

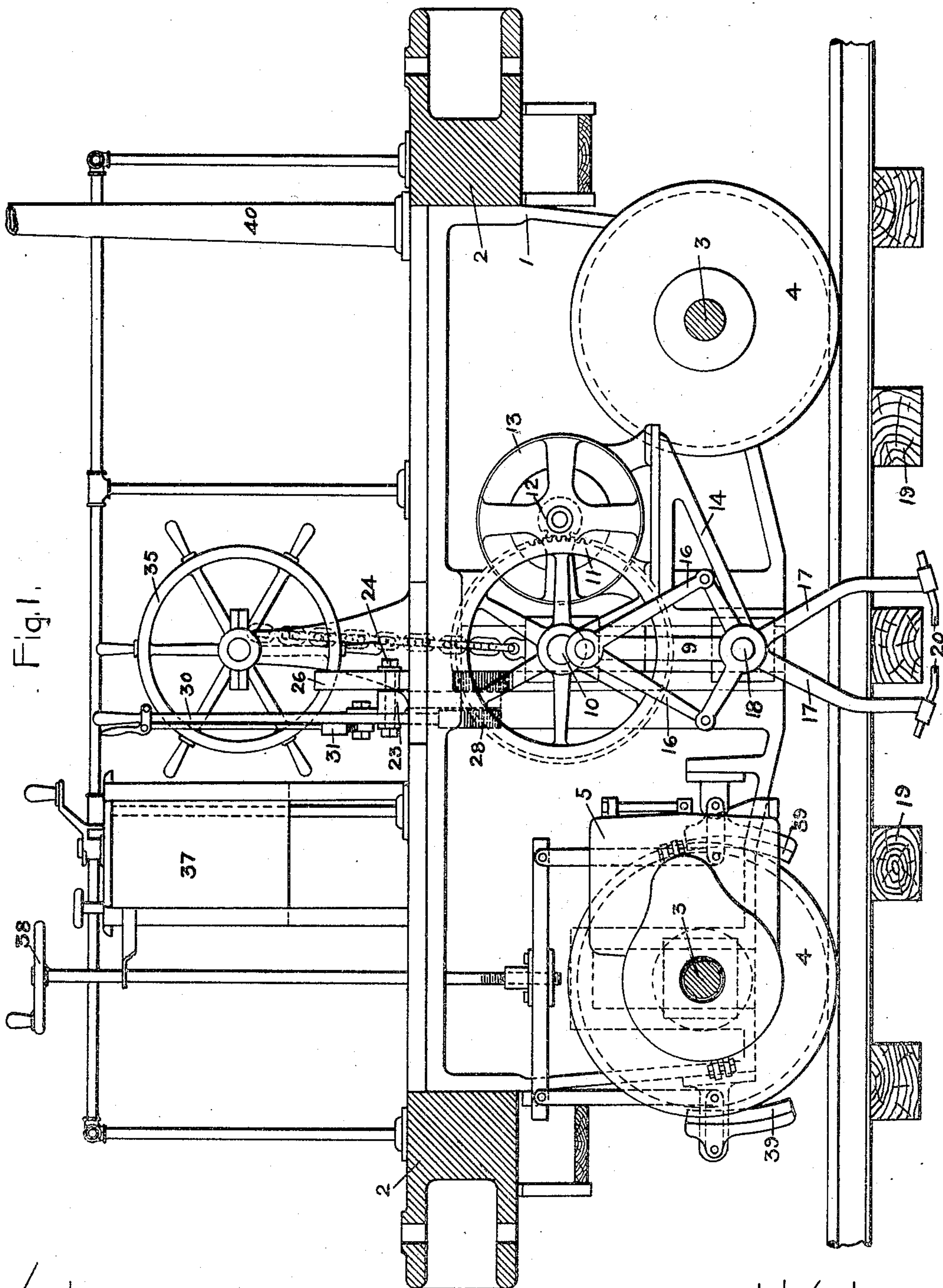
No. 793,433.

PATENTED JUNE 27, 1905.

H. GEISENHÖNER.  
TAMPING MACHINE.

APPLIOATION FILED JAN. 11, 1904.

4 SHEETS—SHEET 1.



WITNESSES:

Allen Oxford

INVENTOR:

Henry Geisenhöner,  
by Albert H. Davis  
Att'y.

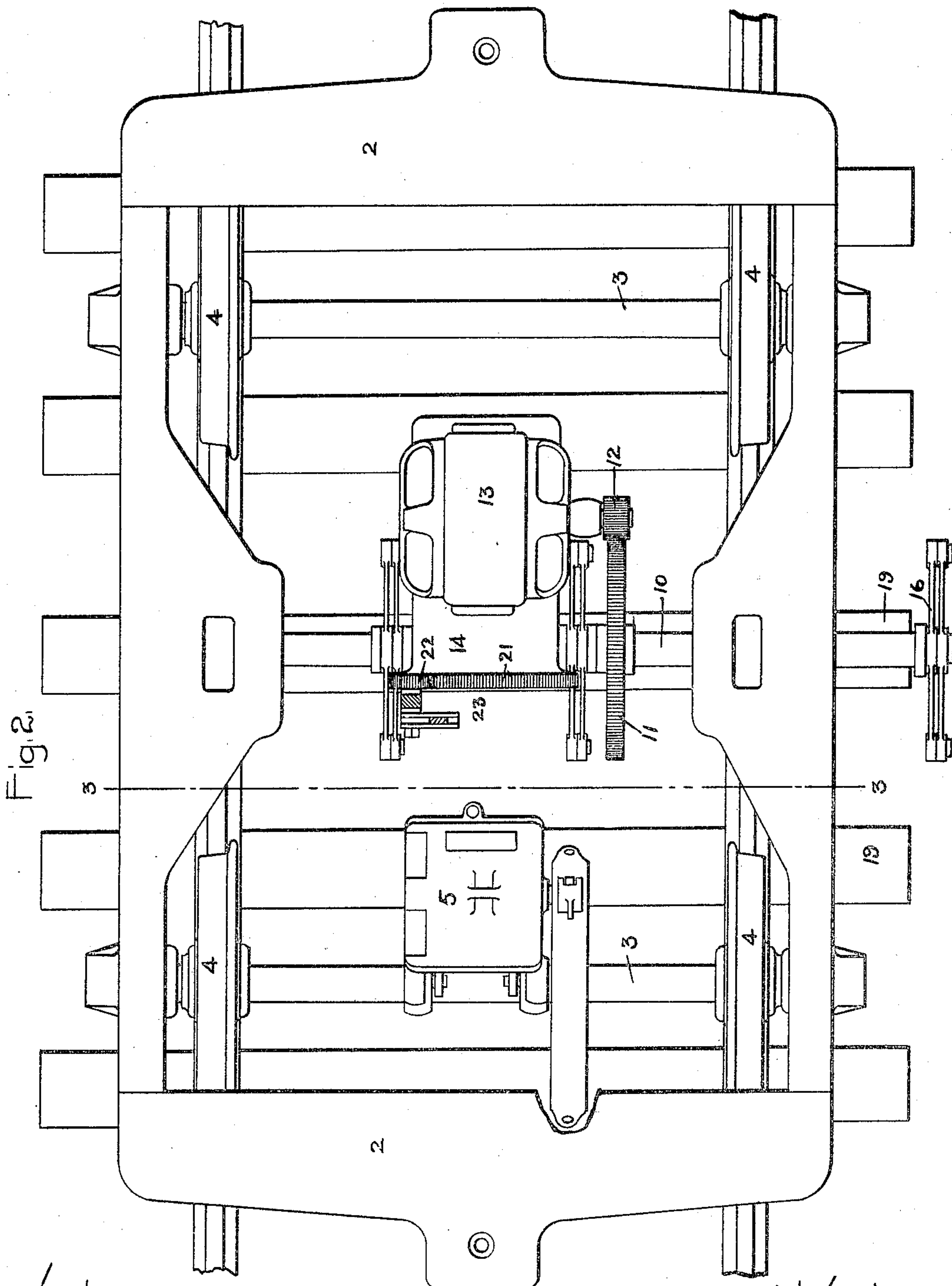
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4 SHEETS—SHEET 2.



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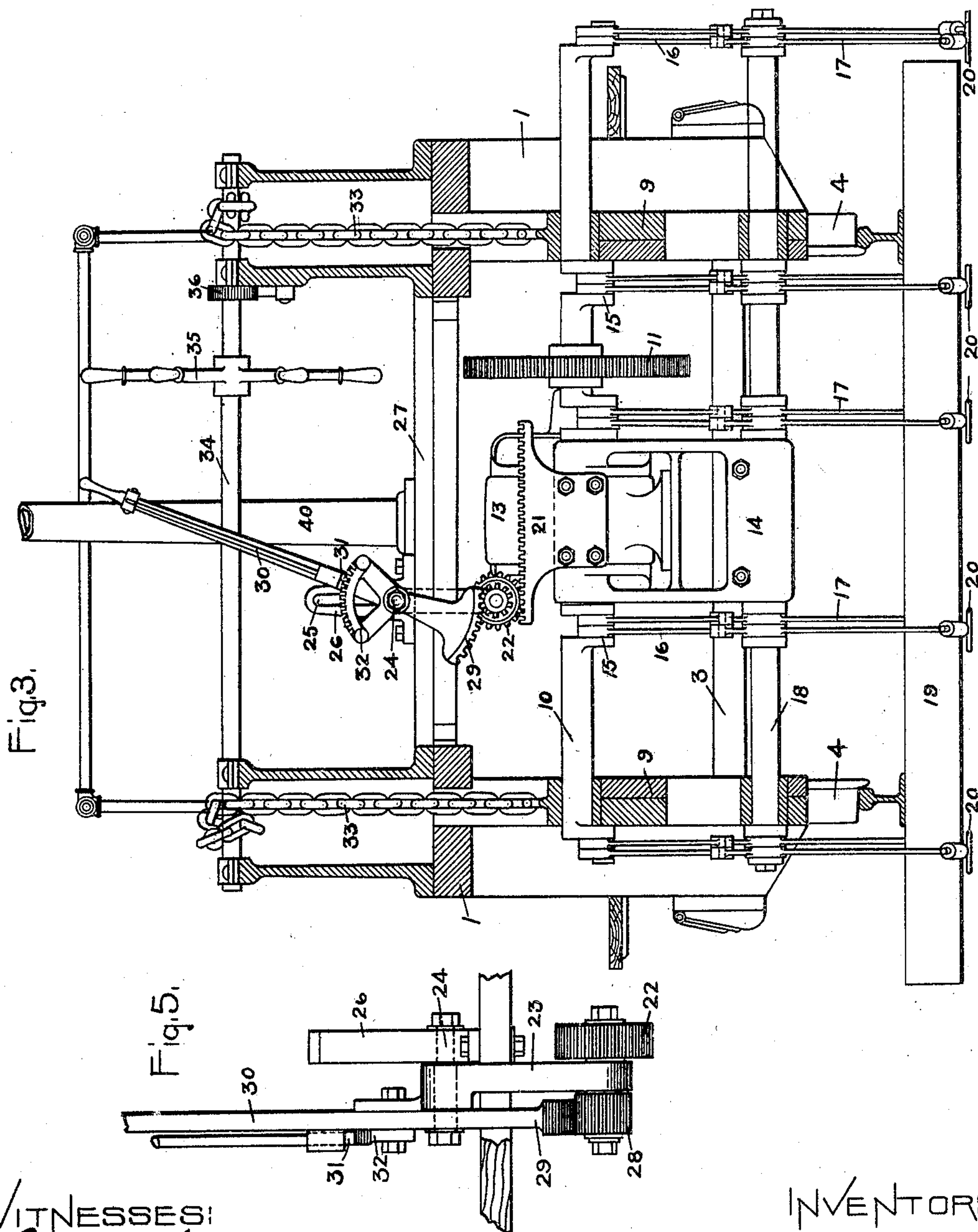
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4 SHEETS—SHEET 3.



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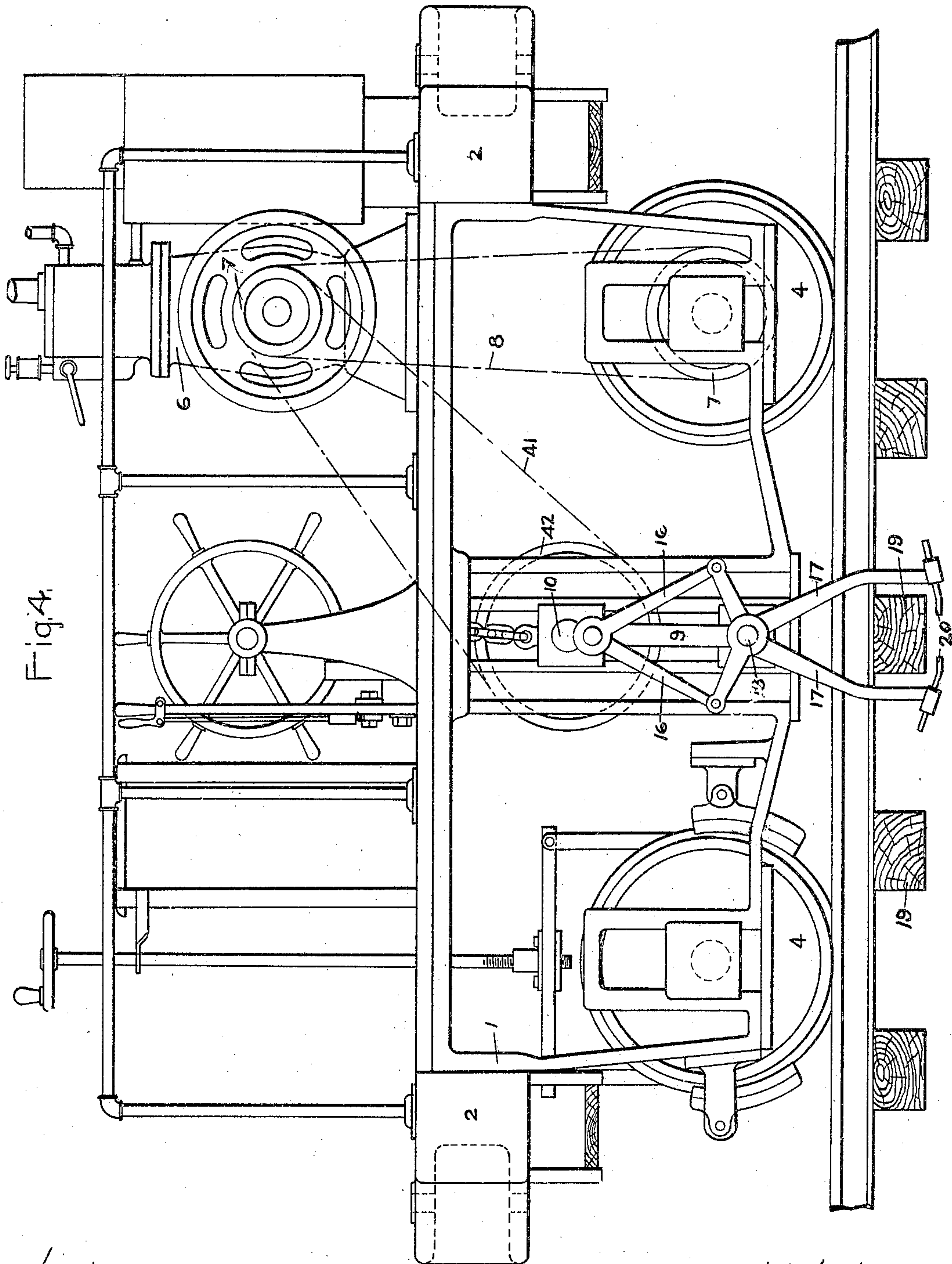
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4 SHEETS—SHEET 4.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

HENRY GEISENHÖNER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO  
GENERAL ELECTRIC COMPANY, A CORPORATION OF NEW YORK.

## TAMPING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 793,433, dated June 27, 1905.

Application filed January 11, 1904. Serial No. 188,507.

*To all whom it may concern:*

Be it known that I, HENRY GEISENHÖNER, a citizen of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented certain new and useful Improvements in Tamping-Machines, of which the following is a specification.

This invention relates to machines for tamping or ramming earth, and it is especially intended for use on roadways and along railway-tracks where the earth or other filling material needs to be solidly tamped under and around the ties or in other locations.

The invention comprises a truck furnished with a motor for propelling it, either an electric motor or a steam or gas engine, as desired. The truck carries a vertically-movable frame, in which is journaled a horizontal shaft transverse to the truck and geared for rotation to a motor mounted on the frame. The shaft is provided with a plurality of cranks or their equivalent, each of which is operatively connected with one or more rammers or tamping devices, preferably levers, suitably supported by the movable frame and equipped with proper tamping-tools. Means are provided for traversing the frame transversely of the truck, so as to cause the several tamping devices to operate on all parts of the road-bed. The propelling-motor, the tamping-motor, and the mechanism for raising and lowering the movable frame and for traversing it are controlled from the platform of the truck.

In the accompanying drawings, Figure 1 is a side elevation, partly in section, of a tamping-machine embodying my improvements. Fig. 2 is a top plan view of the same with the controlling works removed. Fig. 3 is a transverse section on the line 3-3, Fig. 2. Fig. 4 is a side elevation of a modification, and Fig. 5 is a side elevation of the mechanism for traversing the movable frame.

The truck is composed of suitable side frames 1, united by end beams 2, and having pedestals to receive the axles 3 of the wheels 4. If the machine is to run on a track, these are ordinary flanged car-wheels, as shown. One or both axles may be positively driven

by a suitable motor. In Figs. 1, 2, and 3 the propelling device is an electric motor 5, geared to one of the axles in the ordinary manner; but if a source of electric current is not available the truck may be driven by a steam or gas engine 6, as shown in Fig. 4, connections with an axle being made by sprocket-wheels 7 and chain-belt 8. In each side frame of the truck is an upright slot whose parallel sides form ways to receive and guide a frame 9, in the upper part of which is journaled a horizontal shaft 10, extending across the truck and provided with a spur-gear 11, meshing with a driving-pinion 12, secured on the shaft of an electric or other motor 13, which is supported on a movable frame 14, pivotally suspended from the shaft 10. At each end of the shaft 10 and at intermediate points are cranks 15, each of which is connected by a rod 16 with a lever 17, fulcrumed on a bar 18, which is secured in the lower part of the movable frame 14 and extends each way therefrom in the plane of the shaft 10. There are preferably two rods connected to each crank, actuating two levers placed side by side on the bar 18, but diverging downwardly, so as to straddle a railroad-tie 19. At the lower end of each lever is a tamping-tool 20. The shaft 10 and the bar 18 can slide lengthwise in their bearings in the frames 9, so that the tamping-tools can be made to operate on the roadway material along the entire length of the tie, the travel of the shaft being greater than the space between adjacent tools. The longitudinal movement of these parts is obtained by any suitable mechanism, preferably that shown in the drawings, where the movable frame 14 is provided with a rack 21, meshing with a gear-wheel 22, secured on a short shaft journaled in bearings in the lower end of a hanger 23, depending from a bolt 24, secured in an upright slot 25 in a standard 26, fastened to the floor 27 of the truck. On the shaft is a smaller gear-wheel or pinion 28, which meshes with a segment-rack 29 on the lower end of a lever 30, fulcrumed on the bolt 24, and having a latch 31 cooperating with a toothed quadrant 32, carried by the hanger 23. The lever moves in the plane of the rack



which is parallel with that of the shaft 10 and bar 18, so that when the lever is operated it causes the gear-wheels to move the rack in a direction transverse to the length of the truck, and thus slides the shaft and the bar lengthwise in their bearings.

In order to enable the tamping-tools to work at different depths, the side frames 9 are vertically movable in their slots. I prefer to raise and lower them by means of chains 33, whose lower ends are fastened to the frames 9 and whose upper ends are secured to a transverse shaft 34, provided with a hand-wheel 35 for winding the chains up or down. A ratchet and pawl 36 hold the frames and tamping-tools at any desired height.

The lever for traversing the tools, the wheel for raising and lowering them, the controller 37 for the motor, and the brake-wheel 38 for operating the brakes 39 are all grouped conveniently for manipulation by the operator, who stands on the floor of the truck near one end thereof, the trolley-stand 40 being at the other end. He is thus enabled to move the truck along the track, adjust the tamping-tools to a tie, and cause them to operate upon the tamping material along the entire length of the tie and at such depths as may be necessary to secure a firm packing of the material under and around the tie.

When the movable side frames are moved vertically, the bolt 24 must be loosened to permit it to slide in the slot 25 in the standard 26, the bolt being tightened again after the tamping-tools have been adjusted to the proper height.

When a gas or steam engine 6 is used to propel the truck, it can also be utilized to drive the tamping-tools, as by means of a belt 41 and a sprocket-wheel 42 on the shaft 10.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. A machine for operating upon road-beds, comprising a truck, a vertically-movable transverse shaft thereon, a motor for driving said shaft, and levers actuated by said shaft.

2. A machine for operating upon road-beds, comprising a truck, a vertically-movable transverse crank-shaft thereon, a motor for driving said shaft, and levers connected with said crank.

3. A machine for operating upon road-beds, comprising a truck, a transverse crank-shaft thereon, levers connected with said shaft, means for rotating said shaft, and means for causing a lengthwise movement thereof.

4. A machine for operating upon road-beds, comprising a truck, a transverse shaft thereon, levers operated by said shaft, a bar for supporting said levers, means for driving said shaft, and means for traversing said shaft and bar across the truck.

5. A machine for operating upon road-beds,

comprising a truck, a transverse shaft thereon, levers operated by said shaft, a bar for supporting said levers, means for driving said shaft, means for traversing said shaft and bar across the truck, and means for raising and lowering them.

6. The combination with a truck, of a transverse crank-shaft, a bar parallel therewith, a movable frame connecting said shaft and bar, a motor supported by said frame and geared to said shaft, tamping-tools actuated by said shaft, and means for moving said frame, shaft and tools transversely of the truck.

7. The combination with a truck, of a movable frame, means for operating tamping-tools carried by said frame, a rack secured to said frame, gearing engaging with said rack, and a lever provided with a segment-gear meshing with said gearing.

8. The combination with a truck, of a movable frame, means carried by said frame for operating tamping-tools, means for raising and lowering said frame, a rack secured to said frame, and means for operating said rack secured to but vertically movable on said truck.

9. The combination with a truck, of a movable frame, means carried by said frame for operating tamping-tools, means for raising and lowering said frame, a rack secured to said frame, gear-wheels carried by a hanger vertically adjustable on said truck, one of which engages with said rack, and a segment-gear pivoted on said hanger and meshing with the other gear.

10. The combination with a truck, of a slotted standard fastened to the floor thereof, a hanger vertically adjustable in said slotted standard, a short shaft journaled in said hanger and provided with gear-wheels, a lever fulcrumed on said hanger and provided with a segment-gear meshing with one of said gear-wheels, and a vertically and transversely movable frame having a rack engaged by the other gear-wheel, and carrying means for operating upon a roadway.

11. The combination with a truck, of vertically-movable frames thereon, a crank-shaft journaled therein and capable of longitudinal movement in its bearings, and tamping-tools actuated by said crank-shaft.

12. The combination with a truck, of vertically-movable frames at each side thereof, a crank-shaft and a bar longitudinally slidable in bearings in said frames, tamping-tools actuated by said shaft, and chains for lifting and lowering said frames.

In witness whereof I have hereunto set my hand this 7th day of January, 1904.

HENRY GEISENHÖNER.

Witnesses:

BENJAMIN B. HULL,  
HELEN ORFORD.