(No Model.) 2 Sheets—Sheet 1.

B. F. SAMMONS.

TRACTION ENGINE.

No. 429,648. Patented June 10, 1890.

Fig. 1.

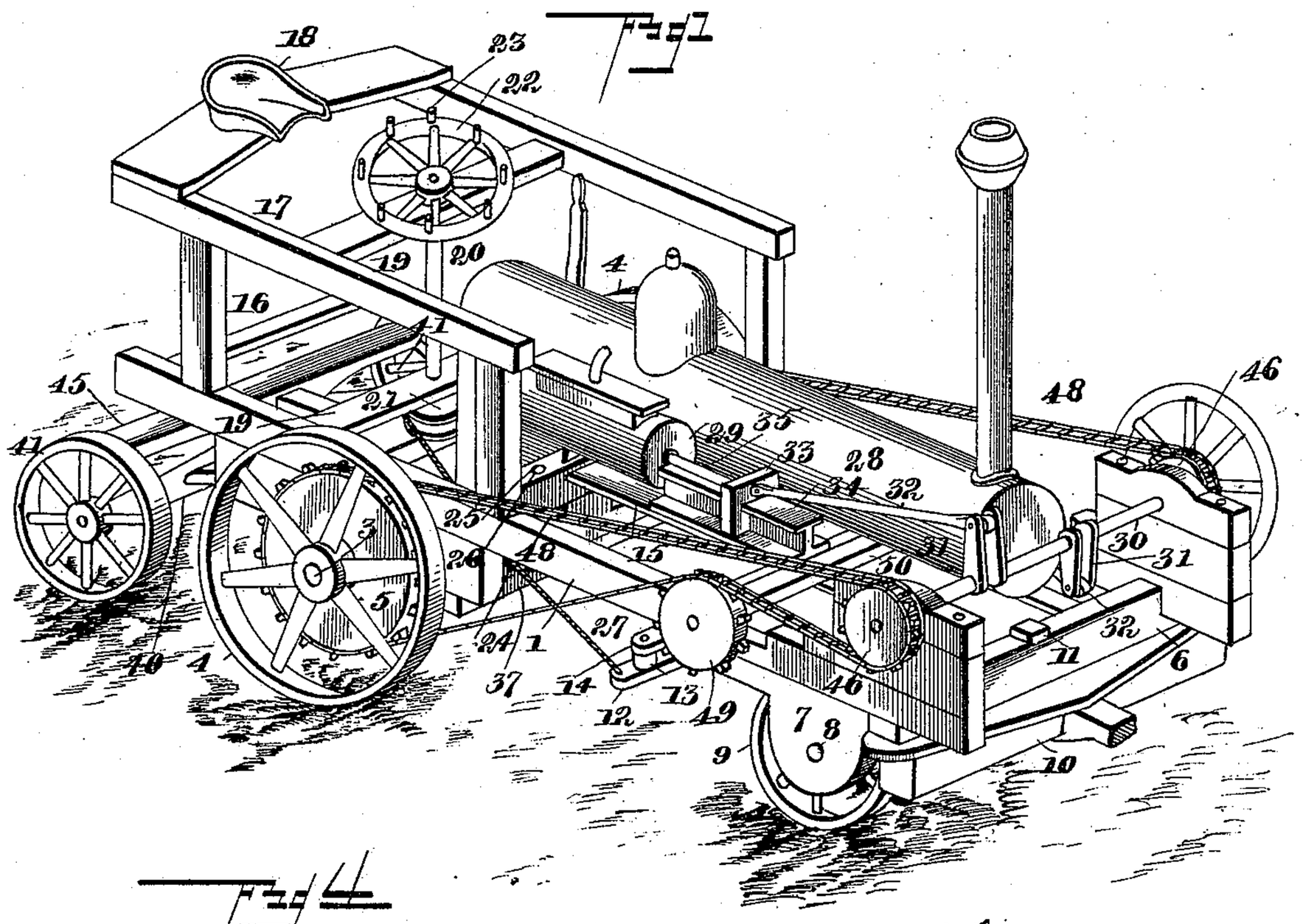


Fig. 2.

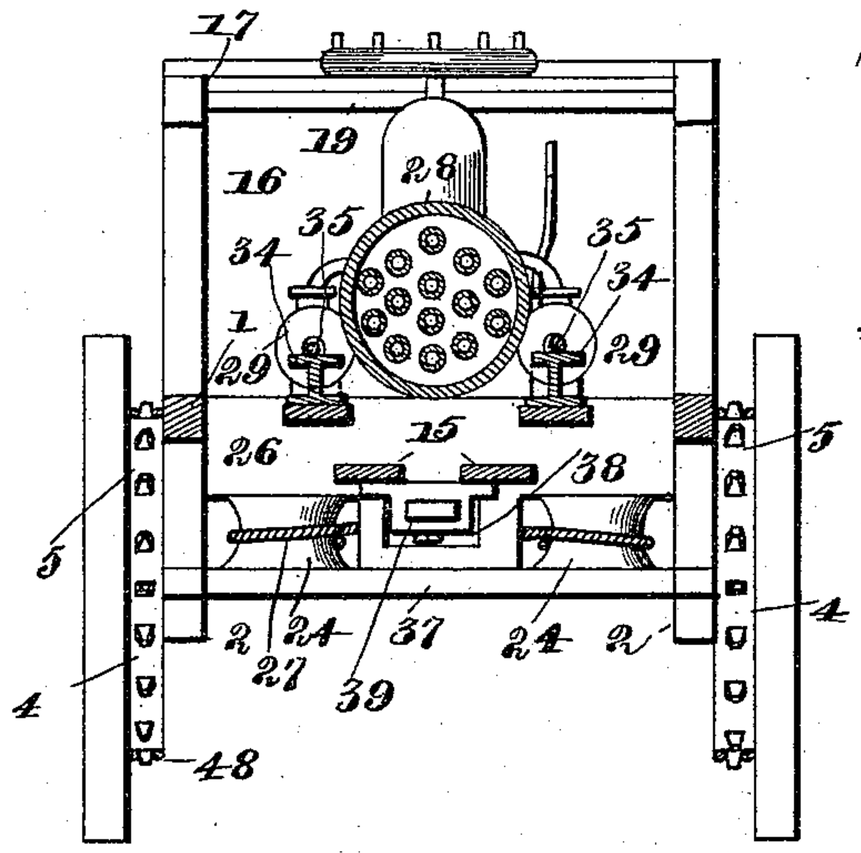
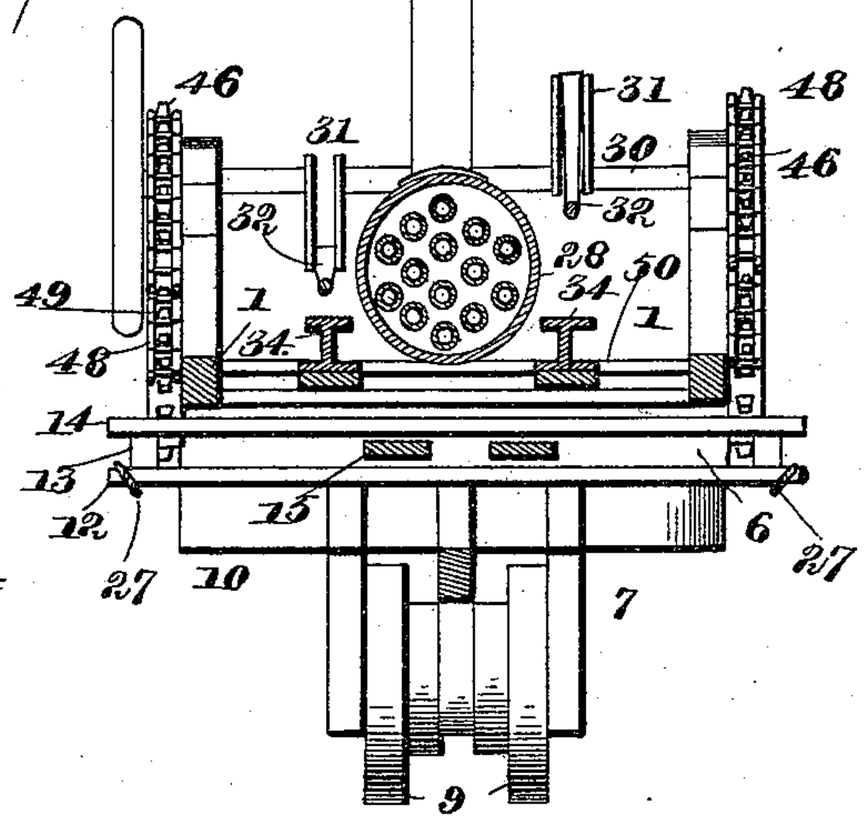


Fig. 3.



Witnesses
John Tinnie
Wm. Bagger

Inventor
Benjamin F. Sammons
By his Attorneys
C. A. Snow & Co.

(No Model.) 2 Sheets—Sheet 2.

B. F. SAMMONS.

TRACTION ENGINE.

No. 429,648. Patented June 10, 1890.

Fig 2

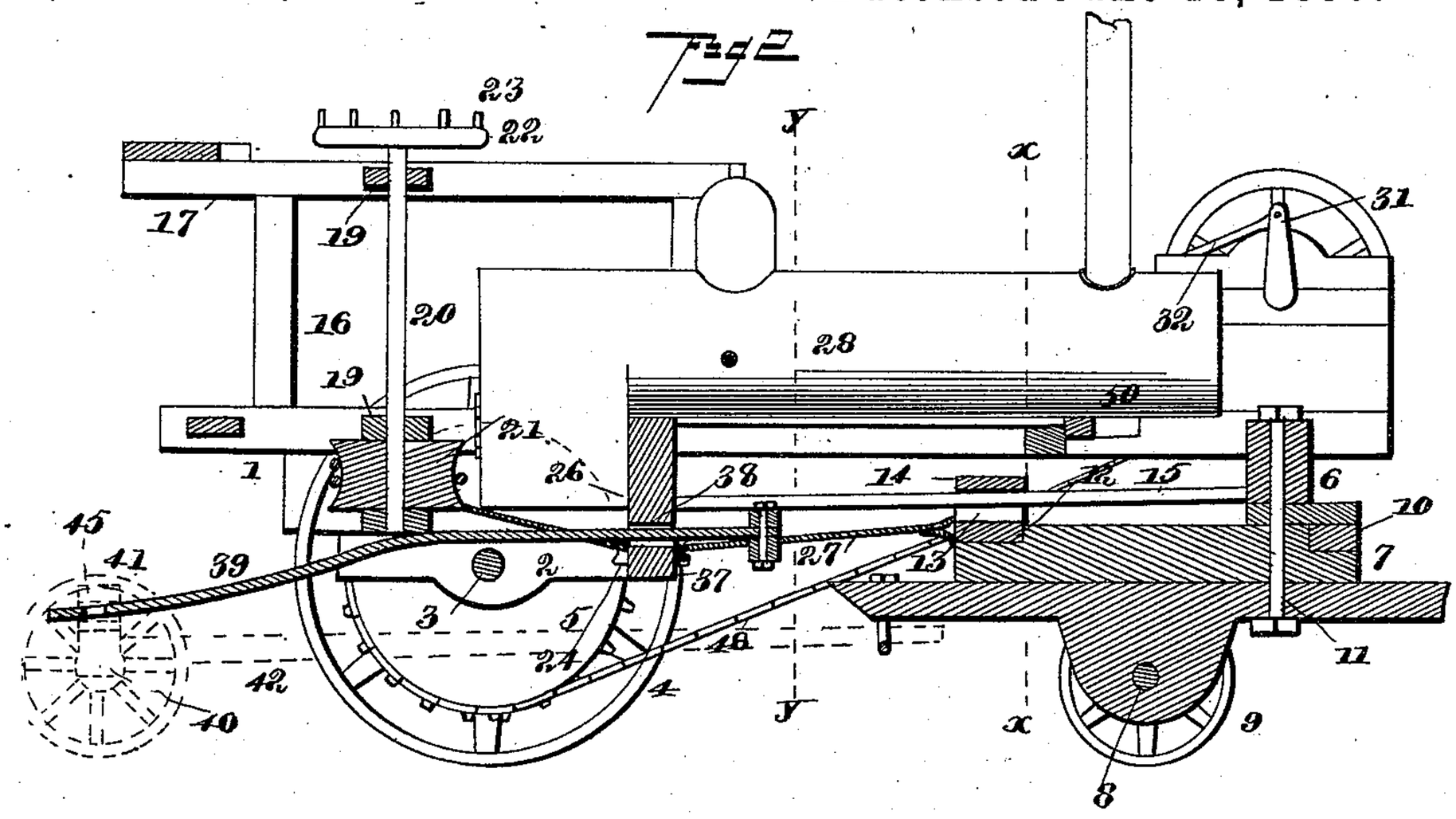
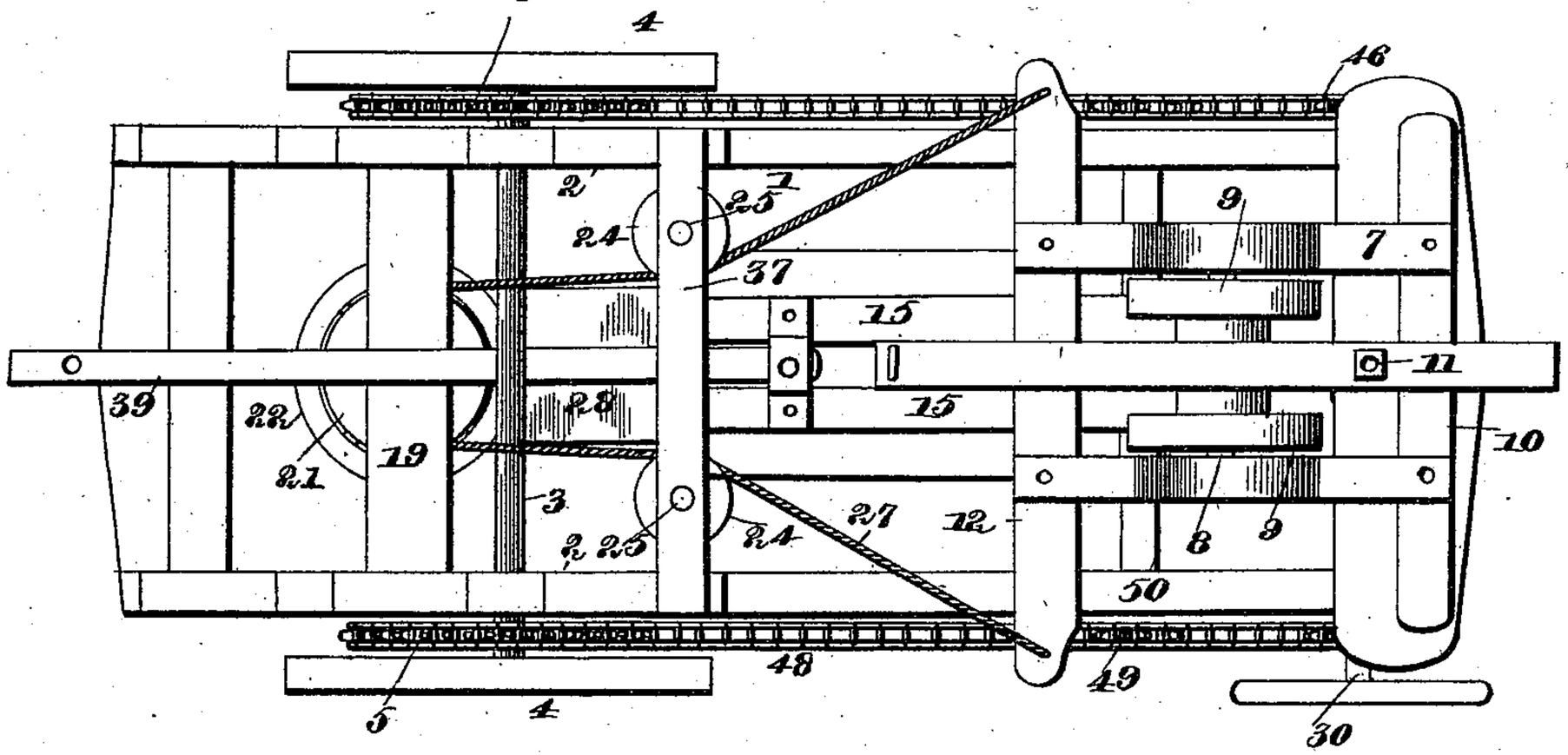


Fig 3



Witnesses

John Lennie

Wm. Bagger

Inventor

Benjamin F. Sammons

By his Attorneys

C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

BENJAMIN F. SAMMONS, OF SUMNER, MISSOURI.

TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 429,648, dated June 10, 1890.

Application filed March 5, 1890. Serial No. 342,735. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. SAMMONS, a citizen of the United States, residing at Sumner, in the county of Chariton and State of Missouri, have invented a new and useful Traction-Engine, of which the following is a specification.

This invention relates to traction-engines; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved traction-engine. Fig. 2 is a central longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view taken on the line *x x* of Fig. 2. Fig. 4 is a vertical transverse sectional view taken on the line *y y*, Fig. 2. Fig. 5 is a bottom plan view.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates a suitably-constructed frame, which is provided at its rear end with boxes 2, in which is journaled the rear axle 3, carrying the traction-wheels 4 4. Suitably mounted upon the axle or attached to the inner sides of the traction-wheels are sprocket-wheels 5 5. The front end of the frame 1 is provided on its under side with a bolster 6.

7 designates a frame, which is provided with bearings for the front axle 8, upon which are mounted the guiding-wheels 9 9. The front cross-beam 10 of the frame 7 is mounted pivotally under the bolster 6 upon the king-bolt 11. The rear end of the frame 7 is provided with a cross-bar 12, having upwardly-extending brackets 13, which are connected by a cross-piece 14. The latter extends above and across the longitudinal frame-bars 15, which form a part of the main frame 1. The cross-bar 12 serves to support the said frame-bars 15, and the cross-bar 14 acts in the nature of a guide and serves also to connect the frames together. The rear end of the frame 1 is provided with uprights 16, supporting a horizontal frame 17, the rear end of which has a seat 18 for the driver. The frames 1 and 17 are each provided with a cross-bar 19, in which is journaled a vertical shaft 20, the lower end of which has a grooved wheel or pulley 21, while the upper end of the said shaft is provided with a hand-wheel 22, having upwardly-extending handles or sprockets 23, which may be conveniently grasped by the driver for the purpose of operating the steering-gear.

24 24 designate a pair of grooved wheels or guide-pulleys, which are mounted upon short vertical shafts 25, extending through cross-pieces 37 of the frame 1. A rope or chain 27 passes around the grooved wheel or pulley 21 at the lower end of shaft 20, thence over the guide-wheels 24, and to the ends of the cross-bar 12 of the pivoted frame 7. It will be observed that by manipulating the shaft 20 by means of the hand-wheel 22 the pivoted steering-frame 7 may be conveniently operated and adjusted to guide the machine in any desired direction.

Suitably mounted upon the upper side of the frame 1 is a boiler 28, on either side of which is located a steam-cylinder 29. At the front end of the frame bearings are provided for the transversely-arranged crank-shaft 30, which is provided with wrists or cranks 31, which are connected by the pitman 32 with the cross-heads 33, which are mounted to slide longitudinally upon the guideways 34. The cross-heads 33 are connected in the usual manner to the front ends of the piston-rods 35 of the pistons, which reciprocate in the cylinders.

The steam-chests, valve-movements, and steam-connections are all of ordinary construction, and as they form no part of my present invention they will not be described in detail. The furnace, likewise, may be of any suitable construction.

The longitudinal frame-beams 15 of the frame 1 are connected about centrally under the frame by means of a cross-bar 26, having a slot 38, in which is pivoted a reach or coupling-pole 39, which extends to the rear end of the frame of the machine.

40 designates an axle mounted upon supporting-wheels 41 and having a tongue 42, which may be attached to the said axle in any suitable manner. Mounted upon the upper side of the axle 40 is a cross-bar or bolster 45, between which and the axle the outer end of the reach-bar 39 may be inserted and secured by means of a vertical pivot or coupling-pin.

This attachment is employed only when the machine is to be transported over the roads by means of horses.

The operation of this invention and its advantages will be readily understood from the foregoing description, when taken in connection with the drawings hereto annexed. The machine may be used for propelling agricultural machines of all kinds, which may be connected with the traction-engine by means of the reach or coupling-pole. Power is transmitted to the driving-wheels by means of endless chains from sprocket-wheels 46 upon the ends of the crank-shaft 30. These endless chains, which are designated by 48, pass over guide-pulleys 49 upon the ends of a cross-bar 50, which is mounted longitudinally adjustably upon the main frame 1. It will be seen that by properly adjusting the said cross-bar 50 the said guide-pulleys may be caused to bear against the endless chains with any desired degree of pressure, thereby regulating the tension of said chains. The said guide-pulleys also perform the additional function of holding the endless chains out of contact with the projecting ends of the cross-bar 12 of the steering-frame. The steering-gear is exceedingly simple and will enable the machine to be perfectly controlled by the driver. The machine may, when desired, be used as a stationary engine by simply removing the endless chains. Power may then be transmitted from the crank-shaft 30 to the machinery, which is to be driven by means of a belt running over a drum or pulley upon one end of said crank-shaft.

Having thus described my invention, I claim—

1. In a traction-engine, the combination of the main frame, the permanent axle supporting the rear end of said frame and having the traction-wheels, the steering-frame having the guide-wheels, the king-bolt connecting the front end of said steering-frame pivotally with the bolster at the front end of the main frame, the longitudinal frame-bars 15, the transverse bar 12 at the rear end of the steering-frame supporting the said frame-bars 15, the brackets 13, extending upwardly from the ends of the frame-bar 12, and the cross-bar 14, extending across and above the frame-beams 15 and connecting the brackets 13, substantially as and for the purpose set forth.

2. In a traction-engine, the combination, with the main-frame, of the longitudinal frame-beams 15, the cross-piece 37, connecting said longitudinal frame-beams and having a slot 38, and the reach or coupling-pole 39, mounted pivotally in said slot and extending to the rear end of the frame of the machine, substantially as and for the purpose set forth.

3. In a traction-engine, the combination of the main frame, the rear axle having the traction-wheels and the sprocket-wheels, the pivoted steering-frame having the front or guiding wheels, the crank-shaft, the sprocket-wheel upon the ends of the latter, a longitudinally-adjustable cross-bar provided at its ends with guide wheels or pulleys, the endless chains, the steering-gear, and operating mechanism, all combined and arranged substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

BENJAMIN F. SAMMONS.

Witnesses:
DANEL B. TRAX,
S. NORRIS.