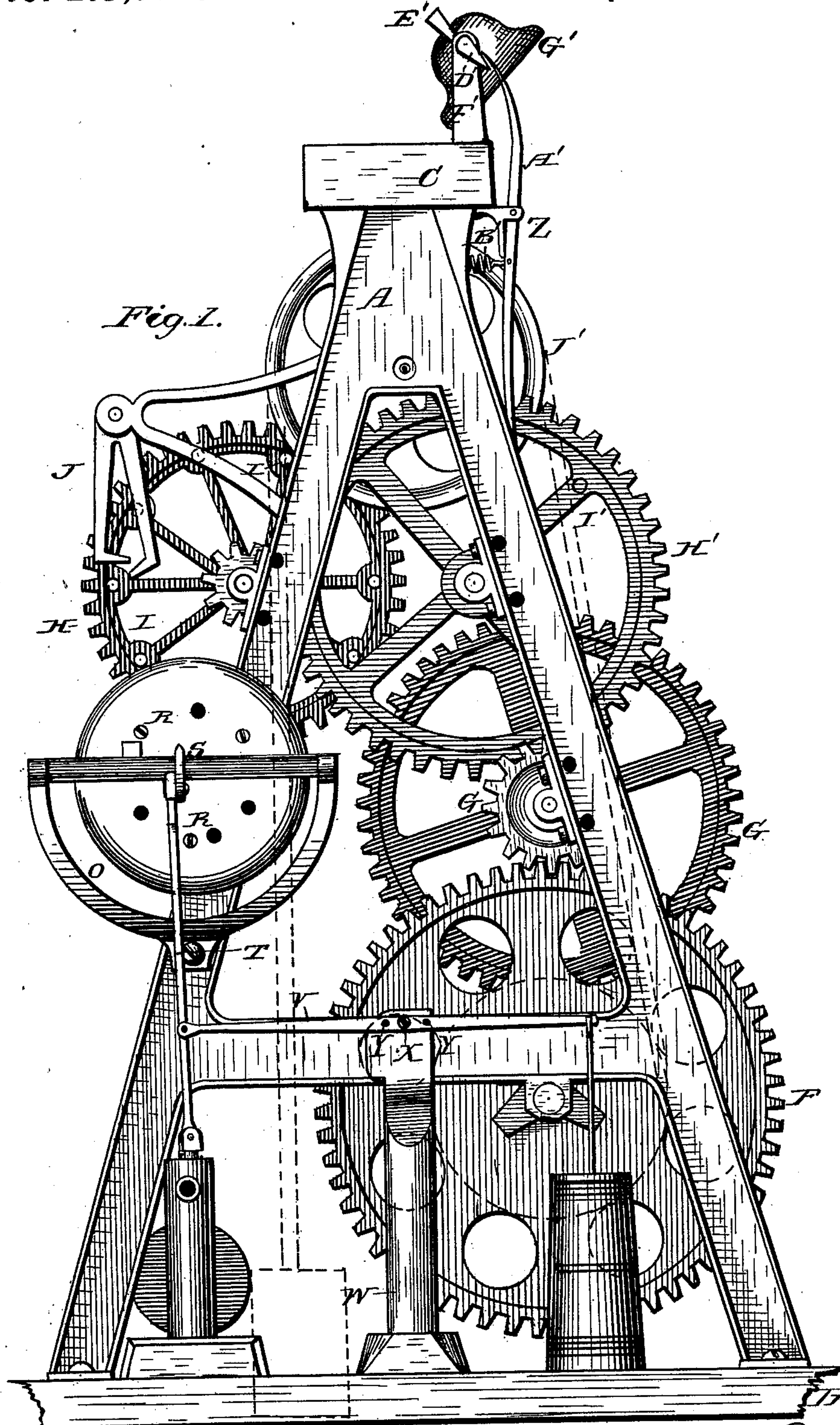


A. G. KILER.
Mechanical Motor.

No. 213,759.

Patented April 1, 1879.



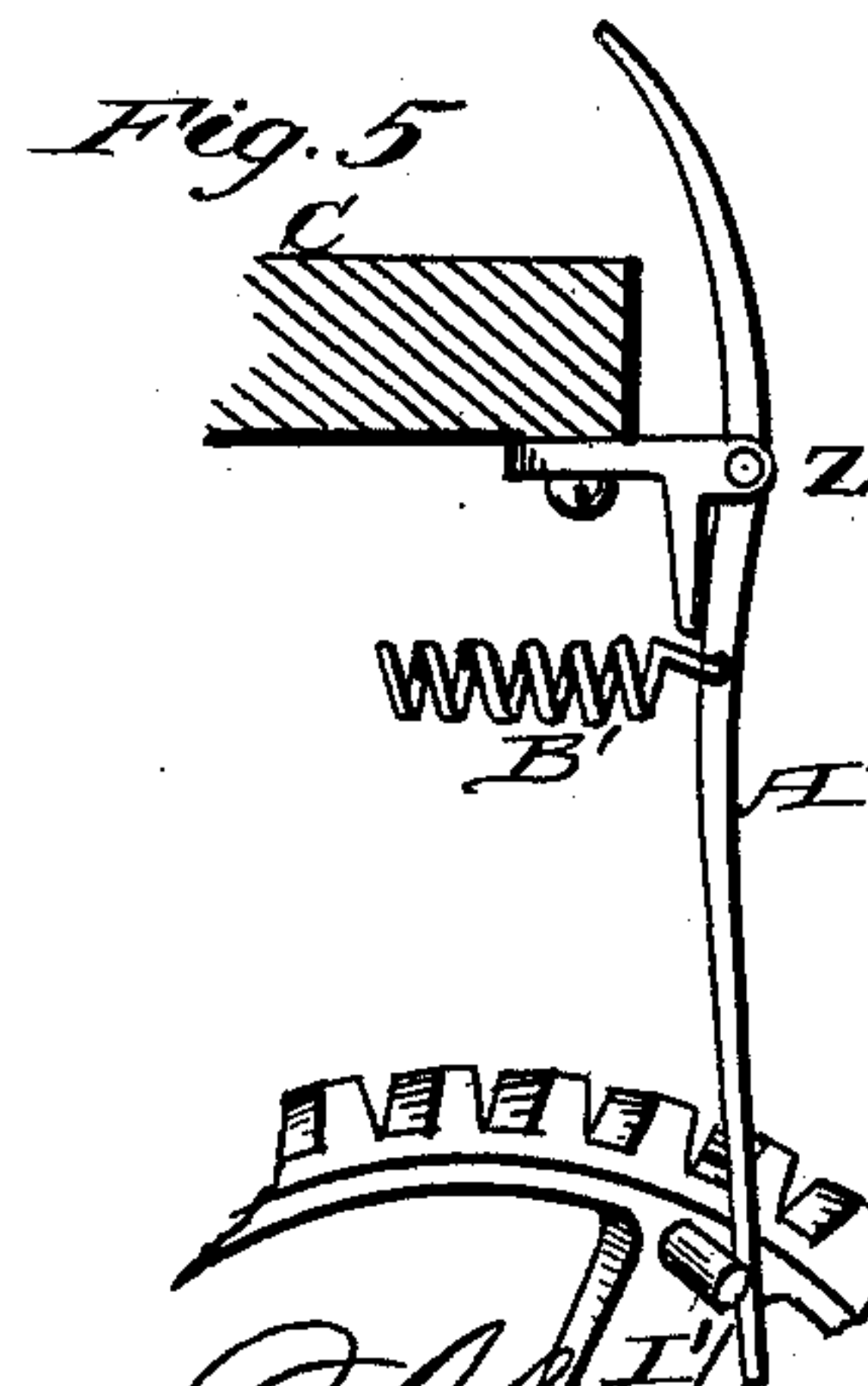
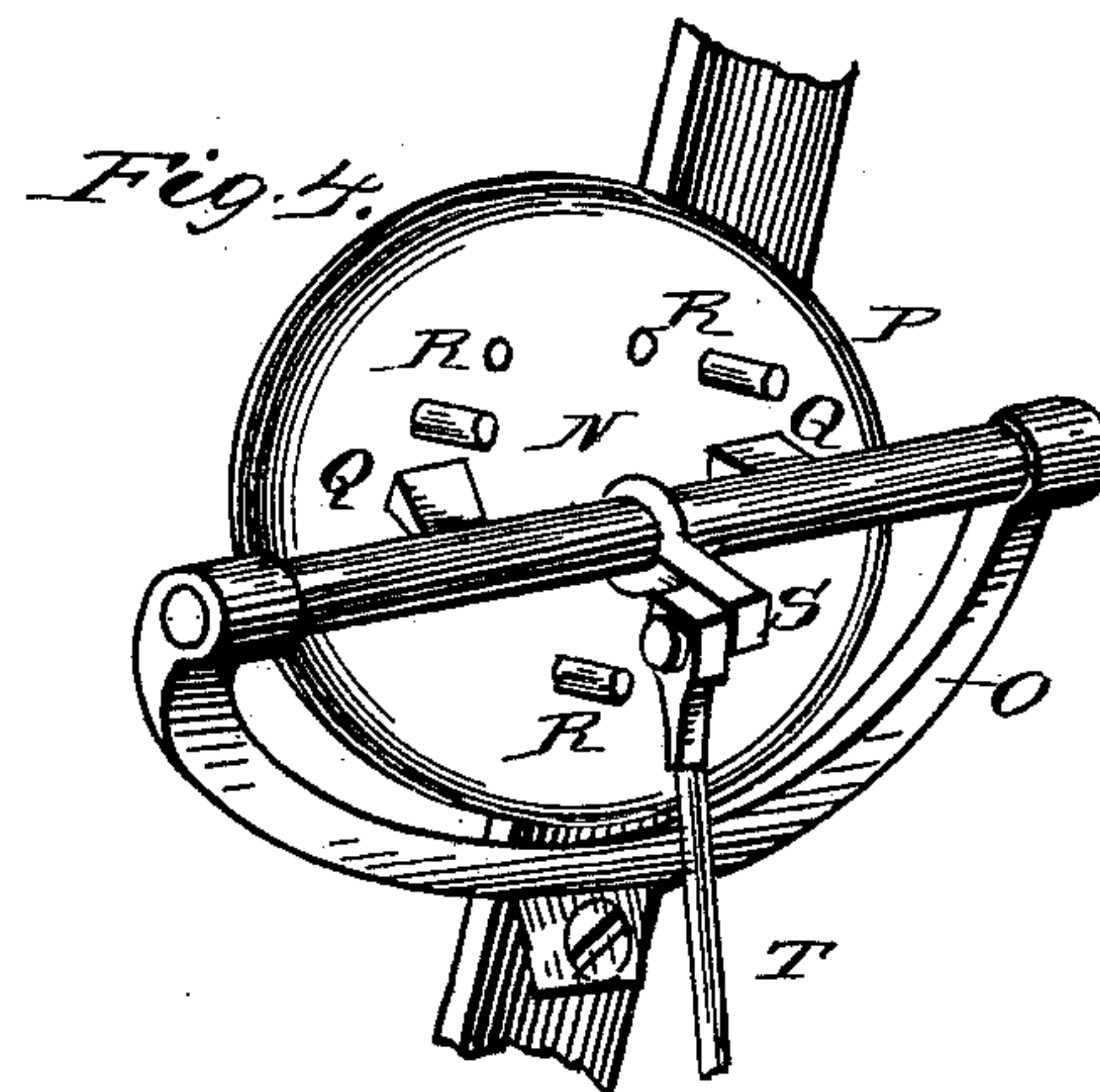
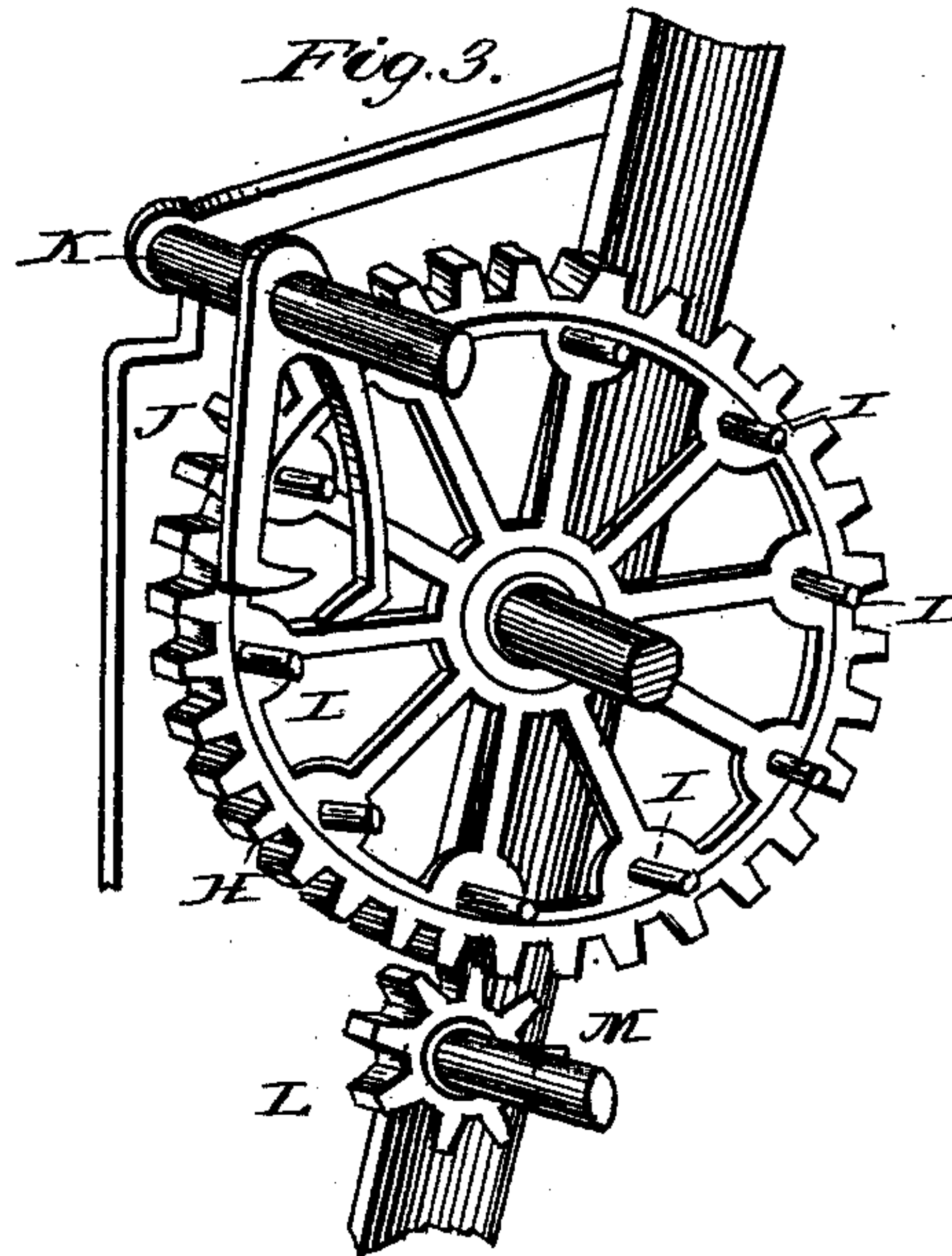
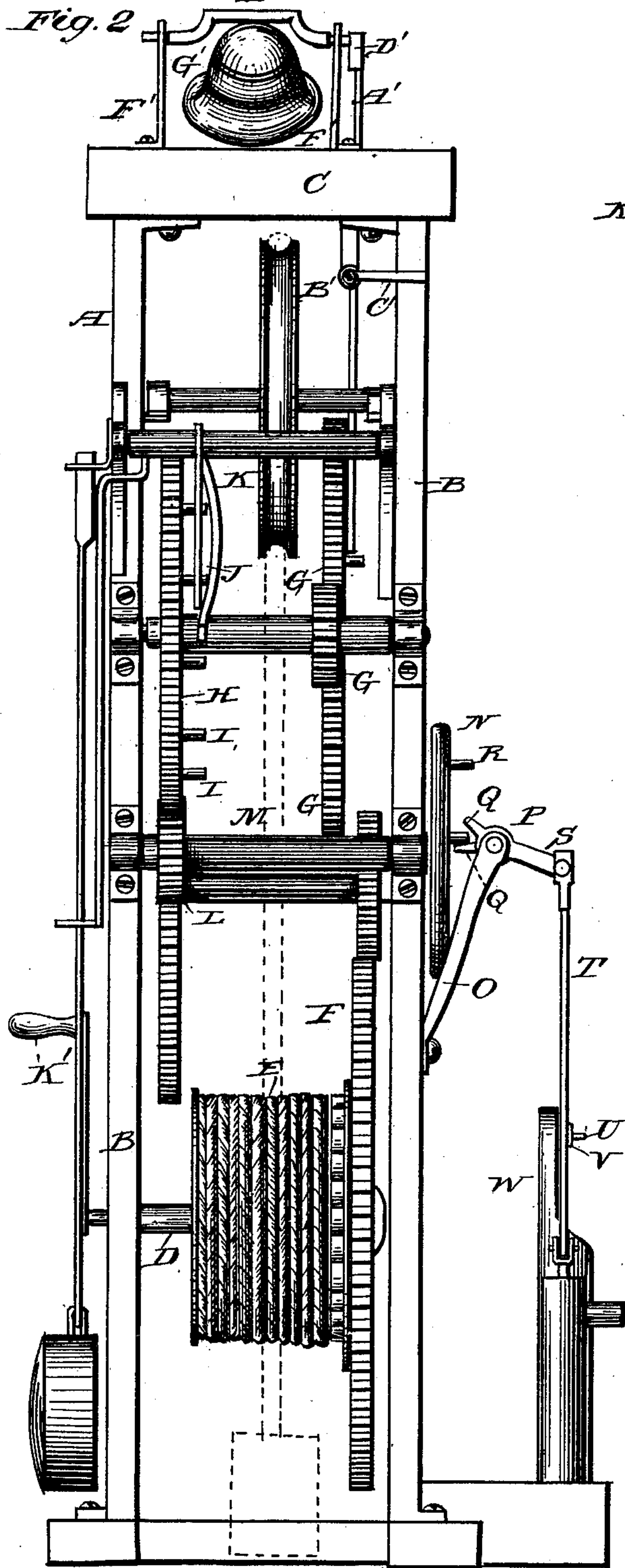
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UNITED STATES PATENT OFFICE.

ABDAEL G. KILER, OF YELLOW SPRINGS, OHIO.

IMPROVEMENT IN MECHANICAL MOTORS.

Specification forming part of Letters Patent No. **213,759**, dated April 1, 1879; application filed February 18, 1879.

To all whom it may concern:

Be it known that I, ABDAEL G. KILER, of Yellow Springs, in the county of Greene and State of Ohio, have invented certain new and useful Improvements in Mechanical Motors; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a front view. Fig. 2 is a side view; and Figs. 3, 4, and 5 are detail views, in perspective, of parts of the machine.

Corresponding parts in the several figures are denoted by like letters of reference.

This invention relates to that class of mechanical motors which are operated by weights, and used for operating pumps and driving light machinery; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings hereto annexed, A represents the frame of the machine, which consists of the sides B B and top piece, C. A shaft, D, mounted in bearings in the sides B B, carries a drum, E, connected by pawl and ratchet with the gear-wheel F, which is loose upon the shaft. From the gear-wheel F motion is transmitted, through a suitable train or system of gear-wheels, G, to the escapement-wheel H, which is provided upon its face with studs I, engaging the escapement J upon the pendulum-shaft K. The construction of this mechanism is shown clearly in Fig. 3 of the drawings; but I make no claim to the details thereof.

The escapement-wheel engages a pinion, L, upon a shaft, M, projecting beyond the side of the frame, where it carries a flat disk or fly-wheel, N. A bracket, O, secured to the side B of the frame, furnishes bearings for a rock-shaft, P, arranged in front of disk N, and parallel to the face thereof. Upon its inner side the rock-shaft P is provided with two studs, Q Q, set at an angle to each other, as represented in the detail view, Fig. 4, and engaging an uneven number of studs, R, projecting from the face of disk N, with the rim of which they

are arranged concentrically, at equal distances from each other. Rock-shaft P is provided with an outwardly-extending arm, S, connected by a pitman, T, with the piston-rod of the pump to be operated by the machine, or with a crank-wheel or other device through which the power may be applied to any kind of machinery which it may be desired to operate.

The pitman T is provided with a stud, U, upon which is pivoted the end of a lever, V, having its fulcrum upon a post, W. The pin X, upon which lever V is pivoted, is adjustable in any one of a series of perforations, Y Y, in said lever, and corresponding perforations in the post, thus enabling the length of stroke and the amount of power to be regulated. The free end of lever V may be connected to a churn-dasher, or applied to some light machinery independent of that to which the main power of the machine is applied.

A bracket, Z, projecting from the top piece, C, of the frame, carries a lever, A'. A spring, B', is attached to said lever, below its fulcrum, and to a bracket, C', upon frame A, thus holding the upper end of the lever out of contact with a downwardly-projecting arm, D', of a crank-shaft, E', journaled in uprights F' F' upon the top piece of the frame. The crank-shaft E' carries a bell, G'. One of the gear-wheels H' in the train G is provided with one or more studs, I', which, at regular intervals, strike the lower end of lever A', thus bringing its upper end in contact with arm D' of shaft E', and ringing the bell. The pendulum-escapement above referred to causes the machine to operate with the regularity of clock-work, and the studs I' may therefore be so arranged as to operate the bell-ringing mechanism at any given hour or hours of the day.

The operating power of the machine is a weight attached to the end of a rope or chain, which is wound upon the drum E and passed over a pulley, J', which, in order to afford the greatest possible drop for the weight, is arranged directly under the top piece of the frame. Shaft D is provided with a suitable crank or key, K', by which it may be conveniently operated in winding the rope or chain upon the drum.

Having thus described my invention, I

claim and desire to secure by Letters Patent of the United States—

1. The combination, in a mechanical motor, of a flat disk or fly-wheel, N, having an uneven number of studs, R, projecting from its face, said studs being equidistant and concentric with the rim of the disk, with a horizontal rock-shaft, P, parallel to the face of the disk, and provided with studs Q Q, set at an angle to each other, and engaging the studs upon the face of said disk, substantially as described, for the purpose herein set forth.

2. The disk N, having studs R R, in combination with the rock-shaft P, having studs Q Q and arm S, and the pitman T, all arranged and operating as herein described, for the purpose set forth.

3. The combination, in a mechanical motor constructed substantially as described, of the crank-shaft E', having bell G' and arm D', lever A', spring B', and gear-wheel H', having stud or studs I', all arranged and operating substantially as herein described, for the purpose shown and specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ABDAEL G. KILER.

Witnesses:

J. W. HAMILTON,
W. H. KILER.