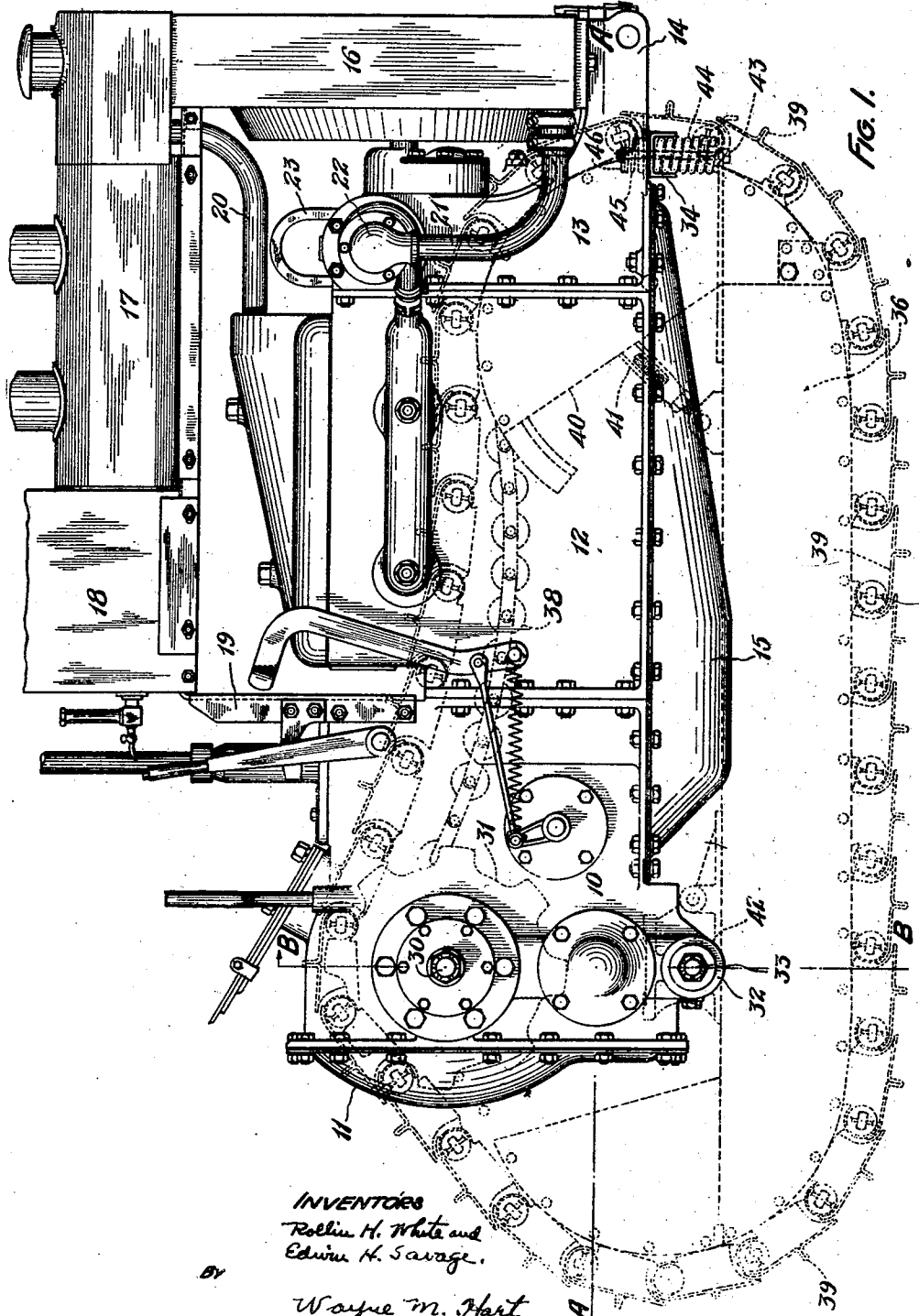


Feb. 26 , 1924.

R. H. WHITE ET AL
TRACTOR

1,485,104

Filed Feb. 13 , 1922 3 Sheets-Sheet 1



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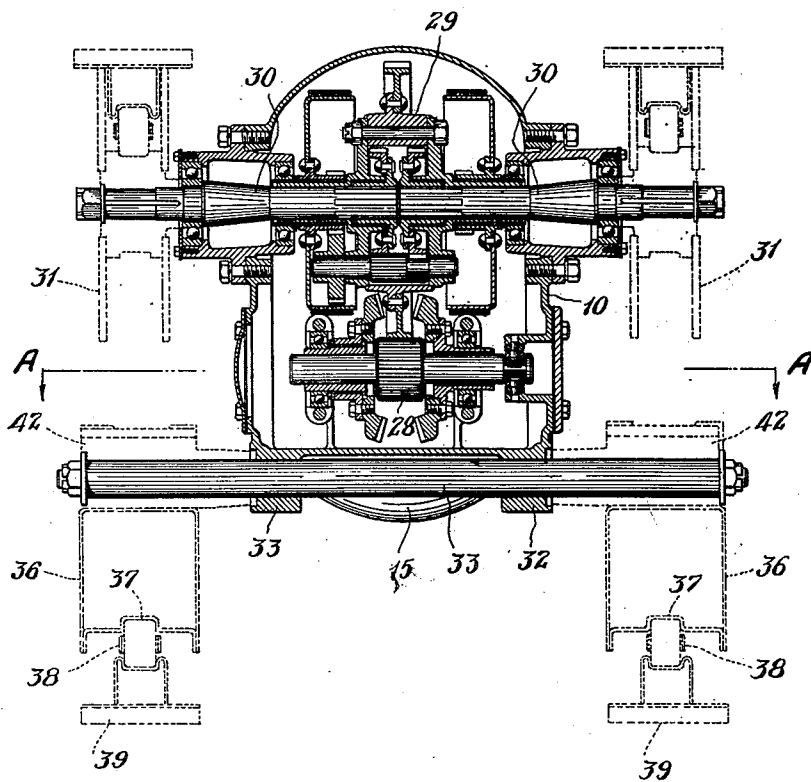


FIG. 2.

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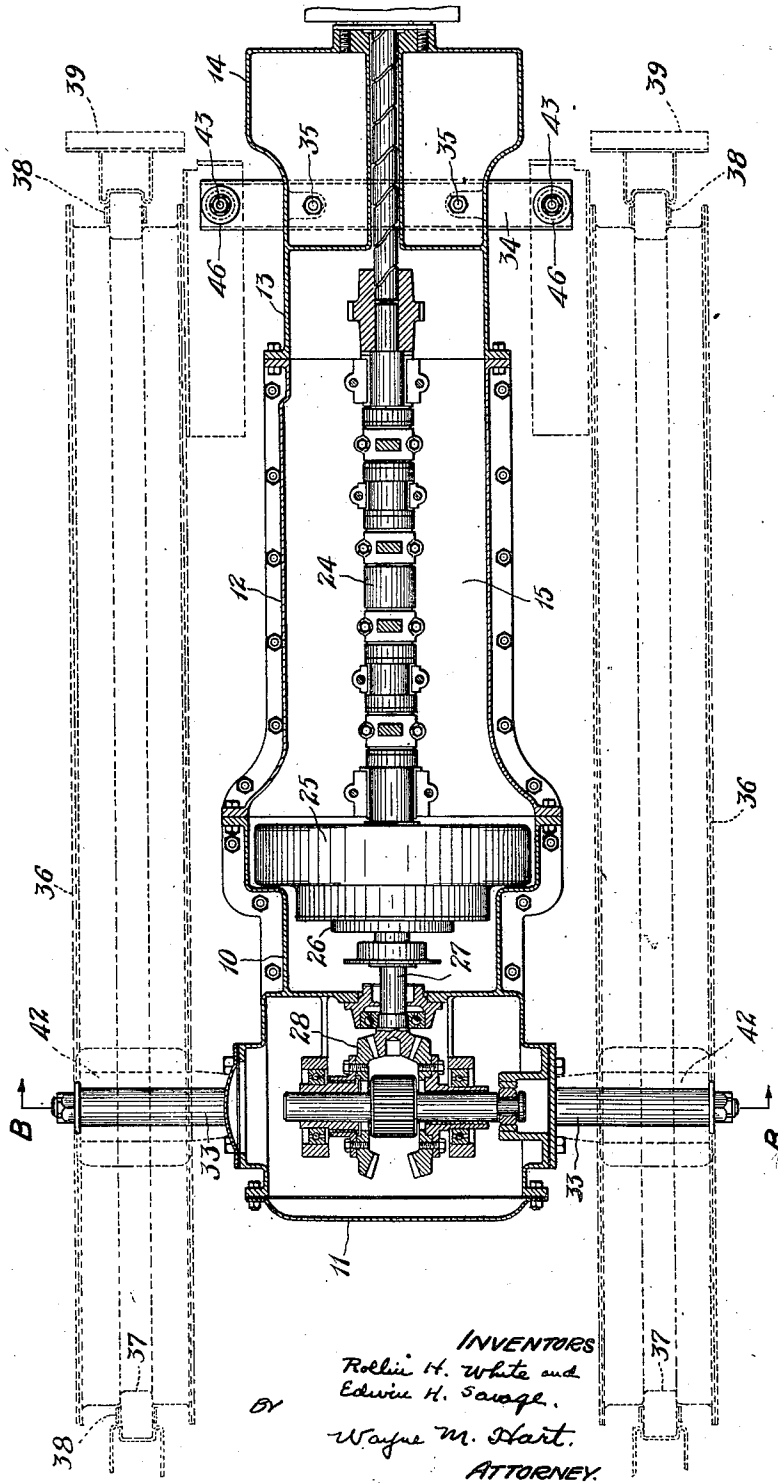
1,485,104

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TRACTOR

Filed Feb. 13, 1922

3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE.

ROLLIN H. WHITE, OF EUCLID HEIGHTS, AND EDWIN H. SAVAGE, OF CLEVELAND, OHIO, ASSIGNORS TO THE CLEVELAND TRACTOR COMPANY, OF EUCLID, OHIO, A CORPORATION OF OHIO.

TRACTOR.

Application filed February 13, 1922. Serial No. 536,123.

To all whom it may concern:

Be it known that we, ROLLIN H. WHITE and EDWIN H. SAVAGE, citizens of the United States, and residents, respectively, of Euclid Heights, in the county of Cuyahoga and State of Ohio, and Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Tractors, of which the following is a full, clear, and exact description.

This invention relates to improvements in tractors and more particularly in the arrangement of parts forming a rigid unitary body construction and in mounting thereof with supporting members.

The principal object of this invention resides in the elimination of the usual built up main frame, and the use of unitary sections rigidly secured together to form the body portion of the tractor. Another object of this invention is to provide each unit with the various working parts of the tractor, whereby forming a self-contained assembly of each unit. Another object of this invention is to provide a support and connection for the tractor body with the wheels or track members.

In the drawings similar characters of reference indicate corresponding parts in the several views and,—

Figure 1 is a side elevation of our unit body construction showing the track member in dotted lines.

Figure 2 is cross sectional view taken on lines B—B of Fig. 1 illustrating the manner of mounting the track members with relation to the transmission unit and mechanism.

Figure 3 is a longitudinal sectional view of the body taken on lines A—A of Fig. 1.

Referring now more particularly to the characters of reference on the drawings.

The main frame includes in its construction a rear member 10 which is a hollow casting so constructed that the transmission mechanism may be mounted and enclosed therein.

The rear end of this transmission case is open and a removable cover plate 11 is secured to the case, the removal of which gives access to the mechanism inside thereof. The rear transmission mechanism is assembled and removed through this open end of the transmission case. The main frame also includes the casting 12 which comprises the

engine cylinders and the greater part of the crank case of an internal combustion motor. The main frame also includes a front gear cover 13 which is a hollow casting having a forwardly projecting shelf 14 at its lower end. The primary purposes of this gear cover are to support the engine accessories including the radiator, the fan shaft, the pump and the magneto, and to house the gears by which motion is transmitted from the crank shaft to the cam shaft and to the accessories which have rotating parts. These three frame members 10, 12 and 13 are castings, and are flanged along their vertical meeting edges and are detachably connected together by bolts which pass through abutting flanges. The frame also includes a bottom member 15 which closes the openings in the bottom of the transmission case 10, of the crank case casting 12, and of the front gear case 13. This member 15 is preferably made of pressed metal with a flanged edge by means of which it may be secured by bolts to the flanged lower edges of the three members 10, 12 and 13, whose lower edges are all preferably in the same plane. This bottom acts solely as a cover and an oil receptacle for the lubricating system. When the pan is removed it gives access to the working parts of the mechanism which is supported within the three members 10, 12 and 13.

A radiator assembly 16 is secured by bolts upon the face of the shelf 14. A fuel tank 17 and an air purifier 18 are supported by a cradle located in a plane above the engine and the cradle is supported at its forward end to the radiator assembly, and at its rear end to a standard 19 which is bolted to the transmission housing. Hose connections 20 and 21 connect the top and bottom radiator tanks with the engine cooling system. Secured at opposite sides to the front gear casting is a water pump 22 and a magneto 23 which are driven by a common shaft from within the cover.

The engine casting carries the crank shaft 24, and the flywheel 25, and the clutch 26 are housed within a forward compartment in the transmission casting. The drive shaft 27 is supported longitudinally in bearings in the transmission housing and co-operates with a change speed mechanism 28 mounted in transverse bearings within a rear compartment in the casting. The change speed

mechanism is geared with the differential and steering gear mechanism 29 which drives jack shafts 30 mounted transversely in bearings within the casting which are located above the change speed bearings. The shafts project outside of the casting and sprockets 31 are secured to the end of each shaft outside of the casting. Suitable levers and mechanism are provided to control the clutch, change speed, steering, and differential brakes from without the transmission casting.

Hollow hubs 32 are formed on the lower portion of the transmission and carry a transverse shaft 33 which projects from each side of the casting. The shaft is located in a plane directly below the drive sprockets and is beneath all of the working parts carried by the main frame.

A channel member 34 is secured transversely by bolts 35 to the under side of the front gear cover casting and the ends which project past the sides of the castings are provided with holes.

A side frame 36 provided with a runway 37 around which a roller chain 38 runs, carries the weight of the tractor upon the drive chain 39. The forward end 40 of the side frame is pivoted and is adjusted by the turnbuckle 41 for controlling the slack in the roller chain and track. The chain and track both pass around the side frame and over the driving sprockets 31. A hollow hub 42 is secured to the top of each side member near the rear end thereof and is secured on the projecting ends of the shaft 33, about which the side members, or wheels, as the assembly may be termed, can oscillate independently of each other.

The forward ends of the side frames are provided with bolts 43 secured thereto and projecting upwardly through the holes in the transverse channel member carried by the gear cover casting. A coil spring 44 is secured about the bolts and extends between the side frame and the transverse bar at each side and another coil spring 45 is secured above the transverse bar about the

bolts and is held in place by a plate 46 secured to the top of the bolt.

It will be seen that each side member or wheel is free to independently pivot about its supporting shaft and that a suspension is provided at the forward end of each to absorb the oscillation due to uneven ground conditions. Pivoting the side frame directly below the drive sprocket reduces to a minimum the buckling of the drive chain and roller bearing chain, when the side frame oscillates.

While this specification sets forth in detail the present and preferred construction of the device, still in practice, deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having described our invention, we claim:—

1. In a tractor, the combination of a body comprising a rear transmission unit, an intermediate engine unit, and a front gear cover and radiator supporting unit, each of said units including unitary casings positioned in alignment and detachably secured to each other at their adjacent ends; and supporting track units having frames pivoted at one end to said unitary transmission casing and connected at the other end to said gear cover casing.

2. In a tractor, the combination of a body comprising a rear transmission unit, an intermediate engine unit, and a front gear cover and radiator supporting unit, each of said units including unitary casings positioned in alignment and detachably secured to each other at their adjacent ends, an axle extending from each side of said transmission casing, side frames pivoted at the rear ends to said shaft, and resilient means connecting the front ends of said side frames with said gear cover.

In testimony whereof, we hereunto affix our signatures.

ROLLIN H. WHITE.
EDWIN H. SAVAGE.