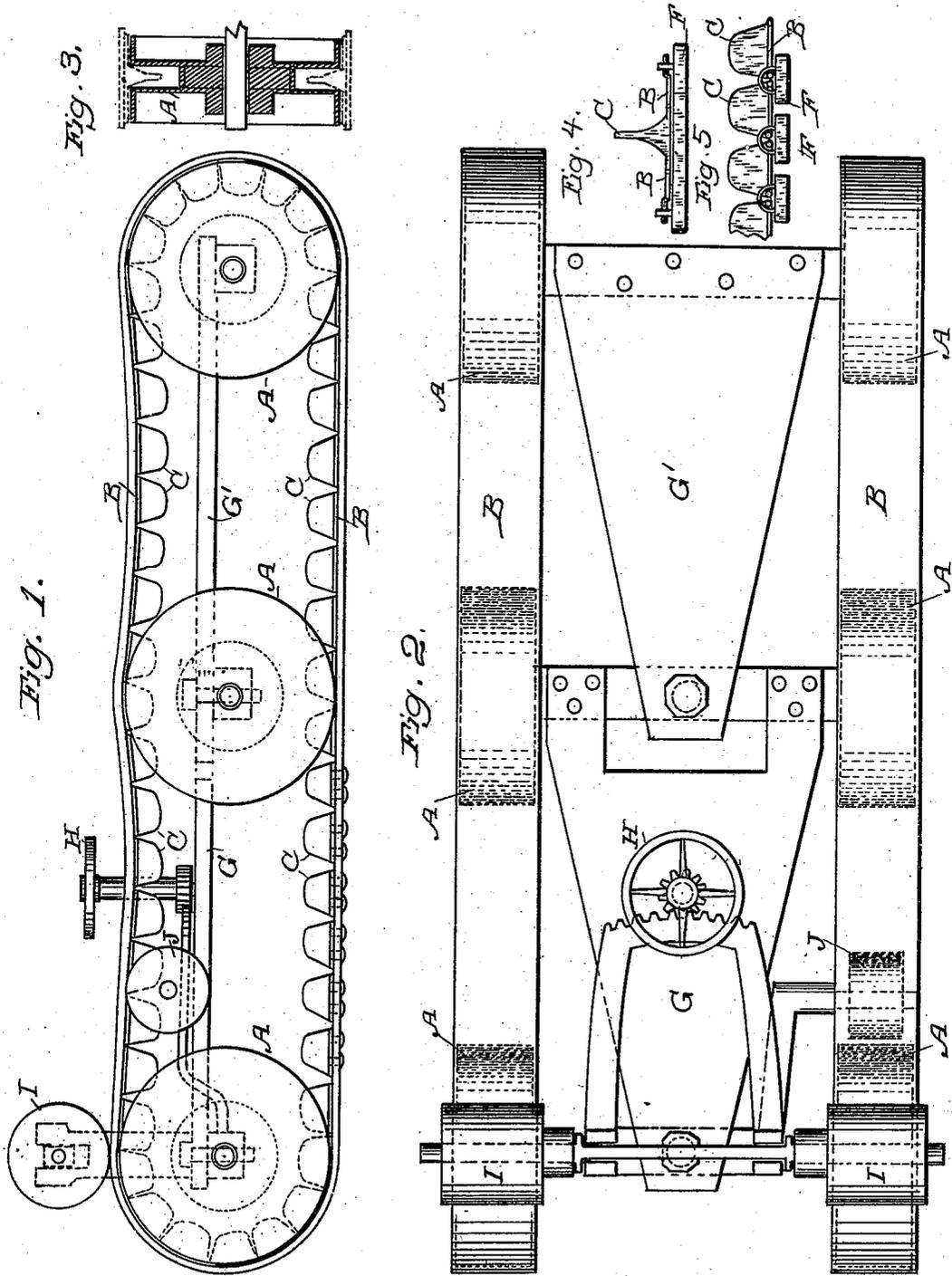


(No Model.)

A. P. ANDERSON.  
ENDLESS SELF LAYING TRACK FOR VEHICLES.

No. 510,668.

Patented Dec. 12, 1893.



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# UNITED STATES PATENT OFFICE.

ANDEREAS PHERSON ANDERSON, OF ORIENTAL, NEVADA.

## ENDLESS SELF-LAYING TRACK FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 510,668, dated December 12, 1893.

Application filed March 22, 1893. Serial No. 467,186. (No model.)

*To all whom it may concern:*

Be it known that I, ANDEREAS PHERSON ANDERSON, a citizen of the United States, residing at Oriental, Esmeralda county, State of Nevada, have invented an Improvement in Endless Self-Laying Tracks for Vehicles; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a device which is intended to provide a continuous track over soft or sandy soil upon which vehicles may travel.

It consists of an endless belt of track plates suitably connected together and provided with internal guides by which the wheels are kept in proper line upon the track plates.

It also consists in details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a side elevation of my invention. Fig. 2 is a top view of the same. Fig. 3 is a vertical section of one of the wheels. Fig. 4 is an edge view of the track plates. Fig. 5 is a side view of the same.

A A are wheels of a steam or other wagon or vehicle for which it is intended to provide a track upon which the vehicle may travel over soft or yielding surfaces. These wheels may have channels or slots cut around their peripheries for the purpose of receiving the guiding flanges of the track plates, or the channels may extend to the central hubs as shown.

B B are the track plates which are made of considerable width and sufficient length so that each will form a suitable bearing surface for the wheel when beneath it. These plates have inwardly projecting flanges C corresponding with the channels made in the peripheries of the wheels A. These flanges have their ends beveled or tapering toward the inner ends, so that when the plates are passing around the wheels, they are allowed to conform to the periphery of the wheel, and these cut away angles allow the inwardly projecting flanges to approach each other without interference as shown in the side elevation. These inwardly projecting flanges are made thicker at the point of junction with the plates than at their inner edges, or have supplemental plates upon each side of their

bases, so that the grooved channels in the wheels only touch the guides of their junction with the plates. This insures their entering smoothly without catching as they pass over the wheels, and it also allows the slight change of direction necessary to guide the machine without undue friction of these parts. These rail plates may be hinged together or attached to a continuous belt which holds them in position passing around the wheels, or they may have projecting shafts D at each corner, these shafts being journaled in bearings E which are fixed to the shoes F, which form the ground bearings. These shoes have a considerable surface to bear upon the ground, and in this case take the place of the endless belt first described. The outer surfaces of these shoes, or the belt, may be thickly studded with broad headed steel nails or plates which will prevent the rapid wear of the flexible belt or shoes, if the machine has to pass over rough ground.

In some cases I have found it preferable to attach a supplemental wear plate or shoe upon the outside of the belt or the shoes F which form the footing of the apparatus.

It will be manifest that the shoes or rail plates may be made of any suitable material, as wood, rubber, or metal, of any suitable shape for strength and lightness while providing a sufficient surface to support the load.

The wheels may be constructed in any suitable manner. I have found a very suitable form to make each wheel in two parts having an intermediate ring or collar fixed upon the shaft between them, and suitable washers upon the outer side of the hubs of the wheels force them strongly into contact with this central ring, the thickness of which is sufficient to provide the proper width of grooved channel between the two parts of the wheel for the reception of the flanges of the rail plates before described.

In the present case I have shown a jointed frame G G' the rear portion of which supports the engine, and the front portion carries the steering apparatus. There are shown three pairs of wheels A over which the track belts pass. The rear or engine frame is connected with the central axle by a king bolt which allows of movement at this point, and the front wheel axle is connected with the front

frame by a king bolt, so that the front wheels may be turned to steer the machine by means of the hand wheel H upon a vertical pinion shaft, and a curved rack connected with the front axle, and having teeth which are engaged by the pinion to turn the rack and front axle. Rollers I are journaled above the wheels A of this vehicle, and these are connected with pulleys upon the hubs of the wheels of the wagon by belts by which they may be caused to turn. These rollers are thus driven at a speed corresponding with that of the bearing wheels, and as the track belt passes between the rollers and the tops of the wheels, this movement of the rollers acts to keep a regular amount of slack belt in front of the wheels A. There is also some slack belt between the sets of wheels. Channeled pulleys or rollers J are journaled on supports on the front axle and these rollers stand just behind the front wheels and the rail plate flanges pass through the channels in the rollers which thus guide the belts and prevent their moving sidewise. The flanges upon these plates and the grooved channels in the wheels and rollers insure the wheels keeping the proper position upon the track and prevent their running off to either side.

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

1. An endless track for vehicles consisting of rail plates having shafts projecting from their corners, supplemental shoes with journals in which said shafts are adapted to turn, the shafts of each adjacent plate being journaled upon the same shoe, while the plates are connected in an endless flexible belt, centrally located flanges projecting inwardly from said plates having their adjacent ends beveled or cut away at an angle, wheels having peripheral grooves or channels over which said endless belts pass, the angular form of the flanges allowing them to turn about the wheels, substantially as herein described.

2. An endless track for vehicles consisting of rigid plates flexibly connected together at their adjacent or meeting ends with belt or shoes to which said plates are attached, and which serve as support and wear plates therefor centrally located flanges projecting inwardly from said plates having their adjacent

ends beveled or cut away to allow them to follow the curvature of the wheels around which they pass, and having the central portion made thicker than the ends, wheels having peripheral grooves or channels corresponding to the flanges of the rail plates into which groove said plates pass as the belt passes around the wheels, and supplemental guide pulleys between which and the wheels, the track is carried forward as soon as the vehicle has passed over it, substantially as herein described.

3. A vehicle consisting of a two part frame pivoted together upon a central wheel axle, a rear wheel axle to which the rear of the frame is fixed, a front axle to which the front of the frame is pivoted, and a rack, pinion and hand wheel by which the apparatus is steered, channeled bearing wheels mounted upon the axles, endless belts having shoes upon them to form tracks upon which the wheels travel, track plates with inwardly projecting flanges adapted to fit the channels in the wheels and channeled rollers journaled behind the front steering wheels, through the channels of which the flanges pass whereby the track belts are kept in place, substantially as herein described.

4. A vehicle consisting of a two part frame pivoted together upon a central wheel axle, a rear wheel axle to which the rear of the frame is fixed, a front steering axle to which the front is pivoted, and mechanism for turning the axle and guiding the machine, bearing wheels with peripheral channels, endless belts with shoes and plates with inwardly projecting guide flanges fitting the channels of the wheels, said belts forming tracks over which the wheels roll, and rollers journaled above the front wheels so that the belts pass between them, and the tops of the bearing wheels, said rollers being rotated so as to advance the belts and keep a regular amount of slack belt in front of the wheels, substantially as herein described.

In witness whereof I have hereunto set my hand.

ANDERAS PHERSON ANDERSON.

Witnesses:

D. ROSENTHAL,  
JAMES CARRIGAN.