

(No Model.)

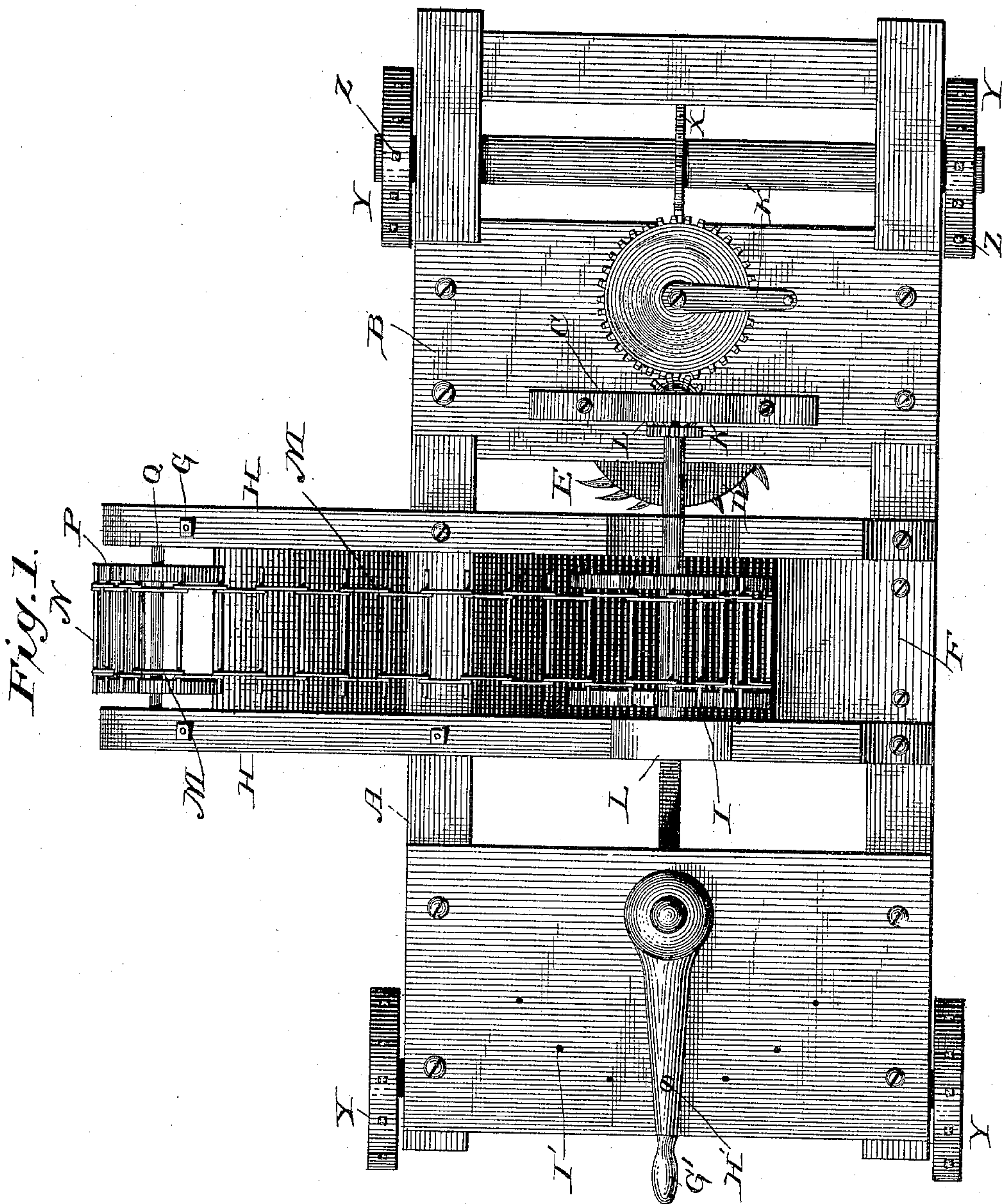
4 Sheets—Sheet 1.

O. M. ALLABEN.

DITCHING MACHINE.

No. 313,043.

Patented Mar. 3, 1885.



WITNESSES

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E. H. Bradford

INVENTOR

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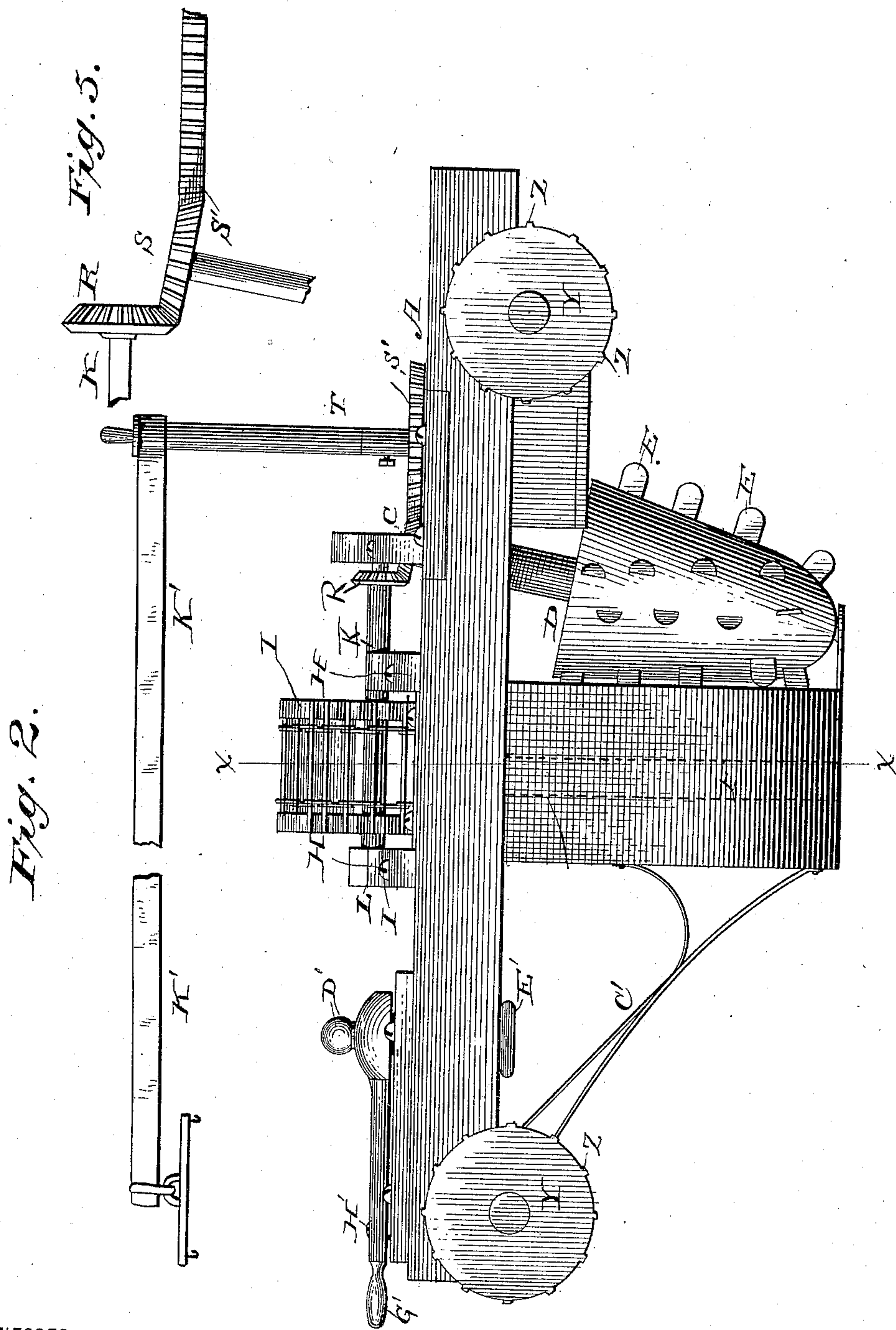
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(No Model.)

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DITCHING MACHINE.

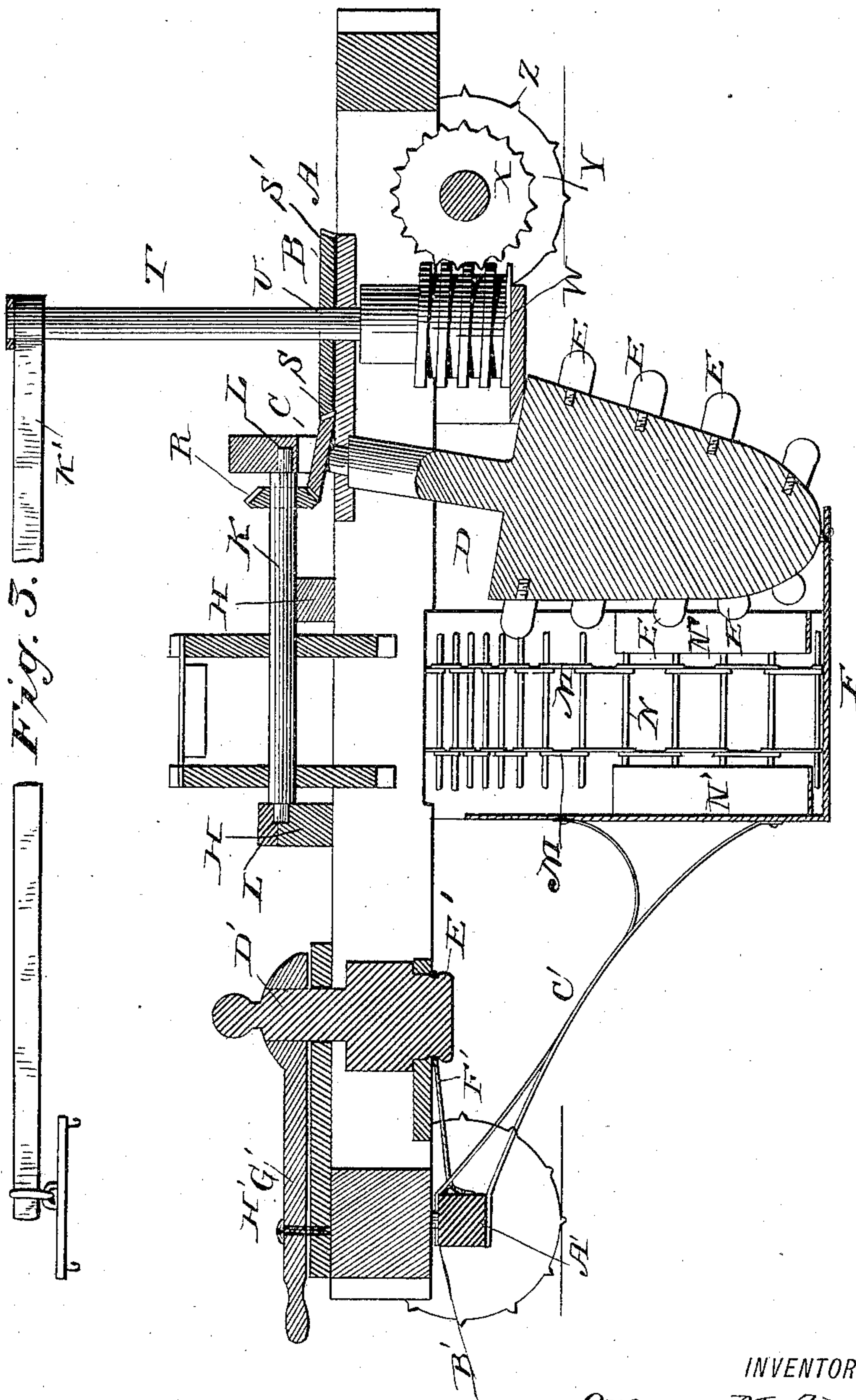
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Fig. 4.



Fig. 5.



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Fig. 6

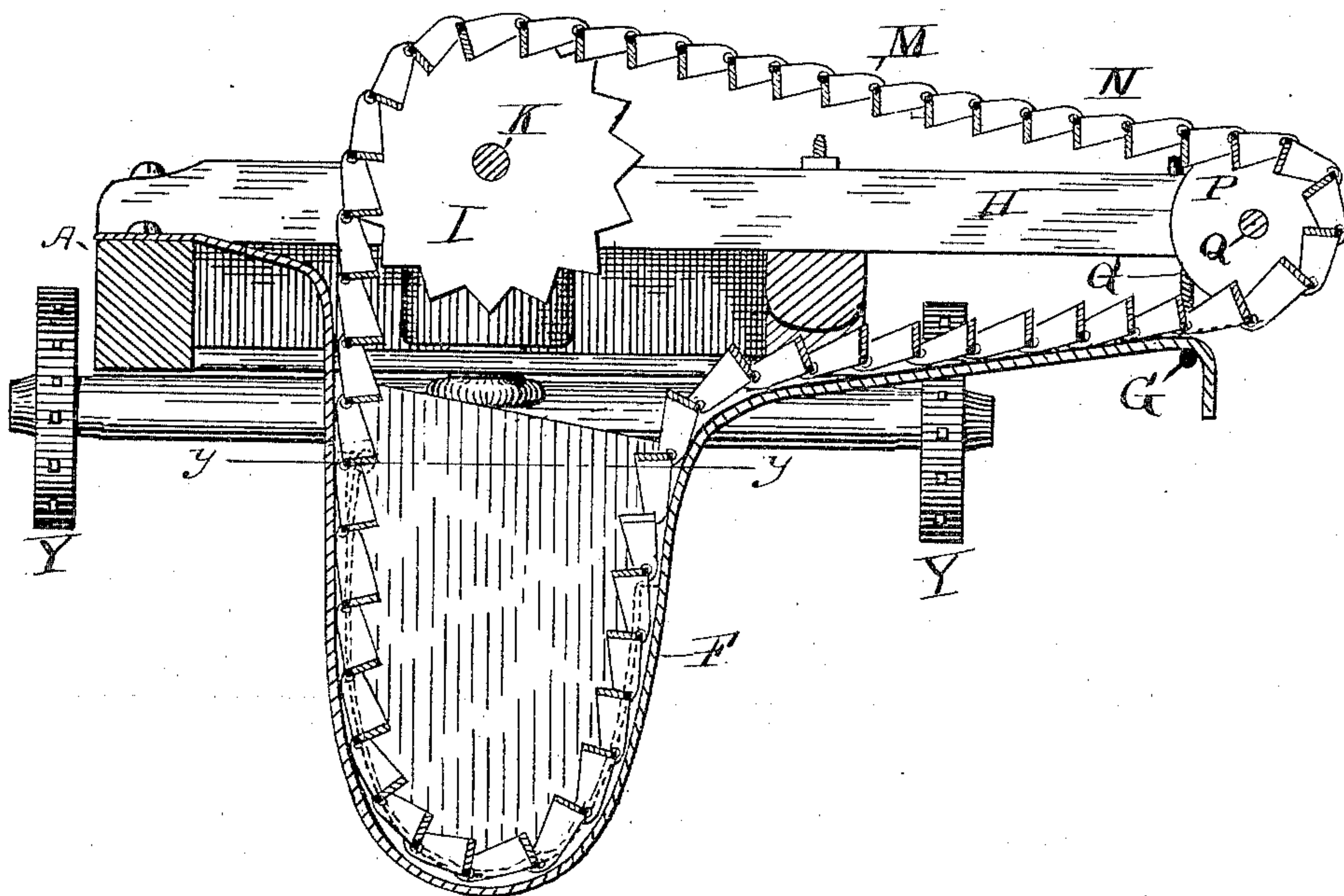
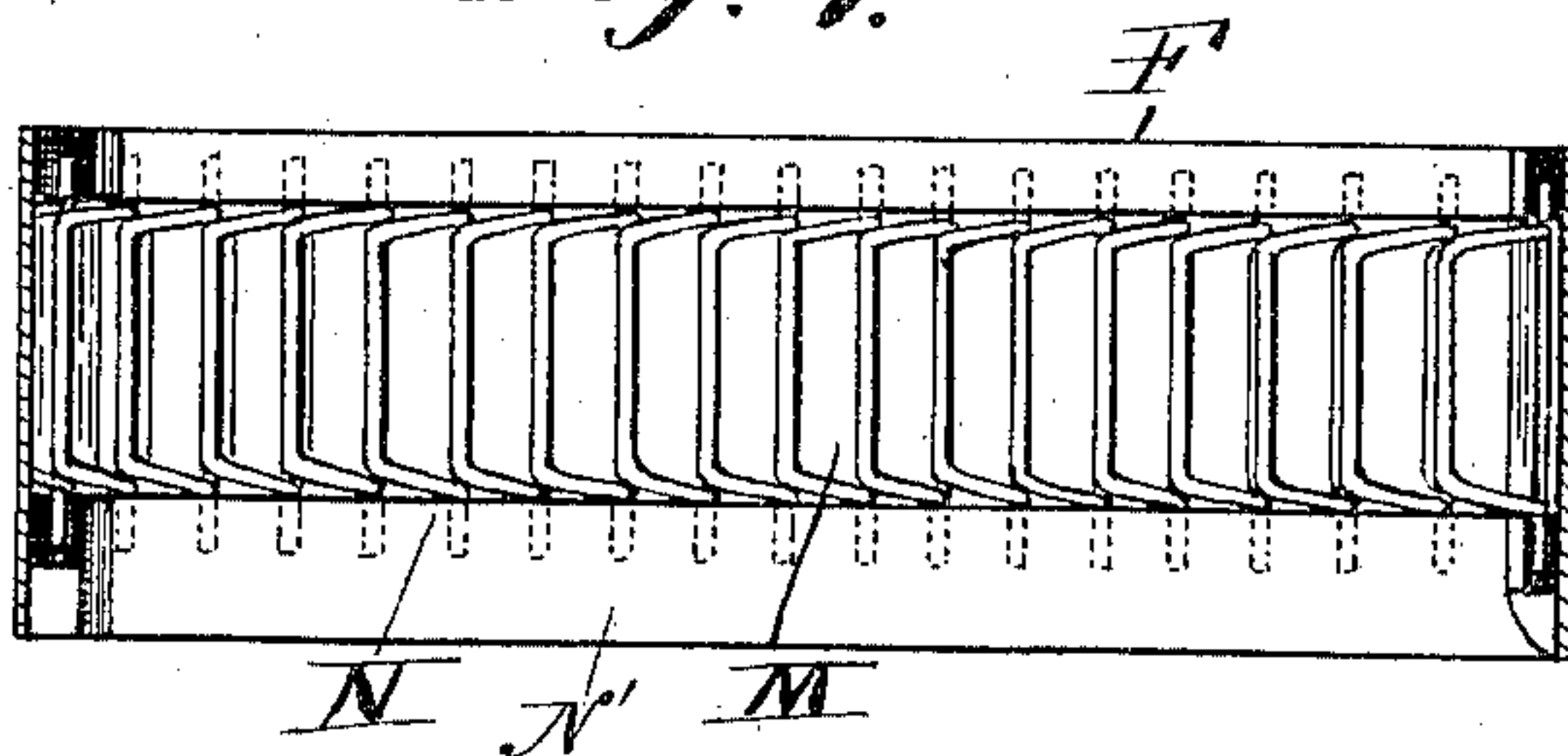


Fig. 7



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UNITED STATES PATENT OFFICE.

ORSON M. ALLABEN, OF MARGARETVILLE, NEW YORK.

DITCHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 313,043, dated March 3, 1885.

Application filed July 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, ORSON M. ALLABEN, a citizen of the United States, residing at Margaretville, in the county of Delaware and State of New York, have invented certain new and useful Improvements in Ditching-Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in ditching-machines; and it has for its objects to provide for digging the ground, excavating the disintegrated earth, and discharging the same to the side of the ditch, automatically as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a top view of my improved apparatus; Fig. 2, a side elevation of the same; Fig. 3, a longitudinal vertical sectional view of the machine; Fig. 4, a portion of the chain-scraper employed for removing the soil from the ditch, and Fig. 5 a detached side elevation of the gearing for driving the ditching mechanism proper. Fig. 6 represents a sectional view taken on the line *xx* of Fig. 2; and Fig. 7, an enlarged sectional view, looking from above, taken on the line *yy* of Fig. 6.

In the drawings, the letter A indicates the frame of the machine, which is constructed of wood or any other suitable material. The said frame is provided with a narrow transverse platform, B, which has secured to it a bearing-block, C, in which is journaled the upper journal of an inclined shaft carrying a rotating conical ditcher, D, which is provided with a series of radial shovels, E, the lower end of said shaft being stepped in a bearing in a forwardly-extending projection at the lower end of a metallic receiver, F, which collects the earth cut and disintegrated by the ditcher. The said receiver consists of sheet metal, which is secured at one side to the frame of the apparatus, and at the other to a hanger, G, depending from the ends of two transverse sills, H, secured to the upper part of the frame A. (See Fig. 6.)

The letter I indicates a sprocket-wheel mounted upon a shaft, K, (journaled in suitable bearings,) over which passes the shafts of a series of blades, M, of a continuous chain, N. The said chain also passes over a pulley, P,

mounted on a shaft, Q, journaled in bearings at the ends of the transverse sills before mentioned, in such manner that the said blades will travel upward on the bottom of the receiver when the machine is in operation and deliver the earth to one side of the ditch. On each side of the receiver are guides N', so placed that the chain will pass between them and the bottom of the said receiver, thus keeping it always in position to properly extract the dirt or earth thrown in the receiver. The shaft K at its forward end is provided with a beveled pinion, R, which intermeshes with a pinion, S, on the shaft of the ditching-cone, which intermeshes with a cog-wheel, S', on the driving-shaft T of the machine. The said shaft is journaled in suitable bearings, U, in the transverse platforms of the frame, and is provided with a worm-screw, W, which intergears with a toothed wheel, X, mounted on the forward axle of the machine, which at its ends is provided with wheels Y, which have radial peripheral pegs Z, which take into the ground and serve to advance the machine as the ditching-cone does its work. The rear axle, A', is provided with similar wheels, and is pivoted at B' to the frame of the machine, and is braced by means of the metallic braces C' to the rear of the receiver before mentioned.

The letter D' indicates a shaft journaled in bearings in the rear platforms of the frame A. The said shaft is provided at its lower end with a pulley, E', around which passes a cable, F', secured at its ends to the rear axle, so that when said shaft is turned it will move the axle accordingly, so as to guide the movements of the machine. The upper end of the shaft is provided with a tiller-lever, G', by means of which it may be operated to guide the machine, the lever being provided with a pin, H', adapted to set into one of a series of segmentally-arranged apertures, I', so as to lock it into any desired position to steer the machine. The vertical driving-shaft is provided with a sweep or lever, K', by means of which the machine may be worked by a horse or other draft-animal; or any convenient form of steam or other motive power may be used.

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

1. In combination with the conical ditcher

provided with curved parallel ditching-shovels, the receiver extending to one side of the machine, and the hanger supporting the receiver, substantially as specified.

- 5 2. In combination with the conical ditcher provided with curved blades or shovels, the receiver extending to one side of the machine, and the hanger supporting the receiver, the scraping-belt mounted upon a pulley and pro-
10 vided with a series of scrapers, the driving

sprocket-wheels, and the gearing, the whole arranged to operate substantially in the manner specified.

In testimony whereof I affix my signature in presence of two witnesses.

ORSON M. ALLABEN.

Witnesses:

J. K. P. JACKSON,
E. S. TOMPKINS.