No. 748,372. PATENTED DEC. 29, 1903.

# R. T. HEAD.

# ROAD MAKING MACHINE.

APPLICATION FILED AUG. 18, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

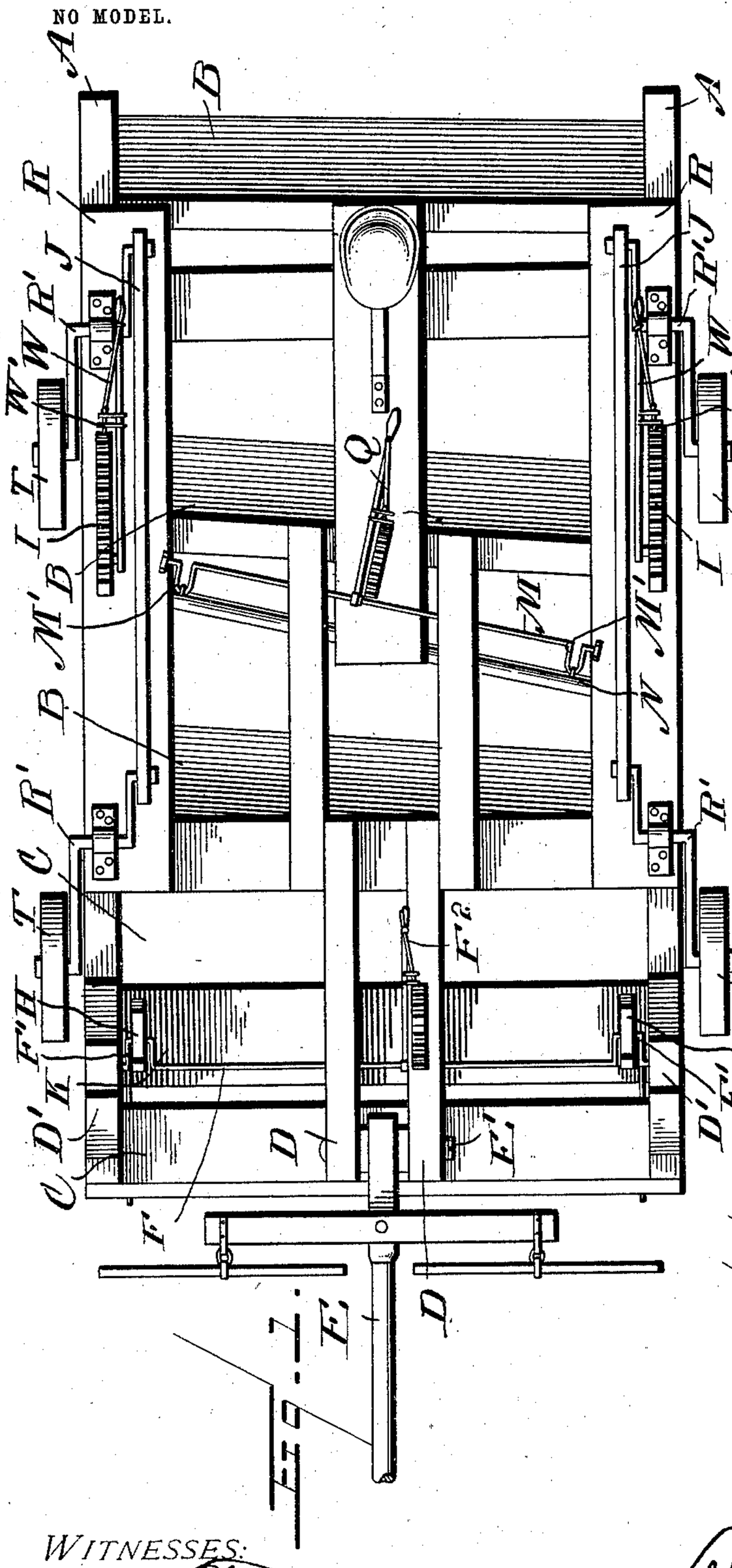


FIG. 1.

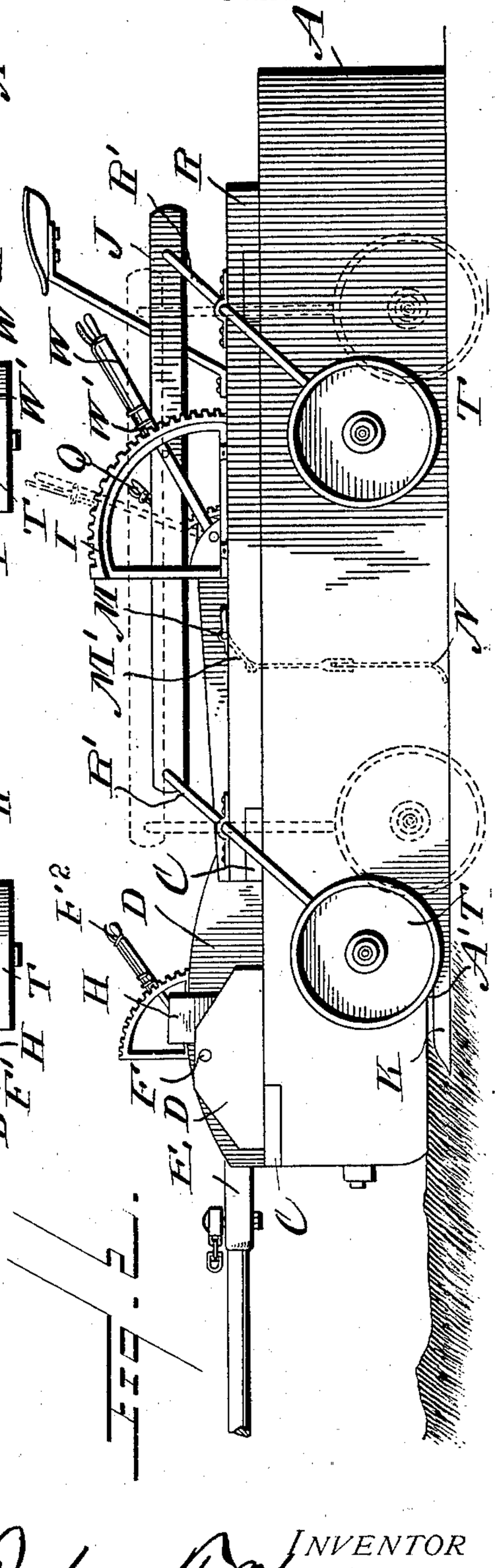


FIG. 2.

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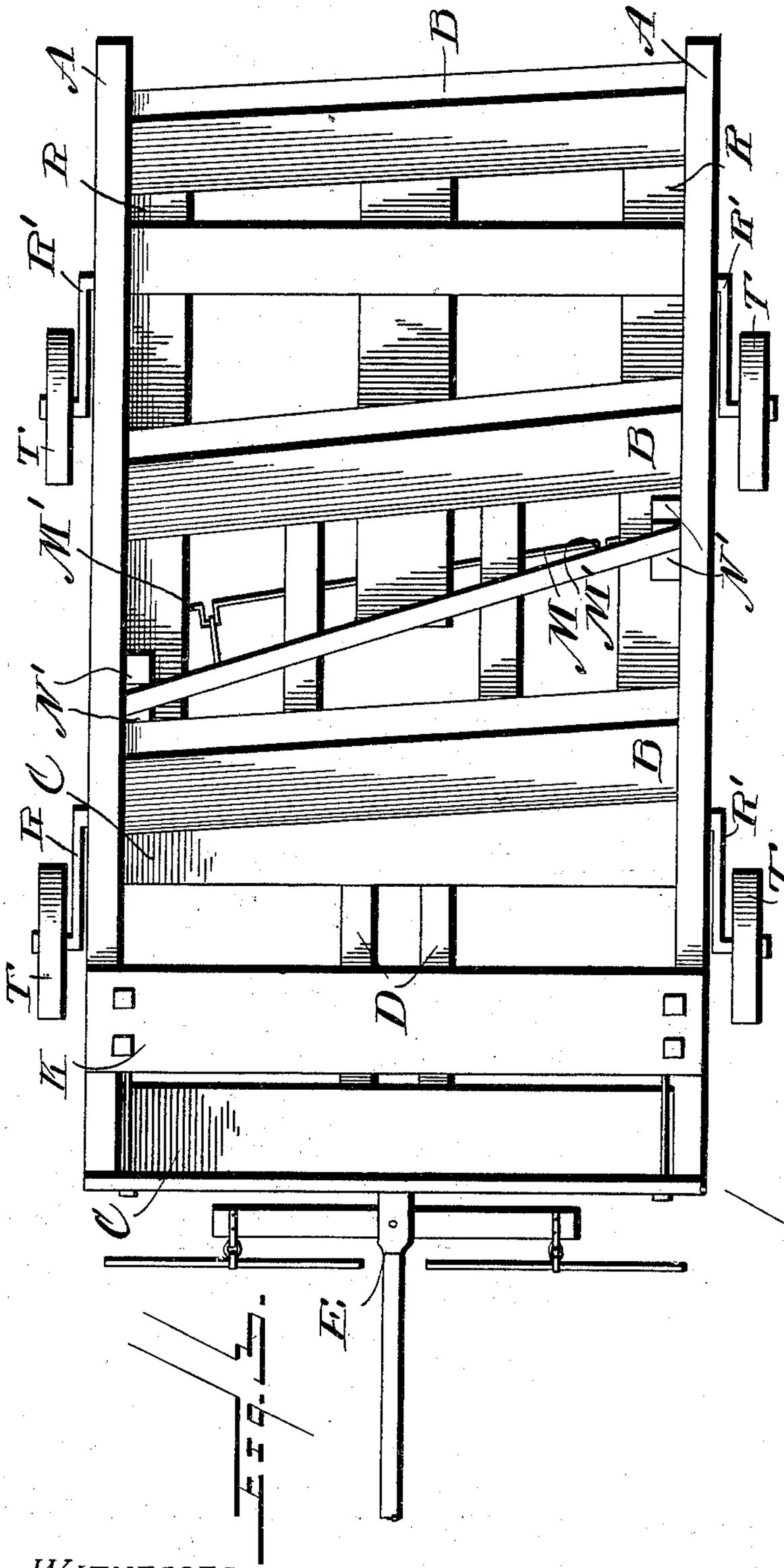


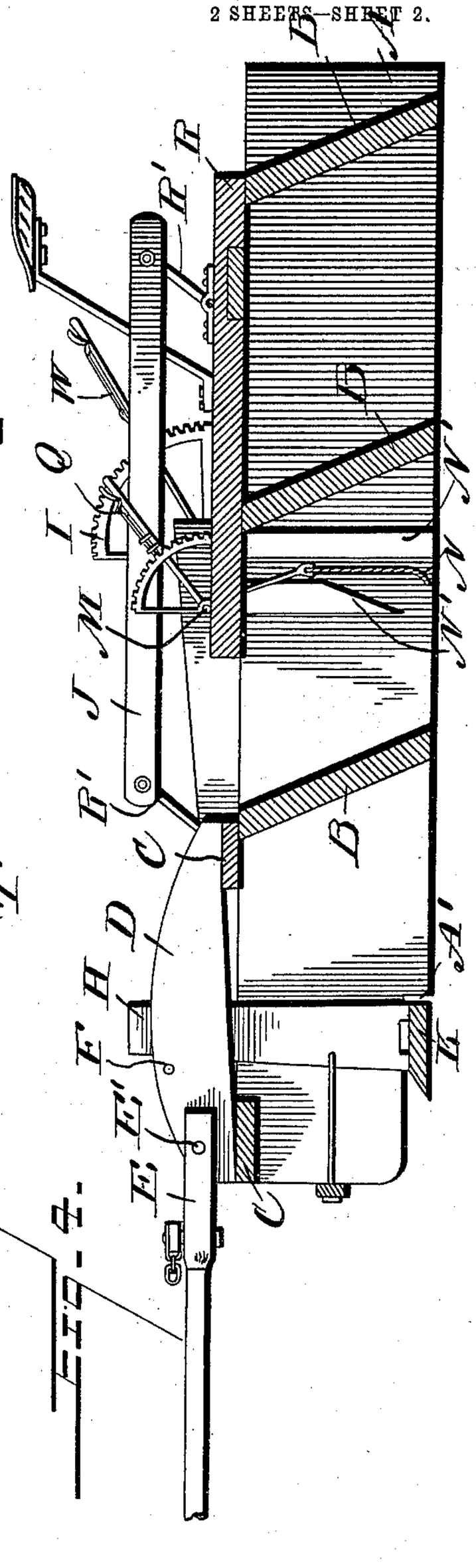


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No. 748,372. Patented December 29, 1903.

# UNITED STATES PATENT OFFICE.

ROBERT T. HEAD, OF VIOLET, OKLAHOMA TERRITORY, ASSIGNOR OF ONE-FOURTH TO FRANCIS M. STOKER, OF VIOLET, OKLAHOMA TERRITORY.

## ROAD-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 748,372, dated December 29, 1903.

Application filed August 18, 1903. Serial No. 169,935. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT T. HEAD, a citizen of the United States, residing at Violet, in the county of Pottawatomie and Territory of Oklahoma, have invented certain new and useful Improvements in Road-Making Machines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in machines for grading earth for railroad-beds, roads, &c.; and it comprises a novel means whereby the uneven portions of earth may be cut down and graded by means of cutting-blades which are mounted upon a truck and so arranged as to be conveniently operated by lever mechanism and in the provision of means whereby the truck may be tilted to one side or the other, whereby the cutting-blades may be disposed at an angle to the surface of the ground as may be found convenient in properly working the ground preparatory to laying ties for railroads.

The invention consists, further, in various details of construction, combination, and arrangements of parts, which will be hereinafter fully described and then defined in the appended claims.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of the machine. Fig. 2 is a side elevation. Fig. 3 is a bottom plan view, and Fig. 4 is a longitudinal sectional view.

Reference now being had to the details of the drawings by letter, A A designate the runners of the truck, which have fitted between the same diagonally-disposed leveling-wings B, with the lower edges of the same extended down to the lower marginal edges of said runners. Connecting the upper edges of the runners are cross-pieces C, which support the strips D, between which a tongue E is mounted upon a suitable bolt E′, to which tongue an evener is connected. Mounted in suitable bearings in said strips D and D′, the latter being mounted upon the upper edges of the runners, is a crank-shaft F, having cranks F′ engaging the vertical pieces H, the lower ends of which are bifurcated and connected to the cutting-blade K, which when raised to its highest position is adapted to seat in the recessed portions A′ in the lower edges of the runners, and when in such position the lower face of said blade will be flush with the lower edges of said runners. A foot operating-lever $F^2$ is either integral with or attached to said crank-shaft and is at a convenient location for the ready operation of the lever and shaft by the foot of the operator, whereby as said shaft is rocked the blade K may be raised or lowered for the purpose of cutting off uneven places of the ground to be leveled.

Mounted between two of the leveling-wings B is a scraper N, made preferably of steel, and is diagonally arranged between two runners and has a vertical movement. The ends of said scraper are mounted between the guides N′ on the inner faces of said runners, and a crank-shaft M is journaled in suitable bearings upon the superstructure of the machine and is provided with crank-arms M′, to which links O are fastened, the other ends of said links being connected to the scraper N, whereby as the lever Q, which is integral with or fastened to the crank-shaft M, is thrown forward or backward said scraper may be lowered or raised. Said lever Q is positioned so that it may be conveniently worked by means of the foot of the operator.

Mounted in suitable bearings in the longitudinal strips R of the upper edges of the runners are the crank members R′, to the outer ends of which are journaled the wheels T, which may be thrown down in such position as to get below the lower edges of the runners and cause the adjacent runner to be raised from the ground when it is desired to tilt the machine for the purpose of bringing the scraper or the cutting-blade K at different angles to the earth which is to be cut.

The ends of the crank members R′ are connected by means of bars J, to each of which is pivoted an operating-lever W, which in turn is pivotally mounted upon a segment-bracket I, carried by the pieces R, and a dog

W′ is carried by each lever W and designed to engage the teeth of the segment-block I for the purpose of holding the wheels T in different positions.

The operation of my machine is simple and will be readily understood. When the levers W are thrown down to the lowest limit, the wheels T will be above the lower edges of the runners, and when for any purpose it is desired to tilt one side of the machine one or the other of the levers W will be thrown forward for the purpose of throwing the wheels below the lower edge of the runner, so that the machine will be held at an inclination, and also the scraper and cutting-blade may be carried thereby. In case it is desired to throw the blade K down below the runners for the purpose of cutting off uneven ground it may be readily done by the operator pressing upon the foot-lever connected to said blade, and the scraper may also be conveniently operated by the foot-lever for raising or lowering the same. As the uneven portions of the ground are cut by the blade of the scraper the low places may be filled by the fixed blades intermediate the scrapers, which are provided for leveling the ground when the machine passes over the same.

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

1. A machine for leveling ground comprising runners secured together, a vertically-movable cutting-blade mounted below the runners, means for raising and lowering the same, and a scraper supported by the runners, as set forth.

2. A machine for leveling ground comprising runners secured together, a vertically-movable blade, means for raising and lowering the same, the said blade normally held, when in its highest position, in recessed portions of the runners and adapted to be thrown below the lower edges thereof, and a scraper carried by the runners, as set forth.

3. A machine for leveling ground comprising runners fastened together, a vertically-movable cutting-blade, adapted to be raised into recesses in the lower edges of the runners, lever mechanism for raising and lowering said blade, a scraper carried by the runners and means for raising one or the other of the runners from the ground, as set forth.

4. A machine for leveling roads comprising runners fastened together, a vertically-movable cutting-blade, means for raising and lowering the same, a series of inclined leveling-wings intermediate the runners, a scraper and means for raising and lowering the same, and mechanism for raising one or the other of the runners from the ground, as set forth.

5. A machine for leveling ground comprising runners fastened together, a vertically-movable cutting-blade, underneath the runners, a scraper, crank members journaled on the machine, wheels journaled upon said crank members and lever mechanism for throwing said crank members whereby the said wheels may be lowered below the bottoms of the runners for the purpose of raising one or the other of the runners from the ground, as set forth.

6. A machine for grading ground comprising runners, a vertically-movable horizontal cutting-blade, lever mechanism for raising and lowering the same, a scraper, crank-shaft and lever mechanism for raising and lowering said scraper, crank-shafts journaled above the runners and in pairs, a bar connecting the ends of the cranks of said members and a lever mounted upon the frame and having pivotal connection with said bar, a segment-block and a dog carried by the lever adapted to engage the teeth of said block, as set forth.

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

his
ROBERT T. + HEAD.
mark

Witnesses:
A. I. DEES,
L. G. PANTIER.