BY

Lorenzo W. Farra.
John A. Diersheim
ATTORNEY.

UNITED STATES PATENT OFFICE.

LORENZO D. FARRA, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO HORACE F. McCANN, OF SAME PLACE.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 321,199, dated June 30, 1885.

Application filed January 6, 1885. (No model.)

To all whom it may concern:

Be it known that I, LORENZO D. FARRA, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Mechanical Movements, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents an end elevation of a mechanical movement embodying my invention. Fig. 2 represents a top or plan view thereof. Fig. 3 represents a vertical section in line *xx*, Fig. 2. Fig. 4 represents a vertical section thereof in line *yy*, Fig. 2.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a mechanical movement applicable to machines, presses, &c., where a dwell is required for feeding and other purposes.

Referring to the drawings, A represents a housing or frame on which is mounted the driving-shaft B, the latter having attached to it a pulley, C, and a pinion, D. Meshing with the pinion D is a mutilated pinion, E, which is secured to a shaft, F, the latter being also mounted on the housing or frame A. To one side of the pinion D is fixed a cam, G, which is so disposed that when required it may act on an arm or finger, H, which is movably connected with the pinion E. Encircling the shaft F is a clutch or sleeve, J, to which said finger H is attached, and projecting from the side of the pinion E are lugs K, forming guides between which the finger H is fitted and plays, the finger thus being adapted to rotate with said pinion E.

L represents a shipper or lever which is employed for moving the finger H in opposite directions, for the purpose of throwing it in and out of gear with the cam G.

Secured to the pinion D on the side opposite to the cam G is a wiper, M, so located that it acts upon a spring arm or bar, N, which is connected with the housing or frame A, and provided with a recess or opening, *a*, to receive a pin or stud, P, projecting from the side of the mutilated pinion E opposite to the finger H. Power is applied to the shaft B, whereby the

pinion D is rotated, and the lever G is properly shifted so as to force the finger H toward the pinion E, it being noticed that the cam G is in advance of said finger H. The pinion E receives rotation from the pinion D until the teeth of the latter reach the mutilated or un-toothed portion of the former, when said pinion E, and consequently the shaft F, becomes stationary, and thus a dwell is imparted to the machinery with which the shaft F is connected or in communication, thus allowing time for feeding and other purposes. During the "dwell" the spring-arm engages with the stud P, thus tightly holding the pinion E. The pinion D continues its rotation, making the second turn, and as the finger H is now in the path of rotation of the cam G, it is struck by the latter. Simultaneously therewith, or just in advance of the same, the wiper M enters between the arm N and the wheel E, and forces said arm from the stud P, and thus as the finger is pressed by the cam G the pinion E is rotated, and the teeth of the pinion D again mesh with those of the pinion E, the latter thus being fully rotated until the teeth of the pinion D reach the mutilated portion of the pinion E, when another dwell is occasioned, as hereinbefore stated.

The lever or shipper L may be connected with other parts of a machine in order to be automatically operated, or the finger H may be a fixture of the pinion E, so that said pinion may be automatically stopped and started as long as the machine is running.

The pinions may be changed in their relative sizes in order to be adapted for the machines to which they are applied, observing the rule that when the mutilated or driven pinion is to revolve revolution for revolution with the other pinion or driver and stop one revolution, it should be as much larger as will leave as many teeth as the driver after it has been cut away to clear, said rule being applicable in any multiple or division of relative sizes.

The mechanical movement may be applied to printing, punching, shearing, or stamping presses, and other machines where a given time is required for feeding or other purposes, and by the use thereof the reciprocating or other

movements of a machine may be shortened, thus giving more leverage or power.

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

1. A pinion and a mutilated pinion provided, respectively, with a cam and a finger, substantially as and for the purpose set forth.

10 2. Pinions, substantially as described, in combination with a stud on one of the pinions, a wiper on the other pinion, and a spring-arm, said arm engaging with said stud, and being

released by the action of said wiper, for the purpose set forth.

3. Pinions, substantially as described, in
15 combination with a clutch, guides secured to one of the pinions, a finger connected with said clutch, and a cam on the other pinion, said finger being movable in the guides and rotatable therewith, as stated.

LORENZO D. FARRA.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. GRANT.