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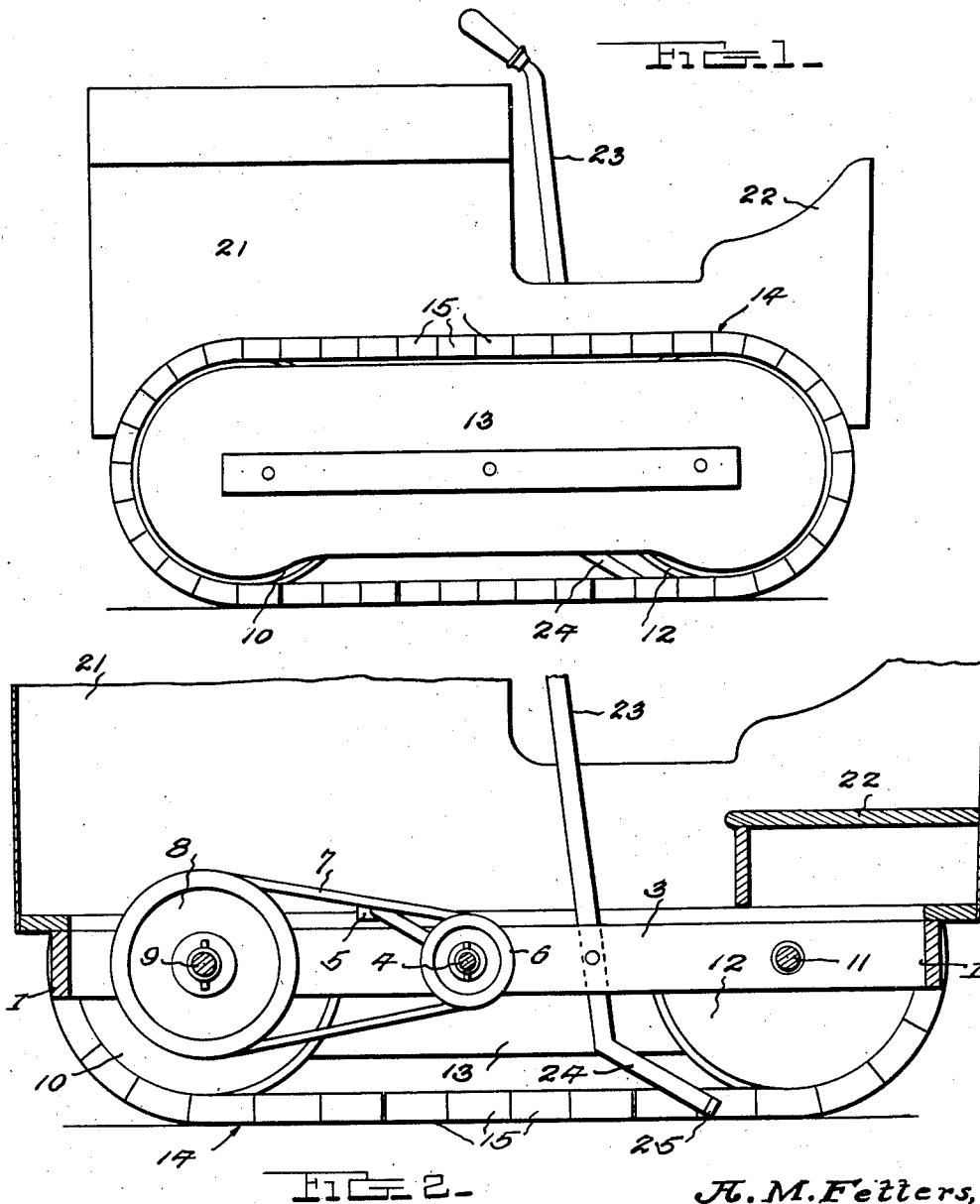
A. M. FETTERS

2,305,072

TOY TRACTOR

Filed June 25, 1941

2 Sheets-Sheet 1



J. M. Feters,  
INVENTOR.

BY *Edwards*

Dec. 15, 1942.

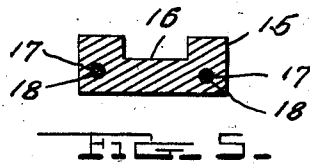
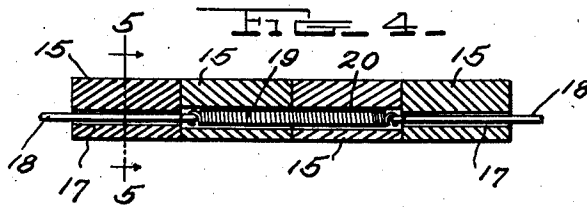
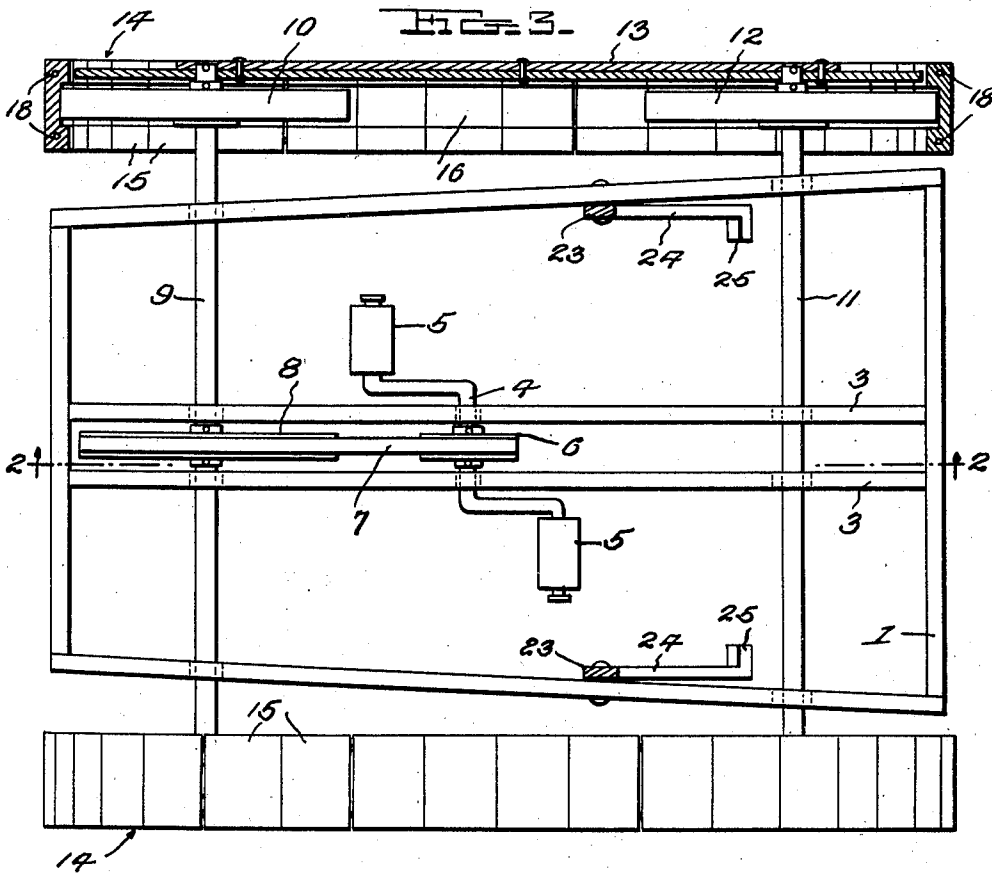
A. M. FETTERS

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TOY TRACTOR

Filed June 25, 1941

2 Sheets-Sheet 2



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# UNITED STATES PATENT OFFICE

2,305,072

## TOY TRACTOR

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Application June 25, 1941, Serial No. 399,711

1 Claim. (Cl. 280—211)

This invention relates to a child's vehicle in the form of a toy tractor, one of the objects being to provide a simple, compact and efficient device of this character in which the user can be seated and which can be driven by means of pedals under the control of the occupant.

A further object is to provide a tractor utilizing endless ground engaging belts of the "caterpillar" type which include means for maintaining these endless treads under constant tension whereby motion will be transmitted to them from tread-engaging wheels driven by the pedals.

A still further object is to provide a means by which the tractor can be quickly turned in either direction without requiring the use of clutches, gears or similar mechanisms.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:

Figure 1 is a side elevation of the device.

Figure 2 is a vertical longitudinal section there-through, a portion of the body being broken away, the said section being taken on the line 2—2, Figure 3.

Figure 3 is a plan view of the device with the body removed, one of the treads and its shield being shown in section and the controlling levers being also shown in section.

Figure 4 is an enlarged vertical longitudinal section through a portion of one of the treads.

Figure 5 is a section on line 5—5, Figure 4.

Referring to the figures by characters of reference, 1 designates a frame or chassis which can be of wood or any other suitable material and includes, preferably, parallel longitudinal strips 3 in which is journaled a crank shaft 4 each end of which is provided with a pedal 5. Secured to this shaft between the strips 3 is a pulley 6 adapted to transmit motion through a belt 7 to a larger pulley 8 secured to the front axle 9 of the vehicle. This axle is journaled in the strips 3 and also in the side portions of the frame 1 and is provided, at its outer ends, with wheels 10. Another axle 11 is journaled in the strips 3 and the sides of the chassis adjacent to the back end of the frame and is also provided

at its ends with wheels 12 alined with the respective wheels 10. The pulleys 6 and 8 can be so proportioned as to produce any desired ratio of rotation of the shafts 4 and 9.

The ends of the axles 9 and 11 project into elongated side members 13 constituting side shields which can substantially close the space surrounded by an endless tread 14. Two of these treads are provided, each tread being mounted on one of the wheels 10 and the wheel 12 back thereof. Each tread includes an endless series of blocks 15 formed preferably of rubber, there being alined grooves 16 in the blocks which cooperate to form an endless runway into which the wheels 10 and 12 project. Parallel openings 17 are extended through the blocks 15, the corresponding openings in the various blocks alining. Cables 18 are threaded loosely through these openings and the ends of each cable are joined preferably by a coiled spring 19 or other suitable elastic means, it being understood that those blocks 15 in which the elastic connections 19 are located, are provided with openings 20 therethrough proportioned readily to receive the connections.

A vehicle body 21 of any desired size and shape is mounted on and secured to the frame or chassis 1 and is preferably provided with a seat 22 for holding the occupant of the vehicle. Pivotaly connected to the sides of the frame at points adjacent to and in front of the seat are controlling levers 23 the lower end portions of which are extended downwardly and rearwardly as at 24 and offset at their ends to provide shoes 25 for contact with the surface on which the vehicle is supported.

The bottom of the body is open so that the occupant of seat 22 can operate the pedals 5 with foot power. Levers 23 can be held in any predetermined position by frictional engagement with the sides of the frame or by any other suitable means. When the shaft 4 is rotated in one direction by means of the pedals 5, motion will be transmitted therefrom through pulley 6, belt 7 and pulley 8 to the axle 9 so that wheels 10 will thus be driven and the endless treads 14 actuated so that the vehicle will be propelled forwardly or backwardly as desired. During this operation the treads will be properly guided because of the fact that the peripheries of the wheels 10 project into the endless grooves or runways 16 and as the members of the treads are held normally drawn toward each other by the elastic connections 19, there will be no danger

of the treads becoming detached from the wheels accidentally.

Should it be desired to retard the movement of the vehicle, as when coasting, the two levers 23 can be actuated to force the shoes 25 against the surface over which the vehicle is traveling. Should it be desired to turn the vehicle, that lever 23 at the side toward which the vehicle is to be turned is actuated so as to press the shoe 25 forcibly against the supporting surface, thereby lifting the adjacent tread 14 out of contact with the ground. Consequently continued actuation of the mechanism results in a quick turn of the vehicle due to the driving contact of the other tread with the supporting surface. To turn the vehicle in the opposite direction, the other lever 23 is shifted.

It will be apparent that this device can be made at low cost, is easily controlled and operated, and will prove an attractive vehicle for use by children.

It is to be understood that the belts used in the transmission of motion between the crank shaft and the front axle can be of any desired shape and material and the same is likewise true of the treads of the wheels. Obviously any

change in the transverse contours of the wheel treads would necessitate a corresponding change in the shapes of the runways into which they project.

What is claimed is:

A vehicle of the class described including a body structure, front and rear axles for supporting the same, front and rear wheels mounted on the respective axles, means positioned for actuation by the occupant of the vehicle for rotating one of the axles, and an endless tread mounted on and connecting the wheels at each side of the vehicle, each tread including an endless series of blocks having wheel-receiving grooves registering to provide a runway, there being openings extended through the blocks and alined, flexible elements extended through the openings, and resilient connections between the ends of the respective elements, said elements and connections cooperating to maintain tight connections between the tread and the wheels, and means under the control of the occupant of the vehicle for lifting either of the treads out of contact with a supporting surface while the vehicle is in motion.

ANDY M. FETTERS.