C. E. TAYLOR.

TRACTOR.

APPLICATION FILED APR. 11, 1919.

1,356,497. Patented Oct. 19, 1920.

Fig. 1.

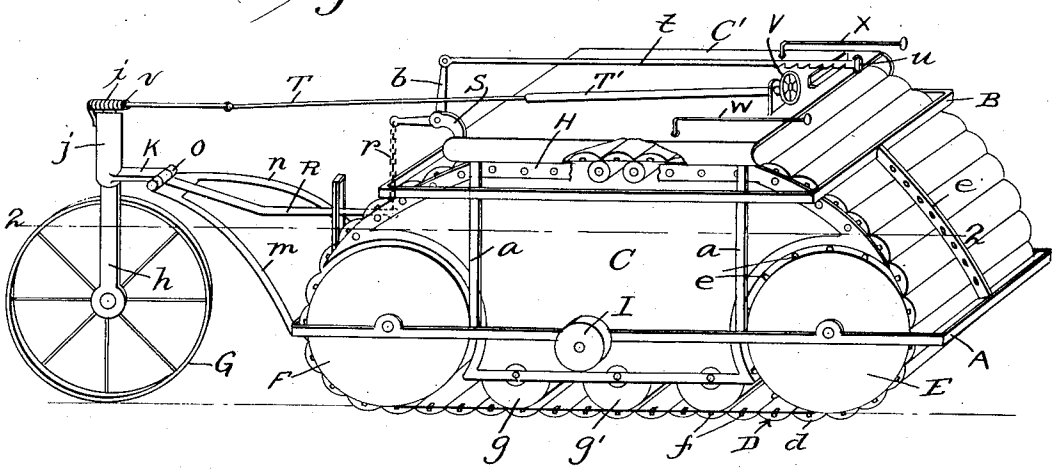


Fig. 2.

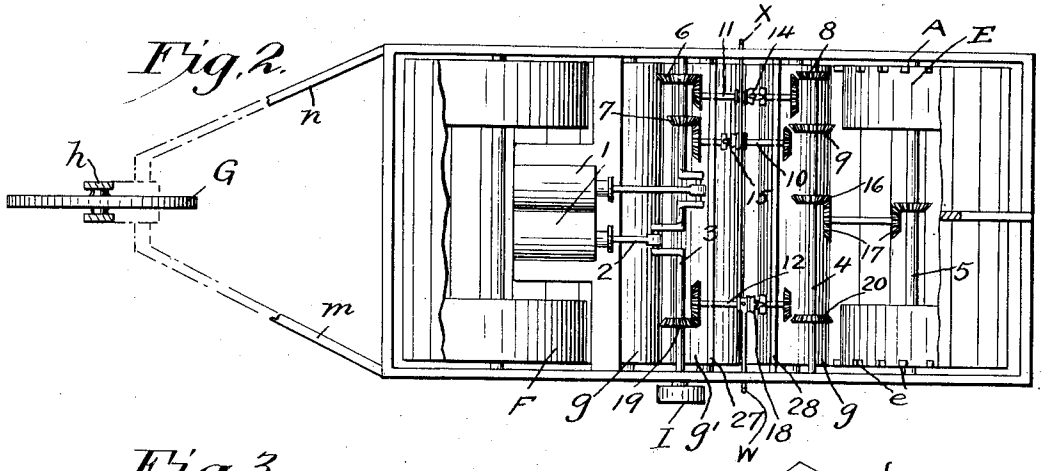


Fig. 3.

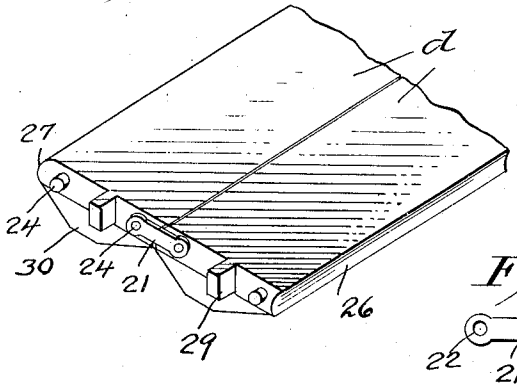


Fig. 4.

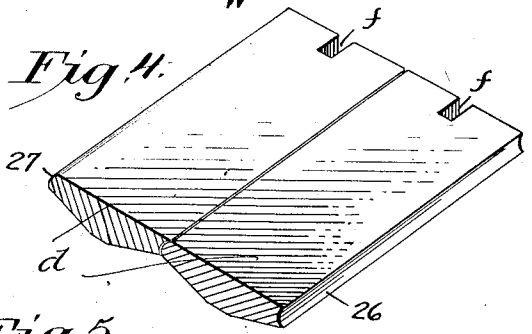
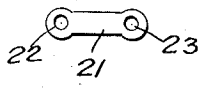


Fig. 5.



Inventor:
Clyde E. Taylor
By Hiram B. Swarts, Atty.

UNITED STATES PATENT OFFICE.

CLYDE E. TAYLOR, OF WOOSTER, OHIO.

TRACTOR.

1,356,497. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed April 11, 1919. Serial No. 289,438.

To all whom it may concern:

Be it known that I, CLYDE E. TAYLOR, a citizen of the United States, residing at Wooster, in the county of Wayne and State of Ohio, have invented a new and useful Tractor, of which the following is a specification.

My invention relates to improvements in tractors, and particularly to those of the so-called traveling web type.

The objects of my invention, are first to provide a tractor more compact in its construction, narrower, and taking up less room for like power than tractors heretofore used; second, to entirely inclose the operative mechanism of the tractor, which drives the web, within the circumference of the latter; third to provide a tractor having a single flexible close-jointed traveling web to propel it, and within which the operative mechanism is located; and, lastly to provide improved means for driving said web and for guiding the tractor.

My invention consists mainly in the novel method of driving a tractor by means of power mechanism located within the circumferential scope of a traveling web extending laterally from side to side of the tractor body, and in the novel means used to accomplish the objects aforesaid, as hereinafter fully set forth and stated in the appended claim.

My invention is illustrated by the accompanying drawings in which similar letters and figures of reference indicate like parts.

Referring thereto, Figure 1 is a side perspective view of a tractor embodying my invention, some parts of the interior mechanism being indicated by dotted lines; Fig. 2 is a longitudinal horizontal section of Fig. 1 on the dotted line 2:2 therein; Fig. 3 is a detail view, enlarged, of parts of my traveling-web plates; and Fig. 4 is a modification of Fig. 3; and Fig. 5 is a detail showing one of my web connecting bars, detached.

In the drawings A is a metal frame, *a a* vertical supports, and B an upper metal frame secured thereto; C is the body portion and C′ the top or cover of said body; D is a traveling web—so called, made up of a series of metal slats or bars *d d* joined edge to edge as hereafter stated.

Said frames A and B surround the body portion C, as shown in Fig. 2. Cylindrical drive wheels E and F, are mounted upon said frame A, in bearings for their axes, respectively, substantially as shown in Figs. 1 and 2.

Drive wheel E is provided with a series of lugs or projections *e e* at equal distances apart around the outer margin of the periphery thereof and adapted to mesh with the corresponding notches *f f* in the adjacent ends of the web plates *d*, as shown in Fig. 1 whereby the web is rotated.

A draft-bar *e* at the rear of the tractor, affords means for draft of vehicles or implements of any kind. A number of smaller tractor wheels *g g* are mounted below and on each side of the body C to hold the web D in flat position from end to end, the central wheel *g′* being preferably set a little lower than the others to afford better facility for turning the tractor on its base. The upper part of the web D is carried by a series of rollers on the inside of the frame H in the usual, well known way, and said web travels thereover and around the cylindrical wheels E and F as an endless belt as wide as said body, driven preferably by the rear cylinder E. The motor and gearing of the tractor are located entirely within the inclosure of the circumference of the web, and are shown in detail in Fig. 2, in which 1 1 show the cylinders of an ordinary gas engine, 2 2, the piston rods, 3, the crank shaft on which are mounted the gear wheels 6, 7 and 19; this shaft, if desired, may terminate outwardly with a belt pulley I for convenient use with other machinery. A second rotary shaft 4 parallels the crank shaft 3 and actuates the gear wheels 8, 9, 16 and 20.

The gear 16 drives the gear 17 whereby the axle 5, on which the drive wheels E are mounted, is rotated. The horizontal cross bars 27 and 28 afford bearings for the several transfer shafts 10, 11 and 12, whereby motion is communicated from the crank shaft 3 to the parallel shaft 4 by gearing suitable for fast, slow and reverse motion of said axle 5, in the usual well known way. Clutches 14, 15 and 18 respectively, afford means for actuating the several transverse shafts independently of each other.

The clutches may be of any preferred pattern, and are actuated into and out of engagement by means of the hand levers X and W, as shown in Figs. 1 and 2. I do not specifically claim the motor or the gears above described, and the same may be varied at pleasure; my claim as to these relates

to their inclosure within the space encompassed by the periphery of the traveling web D, as hereinafter stated.

Means for guiding and for turning the tractor are afforded by constructing a front wheel G which is axled in a forked arm *h*, the upper end of which is fitted to rotate in a sleeve *j* having a bracket *k* projecting rearwardly above the wheel. The curved bars *m* and *n* extend upwardly from the frame A, and connect with the bracket *k* by a hinge *o*, and a lever arm R extends inwardly from the hinge to which it is solidly connected. The inner end of said lever arm is linked by a strap or chain *r*, to one arm of a bell-crank *b* operable on the support S, whereby said arm is lifted by draft on the handle *u* of the horizontal bar *t*, which is provided with ratchets, as shown in Fig. 1, to secure said arm at any desired elevation.

The operation is such that when said lever arm R is lifted thereby, the weight of the forward part of the tractor is thrown upon said front wheel G, and the weight upon the front drive wheel F is diminished accordingly. The central tractor wheel *g'*, being mounted lower than the others, assists in accomplishing said result by the slight tilting of the tractor body C rearwardly upon the drive wheel E.

Means for guiding or steering the said front wheel G is provided by the steering gear *i v*, and the rotary hand rod T and wheel V, in the usual and well known way. By means of a telescoping portion T' said hand rod may be extended rearwardly as may be desired.

The slats or plates *d* for the traveling web D extend laterally from side to side of the tractor body, and are held flexibly together along their adjacent longitudinal edges, one edge being grooved as shown at 26, and the opposite edge raised to fit said groove, as at 27, the two edges being securely held in said flexible relation by means of a metal strap 21, (Fig. 5,). Said metal straps are pivotally secured at each end thereof to adjacent ends of the web slats at some distance from their meeting edges, to give greater flexibility to the web, and thereby the joints are kept free from sand and gravel, while the web travels, the ends of the metal straps being perforated, as at 22, 23 and adapted to engage studs 24, as shown in Fig. 3. The lug projections *e* of the drive wheels E fit loosely into the notches *f* of the slats *d*, shown in Fig. 4. If preferred, the periphery of the wheel E may be notched instead of said lugs, and the ends of the slats provided with projections 29, to accomplish the same purpose. The slats are ridged on their travel side to afford better grip, as shown at 30, Fig. 3, and to relieve the pressure upon the joint of the slats in passing over surfaces, and increase their flexibility in relation to each other.

I am aware that traveling webs for similar use are not new, also that it is not new to construct an endless track to support wheels fitted to travel thereon, such track being made up of track sections flexibly connected by means of pins engaging slots at the front end of each section, and such I do not broadly claim. I am not aware that a tractor has ever been constructed with a traveling web composed of edge-jointed slats extending from side to side of the tractor body, and entirely inclosing within its circumference the motor mechanism of the tractor. My method of constructing such a web, and also my means shown for shifting the weight from the fore part of the tractor body to the guide-wheel thereof, for the purpose stated, are also believed to be new.

By the means aforesaid I provide a tractor, of simpler construction, lighter, more compact, and better adapted to ordinary farm and draft use than those heretofore employed, because it is narrower and the center of gravity lower.

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

In a tractor, the combination with its frame and body, of a traveling web extending from side to side of said body laterally, a pair of cylindrical drive wheels to actuate said web, motor mechanism located within the compass of said web and body, and steering means, comprising a front guide wheel, and means for shifting the weight of the motor body partly to said guide wheel, substantially as set forth.

In witness whereof I hereunto set my hand this 18 day of February, 1919.

CLYDE E. TAYLOR.

In presence of—
HIRAM SWARTZ,
WALTER J. MONGEY.