

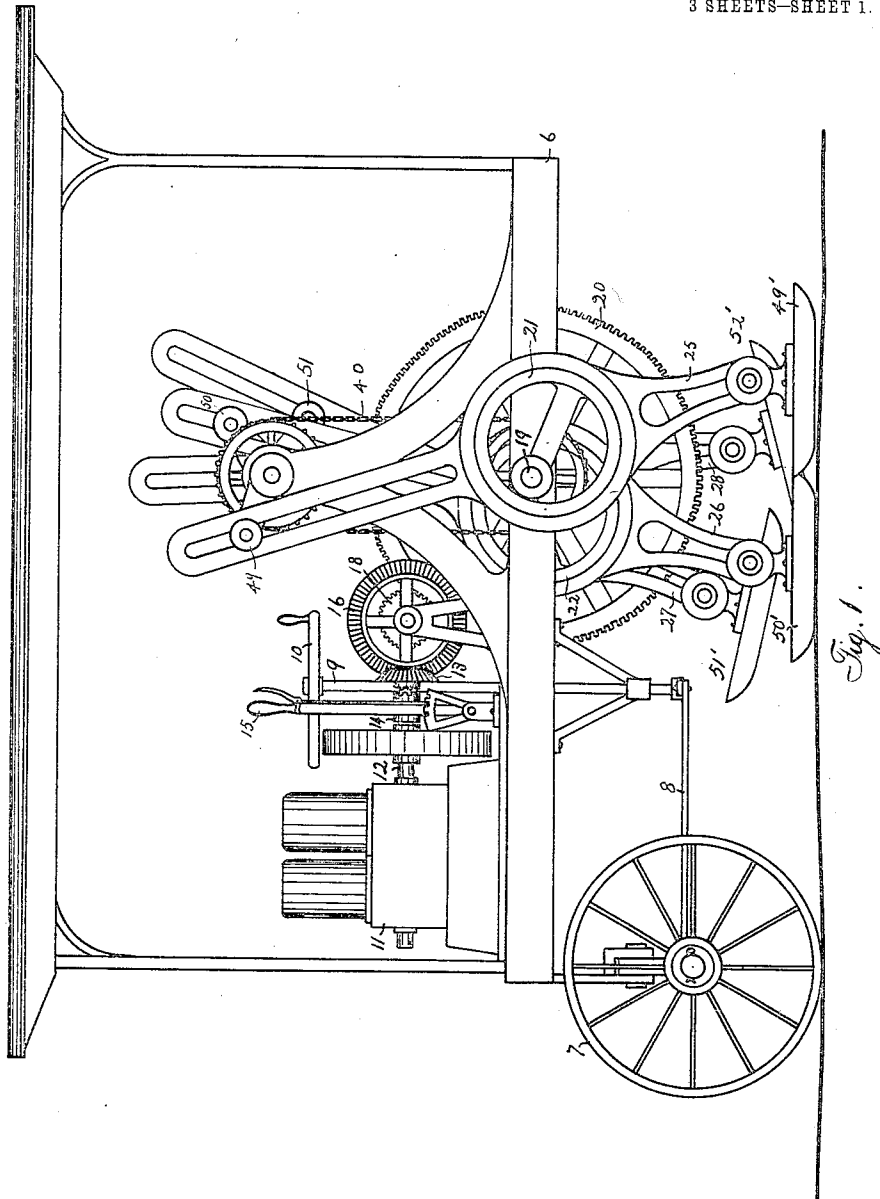
A. MIKS.
TRACTOR.

APPLICATION FILED AUG. 28, 1911.

1,041,837.

Patented Oct. 22, 1912.

3 SHEETS—SHEET 1.



WITNESSES:

M. H. Edmonds
C. E. Head

INVENTOR

Ambrose Miks

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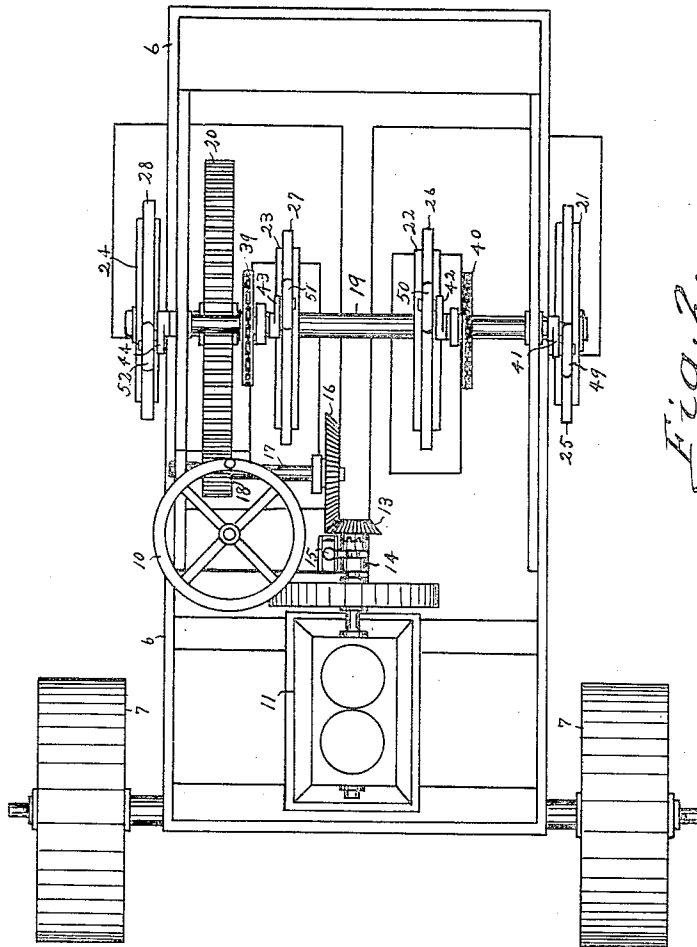


Fig. 2.

WITNESSES:

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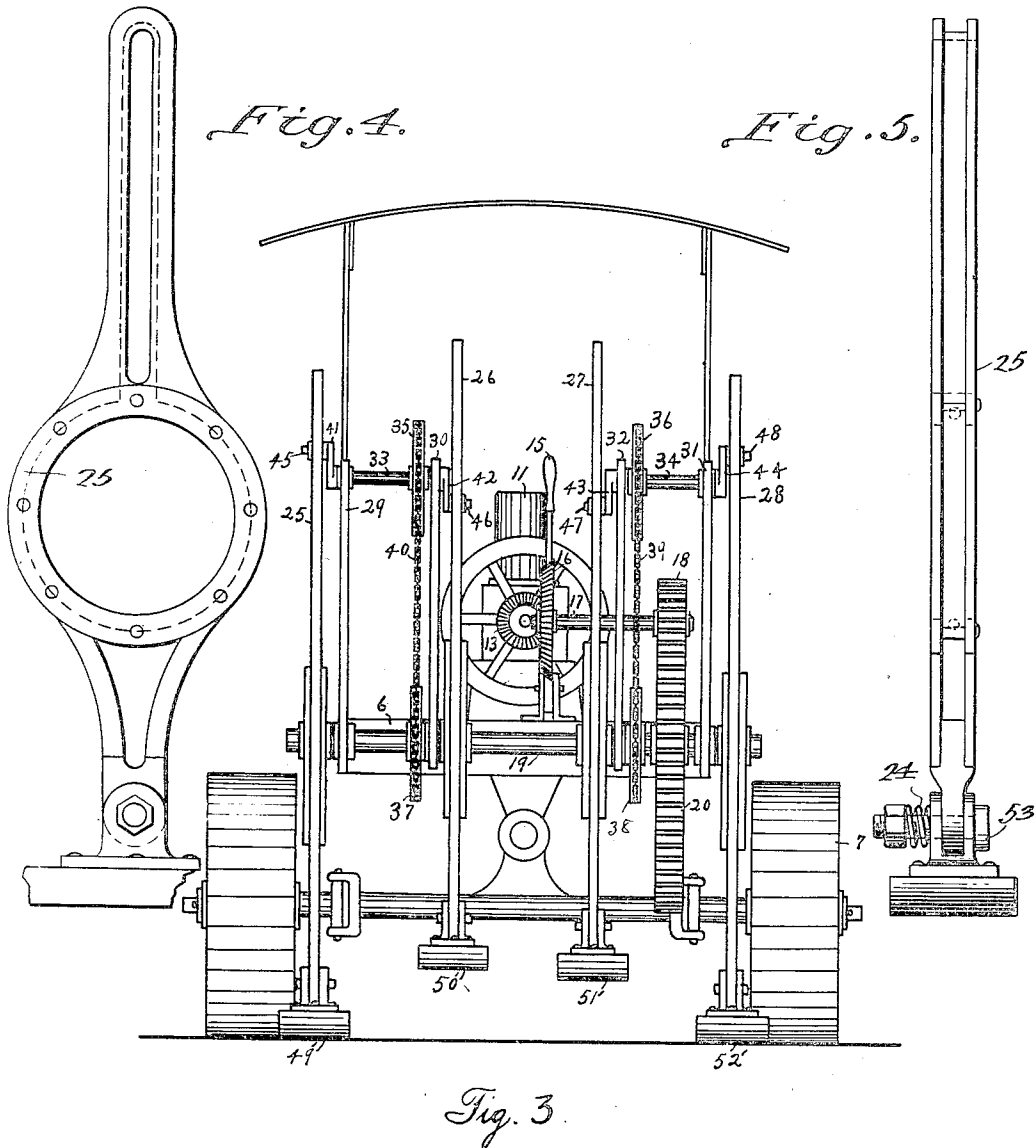
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UNITED STATES PATENT OFFICE.

AMBROSE MIKS, OF GANADO, TEXAS.

TRACTOR.

1,041,837.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed August 28, 1911. Serial No. 646,525.

To all whom it may concern:

Be it known that I, AMBROSE MIKS, a citizen of the United States, residing at Ganado, in the county of Jackson and State of Texas, have invented certain new and useful Improvements in Tractors, of which the following is a specification.

My invention relates to new and useful improvements in tractors.

10 The object of the invention is to provide a device of the character described which is designed to be used in the manner and for the purpose of the ordinary traction engine, but which is mounted wholly or partially
15 upon oscillating legs, or carriers, instead of upon the ordinary carrier wheels, the construction and the operative mechanism of said carrying legs constituting the chief feature of this invention.

20 It is a well known fact that the ordinary traction engine can only be used to advantage on roads and other places where the surface is firm and smooth, but are wholly inefficient, and in fact useless where the surface of the ground is soft, sandy or uneven
25 and it is the chief object of this invention to replace the wheels of the ordinary traction engine with oscillating legs, which are operated by a mechanism which imparts to them
30 a movement not unlike the movement of the legs of a draft animal, said legs being provided with broad, flat members at their lower ends, which will not bury into the soft surface as readily as wheels would do.

35 With the above and other objects in view the invention has particular relation to certain novel features of construction and operation, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:—

40 Figure 1 is a side elevation of the complete machine. Fig. 2 is a plan view thereof. Fig. 3 is a front elevation thereof. Fig. 4 is a side elevation of one of the oscillating
45 legs, or carriers, showing the supporting foot therefor, and Fig. 5 is an edge view thereof.

Referring now more particularly to the drawings, wherein like numerals of reference designate similar parts in each of the
50 figures, the numeral 6 designates the main supporting frame of the machine whose rear end is mounted upon the carrier wheels 7,

which are connected to the steering mechanism 8, which in turn is operated through the steering post 9 by the ordinary hand wheel 10, and the direction of the machine may be governed through this mechanism.

Mounted upon the rear end of the frame work is the engine 11, having the drive shaft 12 whose front end carries the loosely mounted bevel gear wheel 13, which may be clutched with, or declutched from the drive shaft 12 by means of clutch 14, which is operated by means of hand lever 15. The bevel gear 13 meshes with the bevel gear 16, rigidly mounted on the shaft 17 which also carries the rigidly mounted spur gear 18.

Mounted in suitable bearings near the front end of the main frame is the transverse shaft 19, which carries a rigidly mounted spur gear 20, which meshes with the spur gear 18 and receives rotation therefrom. This shaft 19 carries a plurality of eccentrics 21, 22, 23 and 24, which are rigidly mounted thereon and rotate therewith. These eccentrics are circular disks and are uniform in size and carry, respectively, the oscillating legs 25, 26, 27, and 28, in the manner hereinafter more specifically set out. These legs are illustrated in detail in Figs. 4 and 5, from which it will be observed that they are oblong members having an enlarged central, circular opening, or hub in which the respective eccentrics
75 nicely fit. Ball bearings are provided between each eccentric and its respective hub, as shown in Figs. 4 and 5 and as the shaft 19 rotates the said legs are elevated and lowered, and the eccentrics are so arranged that the said legs will not be elevated and lowered at the same time, but they will be elevated and lowered in rotation so that while some of the legs will be resting upon the ground and supporting the machine
90 some will be ascending and some will be descending.

The side members of the supporting frame 6 carry suitable uprights 29, 30 and 31, 32 and mounted in suitable bearings carried by the upper end of these uprights are the transverse shafts 33 and 34 which, respectively, carry the rigidly mounted sprocket wheels 35 and 36 which are alined, respectively, with the sprocket wheels 37 and 38 rigidly mounted on the shaft 19 and rota-
105

tion is imparted from latter to the former through sprocket chains 39 and 40 and thence to the shafts 33 and 34. Each end of the shaft 33 carries a crank 41, 42, and likewise each end of the shaft 34 carries a crank 43, 44, and the free end of these cranks carry laterally extending studs 45, 46, 47 and 48 which project through oblong slots carried by the upper ends of each of the oscillating legs 25, 26, 27 and 28 and each of said studs carries a rotatable spool, said spools being designated by the numerals 49, 50, 51 and 52, which roll along their respective slots and thus prevent any friction between said studs and their respective legs. The effect of the cranks 41, 42, 43, 44 upon the legs 25, 26, 27 and 28 is to impart an oscillating movement thereto, the upper end of said legs being forced back and forth as the said cranks rotate, and the cranks are so positioned that as each leg is lowered by its eccentric and rests upon the surface of the ground the upper end of said leg will be forced forward and a forward movement will thus be imparted to the entire machine. The lower end of the respective legs carry flat feet, or supports 49', 50', 51' and 52' which are hingedly secured thereto, as shown in Figs. 4 and 5. These supports are oblong, flat members and projecting upwardly therefrom are two braces which embrace the lower end of the leg carrying the same on each side, and a suitable bolt 53 passes through both braces and the leg and secures said support to its supporting leg. Surrounding said bolt, and between the head thereof, and the adjacent brace, is a coil spring 54, which normally holds the foot in a fixed position relative to the leg, but which permits said foot to move on its hinge connection with the leg as the same is being placed upon or lifted from the ground, the movement of said foot being somewhat similar to the movement of the human foot in walking.

It is obvious that the shaft 19 may be provided with any desirable number of eccentrics and a corresponding number of supporting legs and it will usually be found preferable to provide eight supporting legs instead of four, as in that case there will be a greater number of legs resting on the ground at a time and the strength, efficiency and stability of the machine will be greatly increased. Provision for this increased number of supporting legs can readily be made by widening the frame work and increasing the length of shaft 19.

A machine of this character, when constructed as hereinbefore described, and as shown in the drawings will be found to be an efficient substitute for the traction engine now in common use wherever the surface of the ground is uneven or soft or

sandy, and where, by reason of the nature of the surface the ordinary carrier wheels would sink into or refuse to move over the surface to be traversed.

What I claim is:—

1. A device of the character described including a suitable frame work, a plurality of oscillating legs supporting the same, an eccentric operatively connected with each leg and imparting a reciprocating movement thereto, a means having a slidable connection with each leg and imparting an oscillatory movement thereto, and a driving mechanism imparting motion to said reciprocating and oscillating means.

2. A device of the character described including a suitable frame work and oscillating carriers supporting the same, a rotatable shaft carried by said frame work, a plurality of eccentrics carried by said shaft and rotating therewith, each of said eccentrics being operatively connected with one of said carriers and imparting a reciprocating movement thereto, a means for driving said shaft, and a means operatively connected with said driving means and having a slidable connection with each of said carriers and imparting an oscillatory movement thereto.

3. A device of the character described including a suitable frame work and oscillating carriers supporting the same, a supporting foot upon the free end of each carrier, a rotatable shaft carried by said frame work, a plurality of eccentrics carried by said shaft and rotating therewith, each of said eccentrics being operatively connected with one of said carriers and imparting a reciprocating movement thereto, a means for driving said shaft, a means operatively connected with said driving means and having a slidable connection with each of said carriers and imparting an oscillatory movement thereto.

4. In a device of the character described, a suitable frame work, a transverse shaft carried thereby, an eccentric rigidly mounted on said shaft, an oscillating leg operatively connected with said eccentric and operated thereby and having a lengthwise slot in the upper end thereof, a crank rotatably mounted upon said frame work, a stud projecting from the free end thereof through said slot and imparting an oscillatory movement to the leg, means for operating said transverse shaft and means operating said crank.

5. A device of the character described, including a suitable frame work, a plurality of oscillating carriers supporting the same, each having a lengthwise slot in the upper end thereof, a rotatable shaft carried by said frame work, a plurality of eccentrics carried by said shaft, and rotating therewith, each eccentric being operatively connected with one of said carriers and imparting a reciprocating movement thereto.

cating movement thereto, a means for driving said shaft, a plurality of crank arms operatively connected with said driving means, a stud projecting from the free end of each arm through the slots of the respective carriers and imparting an oscillatory movement thereto.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

AMBROSE MIKS.

Witnesses:

J. E. HARMON,
GEO. T. EVERETT.