

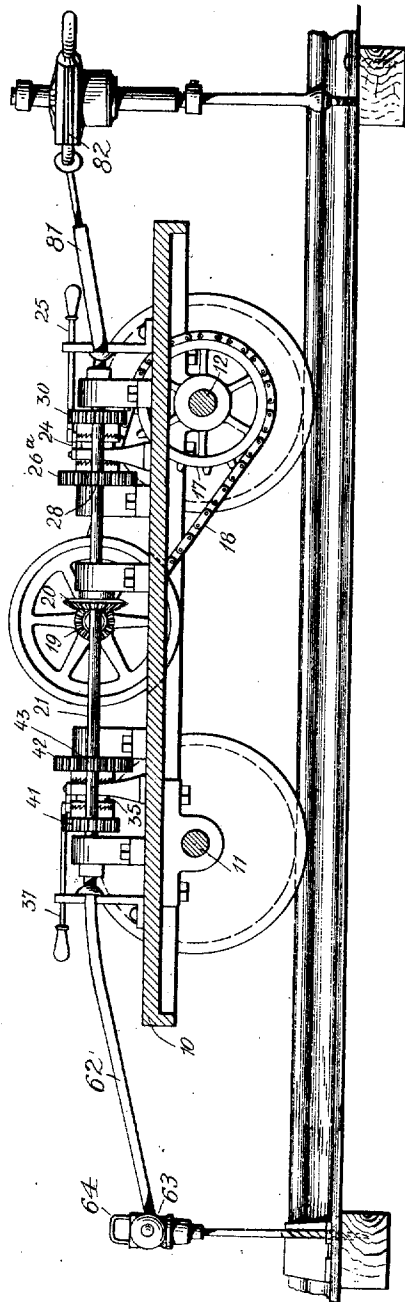
No. 891,700.

PATENTED JUNE 23, 1908.

H. W. JACOBS.
TRACK CAR AND TOOL DRIVING MACHINE.
APPLICATION FILED JAN. 25, 1908.

6 SHEETS—SHEET 1.

Fig. 1,



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No. 891,700.

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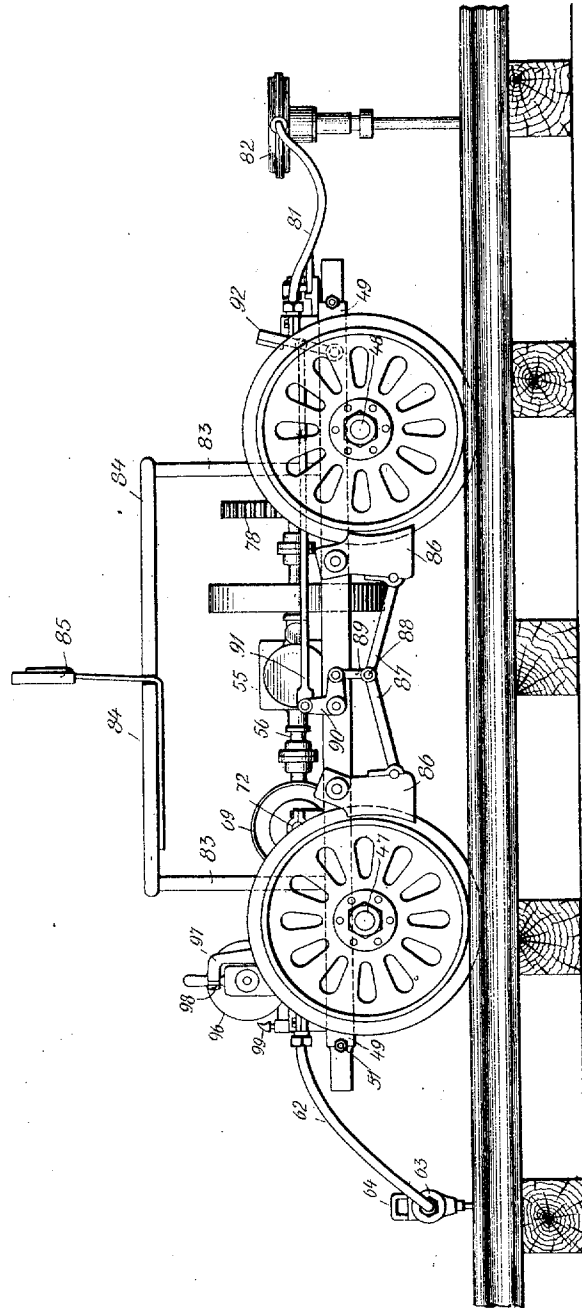
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6 SHEETS—SHEET 3.

Fig. 3.



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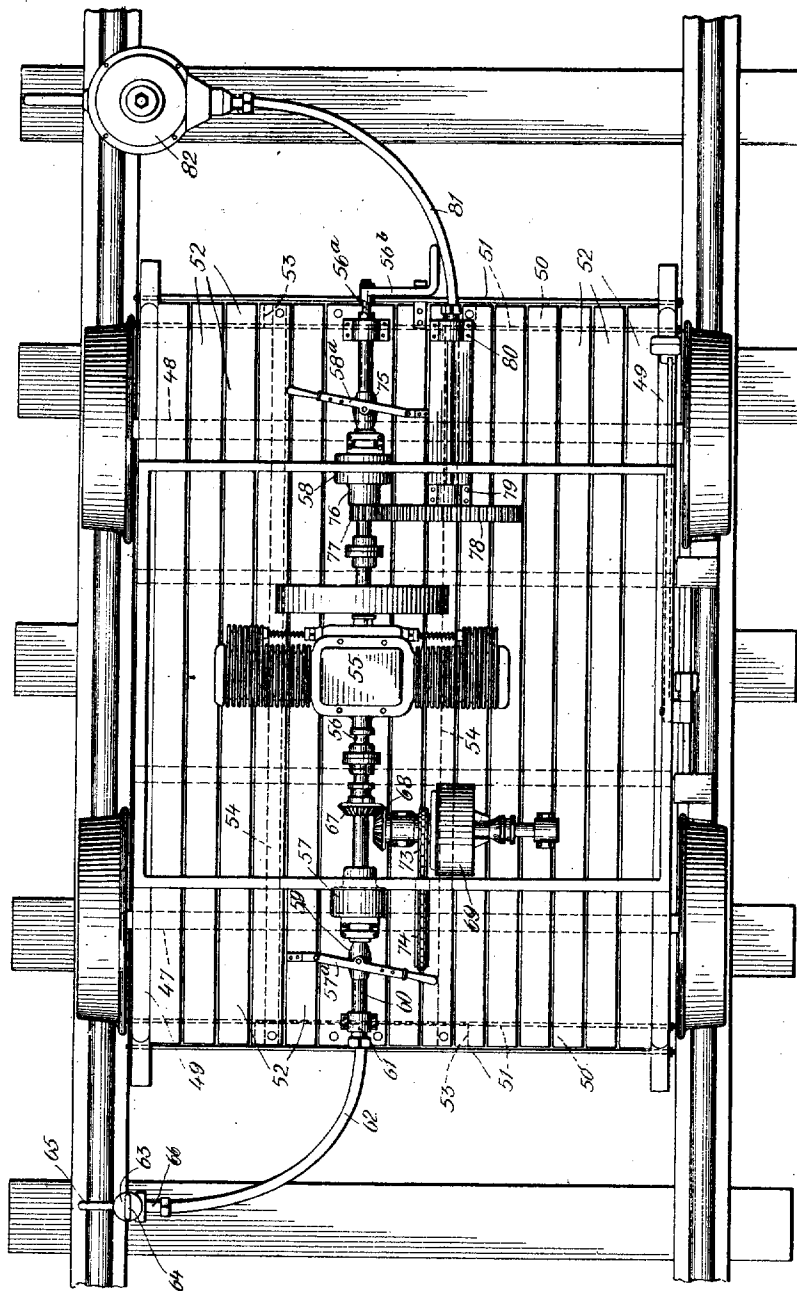
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6 SHEETS—SHEET 4.

Fig. 4.



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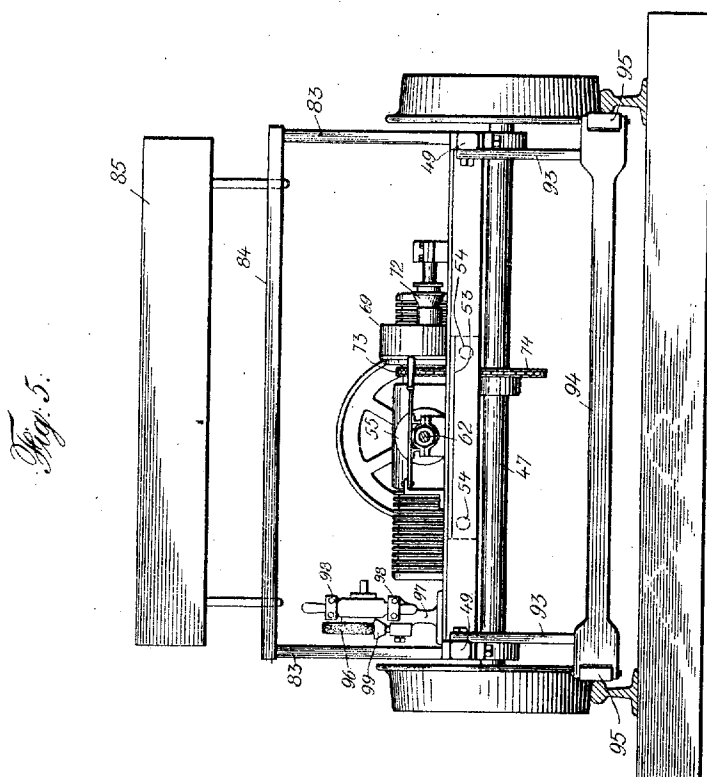
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6 SHEETS--SHEET 5.



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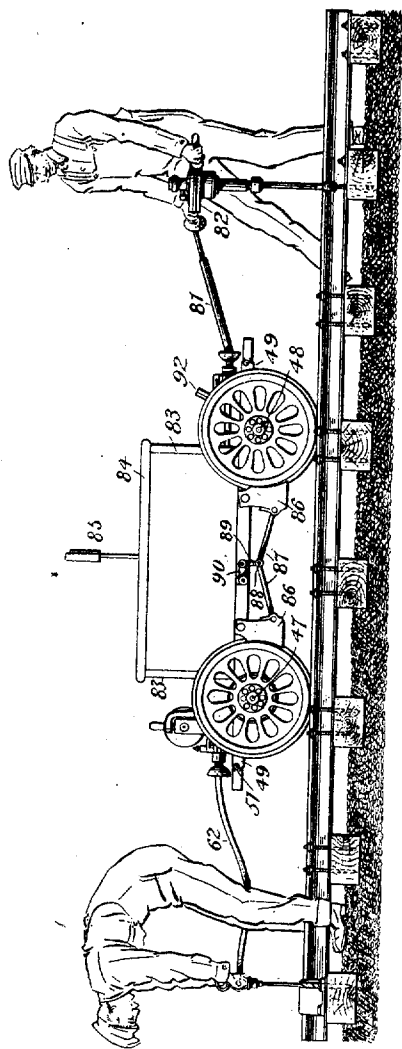
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6 SHEETS—SHEET 6.

Fig. 6.



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TRACK-CAR AND TOOL-DRIVING MACHINE.

No. 891,700.

Specification of Letters Patent.

Patented June 23, 1908.

Application filed January 25, 1908. Serial No. 412,687.

To all whom it may concern:

Be it known that I, HENRY W. JACOBS, of Topeka, in the county of Shawnee and in the State of Kansas, have invented a certain new and useful Improvement in Track-Cars and Tool-Driving Machines, and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a machine embodying my invention; Fig. 2 is a top plan view of the machine of Fig. 1; Figs. 3 and 4 are similar views of another embodiment of my invention; Fig. 5 is an end view of the machine of Figs. 3 and 4, and Fig. 6 is a side elevation of a car embodying my invention, showing the car in actual use.

The object of my invention has been to provide a car by which rails can be set a standard distance apart, and holes may be drilled in railway ties and spikes may be secured in such holes, and which shall enable both of these operations to be carried on at the same time; and to such ends my invention consists in the track car and tool driving machine hereinafter specified.

In carrying my invention into practice I provide a car body 10, which may be of the usual construction for cars used by trackmen. This body is supported upon axles 11 and 12, having wheels secured thereto. Upon the car is mounted a motor 13, which is preferably an explosive motor. The shaft 14 of this motor has fixed to it a member of a clutch 15, the opposite member of the clutch being fixed to a sprocket gear 16, which is loosely mounted upon the shaft. The axle 12 is also provided with a sprocket gear 17 and a sprocket chain 18 passes around the said sprocket gears. In this manner the car can be propelled by the motor, upon throwing in the clutch 15.

The opposite end of the shaft 14, from that having the clutch 15, has a bevel pinion 19, which, through a bevel gear 20, drives a shaft 21, preferably extending longitudinally of the car body. Preferably near one end of the car body is a shaft 22 parallel to the shaft 21, and having splined upon it an intermediate clutch member 23. Said clutch member can be shifted by a lever 24 and handle 25 to engage either a clutch member 26 or a clutch member 27 on opposite sides of the intermediate clutch member. The clutch

member 26 is secured to a gear 26^a meshing with a pinion 28 on the shaft 21. The clutch member 27 is secured to a gear 29 meshing with a pinion 30 on the shaft 21. Thus by throwing the intermediate clutch member 23 either into engagement with the member 22 or with the member 27, the shaft 22 can be driven at a relatively high speed, or at a relatively low speed, respectively. A flexible shaft 31 is connected with the shaft 22, and transmits power through beveled gears to a drill 32 within a casing 33. The casing has the usual handles for a workman in using the drill.

Preferably at the opposite end of the car is a shaft 34 parallel to the shaft 21, the shaft 34 having splined upon it an intermediate clutch member 35. This clutch member is shiftable by a lever 36 and handle 37 to engage either a clutch member 38 or one 39 on opposite sides of the intermediate clutch member. The clutch member 36 is secured to a gear 40 meshing with a gear 41 on the shaft 21, to provide slow rotation of the shaft 34. The clutch member 39 is secured to a gear 42, meshing with a pinion 43 on the shaft 21 to secure a rapid rotation of the shaft 34. A flexible shaft 44 is secured to the shaft 34 and transmits motion through beveled gears to a spike driver journaled in a casing 45, which casing has handles 46 for directing the spike driver.

In the operation of the above illustrated car, the trackmen may propel themselves to the point where they are to work by throwing the intermediate clutches 23 and 35 to midway position, in which they do not engage any clutch member, and by engaging the clutch 15 so that the sprocket gearing drives the car wheels. Upon arriving at the point where work is to be done, the clutch 15 is disengaged, and one man using the drill goes ahead of the car drilling the holes which will later be occupied by the screw spikes. Another man follows the car using the spike driver, and drives the screw spikes into the holes which are made by the drill, and as this can be done while new holes are being drilled, both operations of drilling the holes and driving the spikes can proceed at the same time. If it is desired to remove a spike, this can be done by reversing gears in the casing 45.

It will be evident that my car, by providing the drill at the forward end of the car and

the spike driver at the rear end of the car, effects a great saving in time, because the two operations of making the holes for the spikes and driving the spikes can be performed at the same time. It will also be evident that my car, while having the advantage just stated, will be useful in carrying men to and from their work; for drilling holes for other purposes as in bridge repair work; for running the air blast of the forges on a bridge, and to furnish power for other purposes. It will also be evident that the car will be useful in drilling holes in fish plates and rails.

Another embodiment of my invention is illustrated in Figs. 3 and 4. The car body is provided with forward and rear axles 47 and 48, respectively, upon which are the usual car wheels. The car body consists preferably of side bars 49 formed into handles at each end, the side bars being connected by end beams 50, and bolts 51 being used to draw the side beams against the end beams. A floor is formed of boards 52 extending from one end beam to the other. At each end of the car a casting 53 is secured upon the end beams, and parallel pipes 54 are threaded into such castings. A motor 55, preferably a two cylinder explosive motor, is secured to the said pipes. The shaft 56 of the motor extends parallel to the rails to a forward friction clutch 57 and a rear friction clutch 58, which clutches are operated, respectively, by hand levers 57^a and 58^a. The driven member 59 of the friction clutch 57 is carried by a shaft 60 mounted in a bearing 61 secured to the car platform. A flexible shaft 62 is connected to the shaft 60, and carries at its opposite end a device for forming holes for railway spikes, preferably a boring device 63. This device preferably has an upper handle 64, by which it may be managed with one hand, and horizontal handles 65 and 66, by which both hands may be used to bring pressure to bear upon it.

The motor shaft also carries a bevel gear 67 which meshes with a bevel gear 68 on the shaft of a change speed gear 69 of any known type, such, for instance, as the well-known change speed gear used on automobiles, by which the shaft of such change speed gear can be driven forward at either a slow or a rapid speed, and backward, or stopped. The change speed gearing drives a sprocket gear 73, connected by a sprocket chain with a sprocket gear 74 on one of the axles. In this manner the car can be driven forward at various speeds, or backward, or can be stopped.

The friction clutch 58 preferably has its member 75, that is carried by the lever 58^a, fast on the shaft of the motor. The loose friction clutch member 76 has a pinion 77 which meshes with a gear 78 on a shaft having bearings 79 and 80 secured on the car

platform, the rear end of said shaft being connected with a flexible shaft 81, which operates a spike driver 82, the latter being preferably of such form as to drive a screw spike.

The shaft 56 has the usual clutch 56^a and crank 56^b for starting the motor.

A casing is preferably formed over the motor, consisting of risers or uprights 83 that support forward and rear seats 84, the seats having between them a back 85. The carbureter and gasolin tank can be placed beneath these seats.

Forward and rear brake shoes 86 are hung from pins on the side bars of the frame, and are connected by toggle links 87, the middle pin 88 of such links being connected by a link 89 with the lower arm of a bell crank 90, whose upper arm is connected by a rod 91 with a treadle 92, by which the brake may be operated.

At the forward end of the car I provide a device for readily spacing the rails at the standard distance apart so that they may be in position to be speedily fastened by the use of the spike drilling and driving devices at the forward and rear ends, respectively, of my car. Such spacing device preferably consists of bars 93 fastened at their upper ends to the side bars of the car, the said bars 93 carrying a gage bar 94 at their lower ends, said latter bar preferably having vertical rollers 95 journaled in its ends at such a height as to bear against the heads of the rails on their inner sides when the car is resting on the rails. By means of this gage the rails can be moved up against the rollers and the car can travel along the rails so that the gaging and fastening of the rails can proceed with rapidity.

I also preferably provide an emery wheel 96 which can be secured on the high speed flexible shaft to grind off the ends of rails for welded joints, or to grind the sides between the rail and guard rail in curves. For the purpose of grinding the tools, I provide a stand 97 on the car platform, such stand having two clamps 98 to clamp the handles of the emery wheel, and having a rest 99, on which to rest the tool when presenting it to the emery wheel.

It is obvious that various changes can be made in the above illustrated constructions which will be within the scope of my invention, and I desire not to be limited beyond the terms of my claims and the requirements of the prior art.

I claim:

1. In a machine for working upon railroad tracks, the combination of a car, a motor, a device at the forward end of the car for making holes for railroad spikes and a device at the rear of the car for driving such spikes.

2. In a machine for operating upon railroad tracks, the combination of a car, a

motor mounted thereon, a drill at the forward end of the car and geared to said motor, and a spike securing device at the rear end of the car, and geared to said motor.

5 3. In a machine for track construction, the combination of a car, a motor mounted thereon, gearing connecting said motor with the wheels of the car, said gearing comprising a clutch, a flexible shaft at the forward
10 end of the car, gearing comprising a clutch connecting said shaft with the motor, a drill driven by said flexible shaft, a second flexible shaft at the rearward end of the car, gearing comprising a clutch connecting said
15 second flexible shaft to the motor, and a spike driver driven by said second flexible shaft, said driver being capable of operation at the rear end of the car.

20 4. In a machine for track construction, the combination of a car, a motor mounted thereon, a device at the forward end of the car for making holes for railroad spikes, a gage carried by the car for positioning the

rails, and a device at the rear end of the car for driving said spikes. 25

5. In a machine for track construction, the combination of a car, a motor mounted thereon, a device at the forward end of the car for making holes for railroad spikes, anti-friction rollers mounted upon the car in
30 position to engage the inner surfaces of the rails to position them at a standard distance apart, and a device at the rear end of the car for driving the spikes.

6. In a machine for track construction, 35 the combination of a car, a motor mounted thereon, a shaft driven by said motor, and an emery wheel connected with said shaft, whereby the bearing edges of the rail may be ground while the car travels along such rails. 40

In testimony that I claim the foregoing I have hereunto set my hand.

HENRY W. JACOBS.

Witnesses:

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