J. B. FOOTE

TRACTOR.

APPLICATION FILED OCT. 4, 1919.

1,382,279. Patented June 21, 1921.

2 SHEETS—SHEET 1.

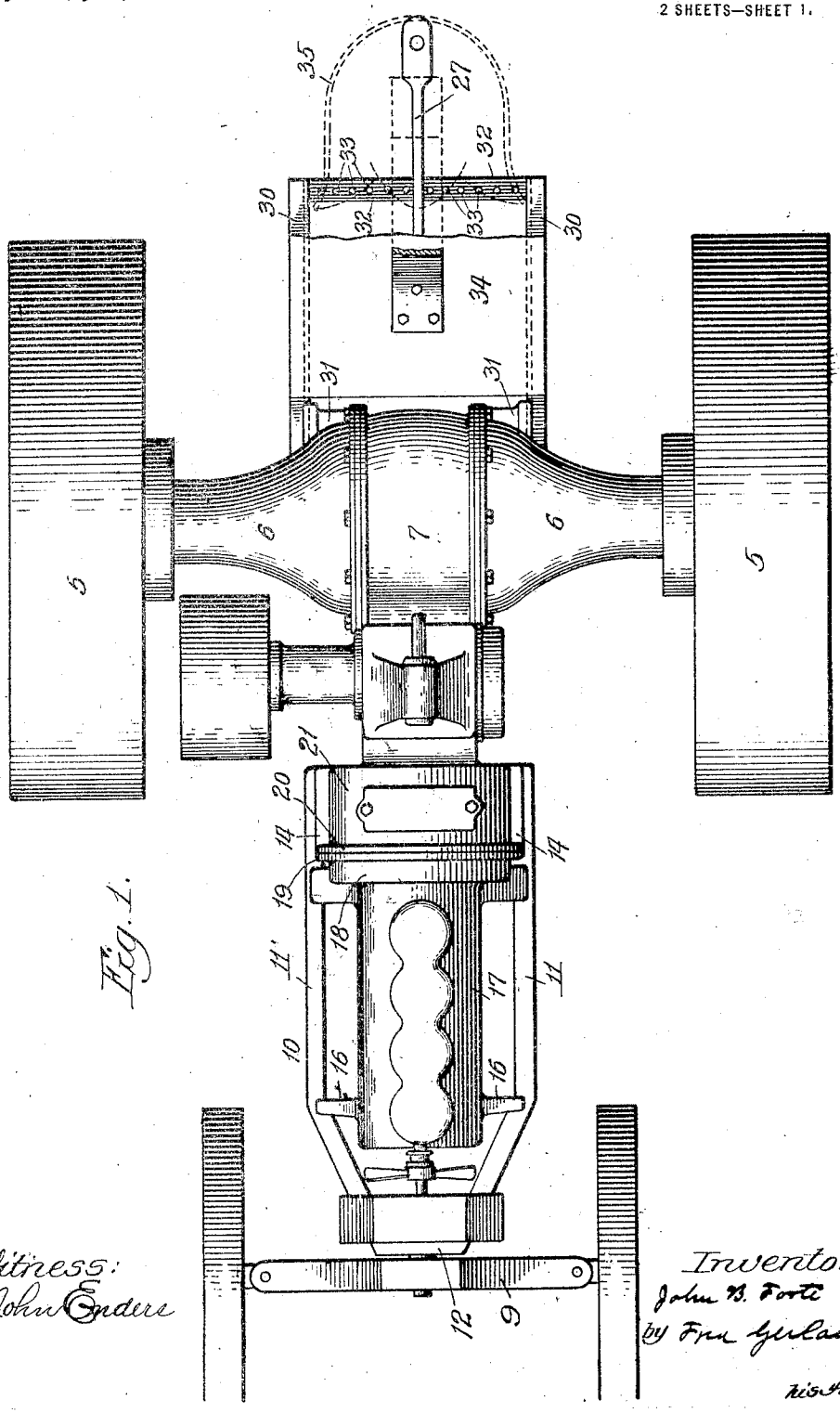


Fig. 1.

Witness:
John Enders

Inventor:
John B. Foote
by Fred Gerlach
his Atty.

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2 SHEETS—SHEET 2.

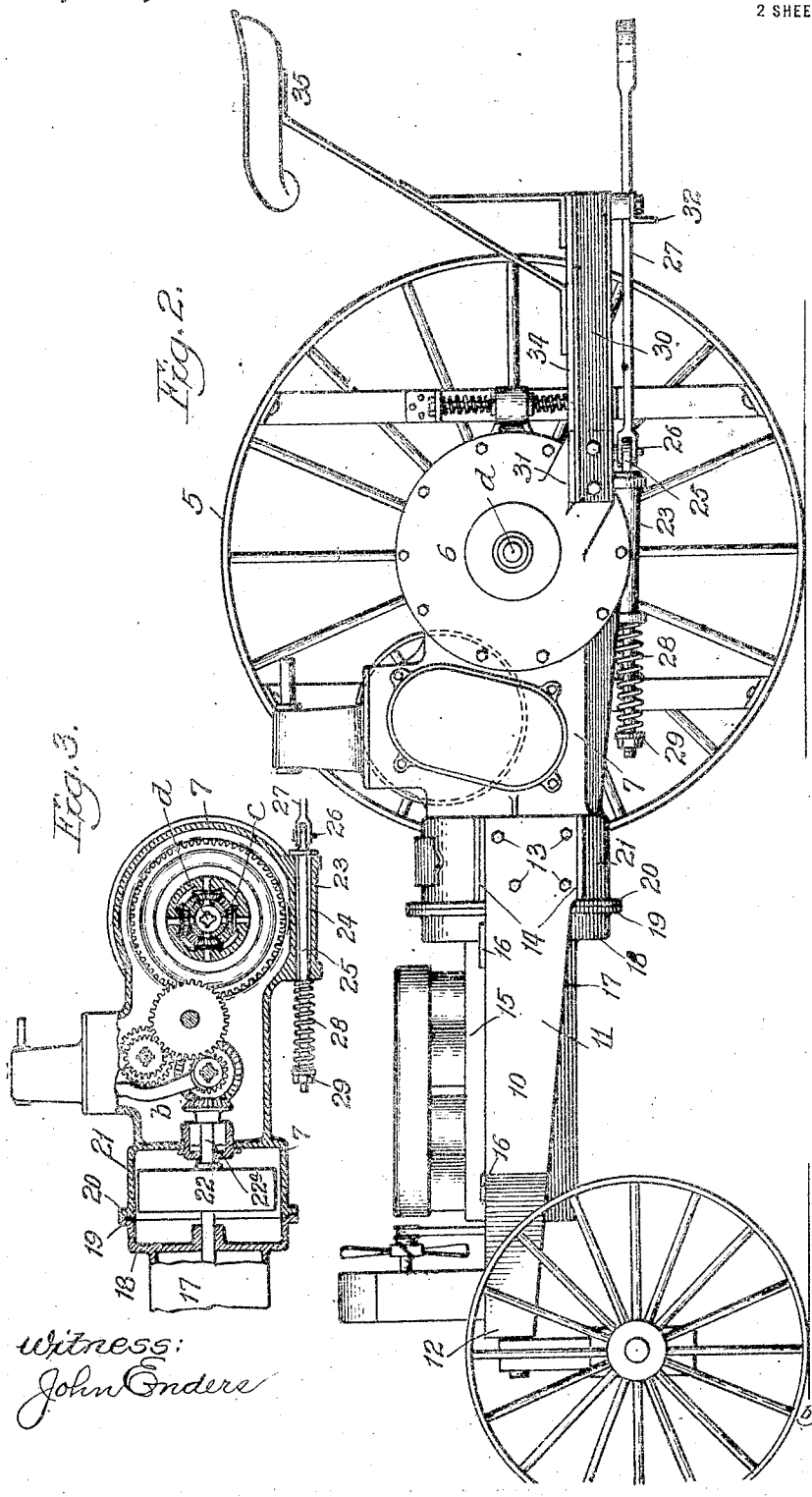


Fig. 2.

Fig. 3.

Witness:
John Enders

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UNITED STATES PATENT OFFICE.

JOHN B. FOOTE, OF OAK PARK, ILLINOIS.

TRACTOR.

1,382,279. Specification of Letters Patent. Patented June 21, 1921.

Application filed October 4, 1919. Serial No. 328,577.

To all whom it may concern:

Be it known that I, JOHN B. FOOTE, a citizen of the United States, and a resident of Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Tractors, of which the following is a full, clear, and exact description.

The invention relates to tractors.

The object of the invention is to provide an improved supporting structure between the front and rear carrying wheels in which the case for containing the transmission and differential gearing is utilized as a part thereof and in which the general supporting stresses are not applied to the casing of the motor used to drive the gearing.

This result is attained by providing a frame extending around the motor and supported at its front end by the front axle and secured at its rear directly to the transmission gear-case. As a result of this construction, the motor-casing is relieved of supporting stresses, and furthermore, it is possible to remove the motor without disturbing the general supporting structure.

Another object of the invention is to provide an improved draft-connection by which the draft stresses will be yieldingly applied directly to the gear-case forming a part of the supporting structure.

In the drawings: Figure 1 is a plan of a tractor embodying the invention. Fig. 2 is a side elevation, the traction-wheel at the near side being omitted. Fig. 3 is a vertical section through the gear-case.

The tractor comprises a pair of rear traction-wheels 5 supported on and driven by axle-sections *d* which are mounted in sleeves 6 which are secured to the sides of, and form extensions on, the rear portion of the gear-casing 7 and a pair of front wheels dirigibly connected to a front axle 9. The front portion of the case 7 contains variable speed transmission gearing *b* and the rear portion contains differential gearing *c* which may be of the type exemplified in an application filed by me of even date herewith, serially numbered 328,487. This case is adapted to serve as a part of the supporting structure between the front and rear portions of the tractor and together with a U-shaped frame 10 comprising sides 11 and a front 12, to which the front axle 9 is pivotally connected to swing vertically, constitutes the general supporting structure between the front and rear wheels. The rear end of each side 11 is secured, as at 13, to one side of the front portion of the transmission gear-case 7 which is provided with ribs 14 between which said sides are disposed. A motor 15 is provided with lugs 16 which are secured to the sides 11. The casing 17 of the motor is provided with a housing 18 with a flange 19 which is secured to a corresponding flange 20 on the front end of the gear-case 7. The front end of the case 7 is formed with a housing 21 which, together with the housing 18 of the motor-casing, forms an inclosure for the usual fly-wheel and the clutch 22 between a crank-shaft of the motor and the drive-shaft 22^a for the variable speed transmission gearing *b*.

A characteristic of the structure set forth is that the motor 17 is independently carried by the supporting structure and may be disconnected from the case 7 and removed without disconnecting the frame 10 from transmission gear-case 7 by removing the bolts which secure the flanges 19 and 20 together and the bolts securing the lugs 16 and 17 on the frame 10. The motor-casing is not utilized as a part of the supporting structure so that it will not be subjected to the stresses to which the supporting structure is subjected. Furthermore, this makes it possible to use a motor of standard design which is not usually provided with a casing adapted to function as a portion of the general supporting structure. Another advantage of this construction is that the crank-case of the motor which is usually separate from the cylinder-casing, may be lowered through the frame while the cylinder-casing remains secured on the frame. This is desirable in making some repairs to the motor.

A lug 23 is formed on the underside of the rear portion of the case 7 and this lug has a longitudinal hole 24 therein. A draft-rod 25 extends through and is slidable in the opening 24 and its rear end is pivoted, as at 26, to a laterally swinging draft-bar 27, the rear end of which is adapted to be connected to a plow or other implement to be operated by the tractor. A cushion-spring 28 is interposed between the front end of the lug 24 and a nut 29 adjacent the front end of the rod 25. A characteristic of this construction is that the draft is applied by the draw-bar directly to a lug on the gear-case

which forms a part of the general supporting structure.

Channel-bars 30 are secured to lugs 31 on the axle-sleeves 6 and are connected at the rear by an angle-bar 32 which is provided with holes 33 adapted to receive side-stops for the draw-bar 27. These bars are adapted to support a platform 34 on which the seat 35 is mounted.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

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

1. In a tractor, the combination of front and rear axles, a supporting structure comprising a transmission gear-case extending around and inclosing one of said axles and an open frame having one of its ends supported one the other axle and sides secured to the gear case, and a motor secured on said sides and removable therefrom while the frame-sides remain attached to the gear case.

2. In a tractor, the combination of front and rear axles, a supporting structure comprising a transmission gear-case extending around and inclosing one of said axles and an open frame having one of is ends supported on the other axle and sides, and a motor having a casing with one of its ends in abutting relation to one end of the gear case, the frame-sides being attached to the gear case beyond the joint between the motor-casing and gear-case, the motor being secured to the frame-sides and removable without detaching the frame-sides from the gear-case.

3. In a tractor, the combination of front and rear axles, a supporting structure comprising a transmission-gear case extending around and inclosing one of said axles, and an open frame having sides, a pivotal connection between one end of the frame and the other axle, and a motor having a casing in abutting relation to one end of the gear-case, the frame having its sides attached to the gear-case beyond the joint between the motor casing and the gear-case, the motor being mounted on the frame-sides and removable without detaching the frame from the gear-case.

4. In a tractor, the combination of front and rear axles, a supporting structure comprising a transmission gear-case extending around and inclosing one of said axles, and a U-shaped frame having its sides directly attached to the gear case and its connecting-member supported on the other axle, and a motor having a casing secured on the frame-sides and removable therefrom while the frame remains attached to the gear-case.

5. In a tractor, the combination of front and rear axles, a supporting structure comprising a transmission gear-case extending around and inclosing one of said axles, and a U-shaped frame having its sides directly attached to the gear-case, a pivotal connection between the connecting member of the frame and the other axle, and a motor having a casing secured on the frame-sides and removable therefrom while the frame remains attached to the gear-case.

JOHN B. FOOTE.