

No. 722,096.

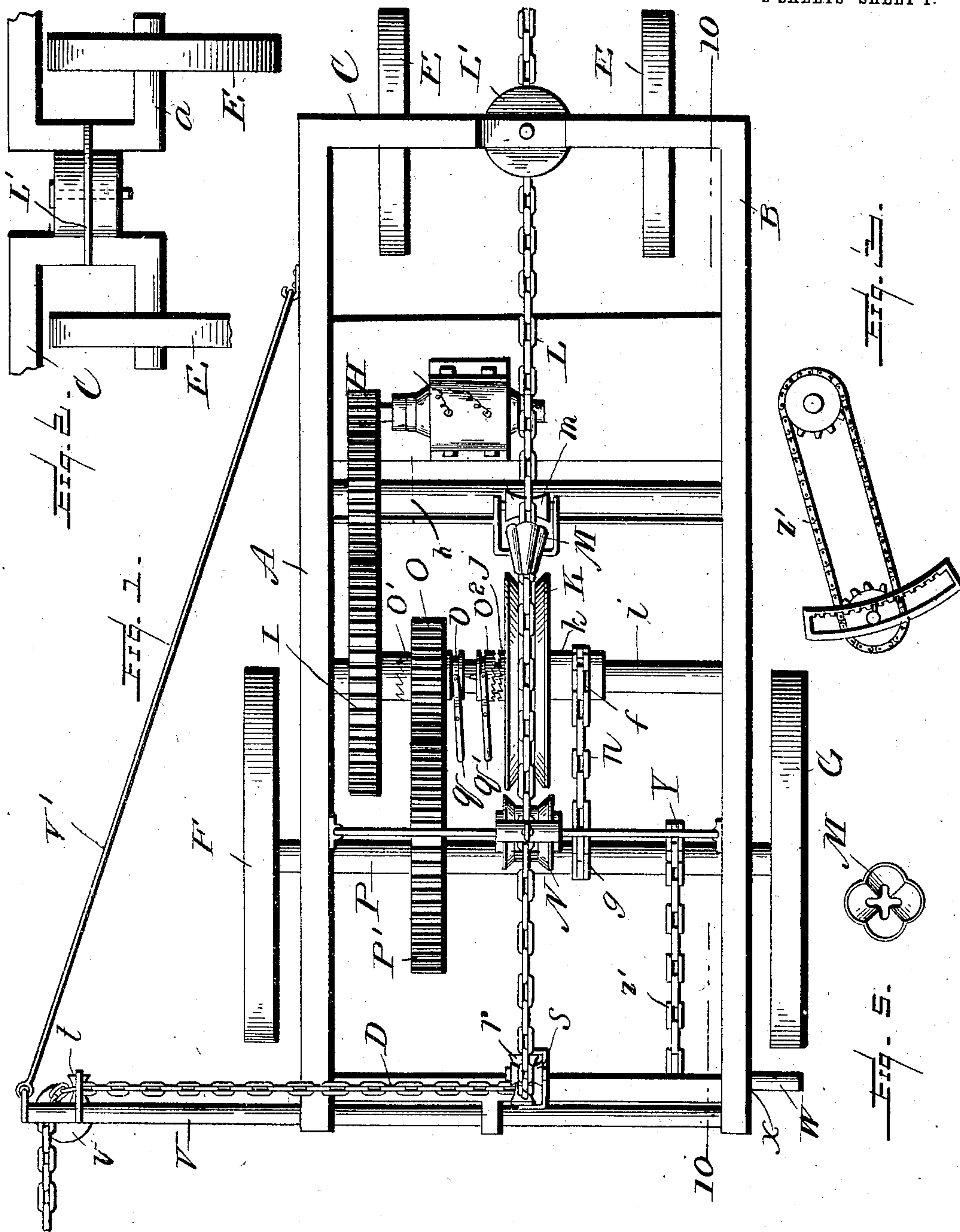
PATENTED MAR. 3, 1903.

B. T. GIBBONS.
TRACTION ENGINE.

APPLICATION FILED AUG. 29, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

Wm. F. Doyle.
W. A. Mayhew.

INVENTOR
Benjamin T. Gibbons
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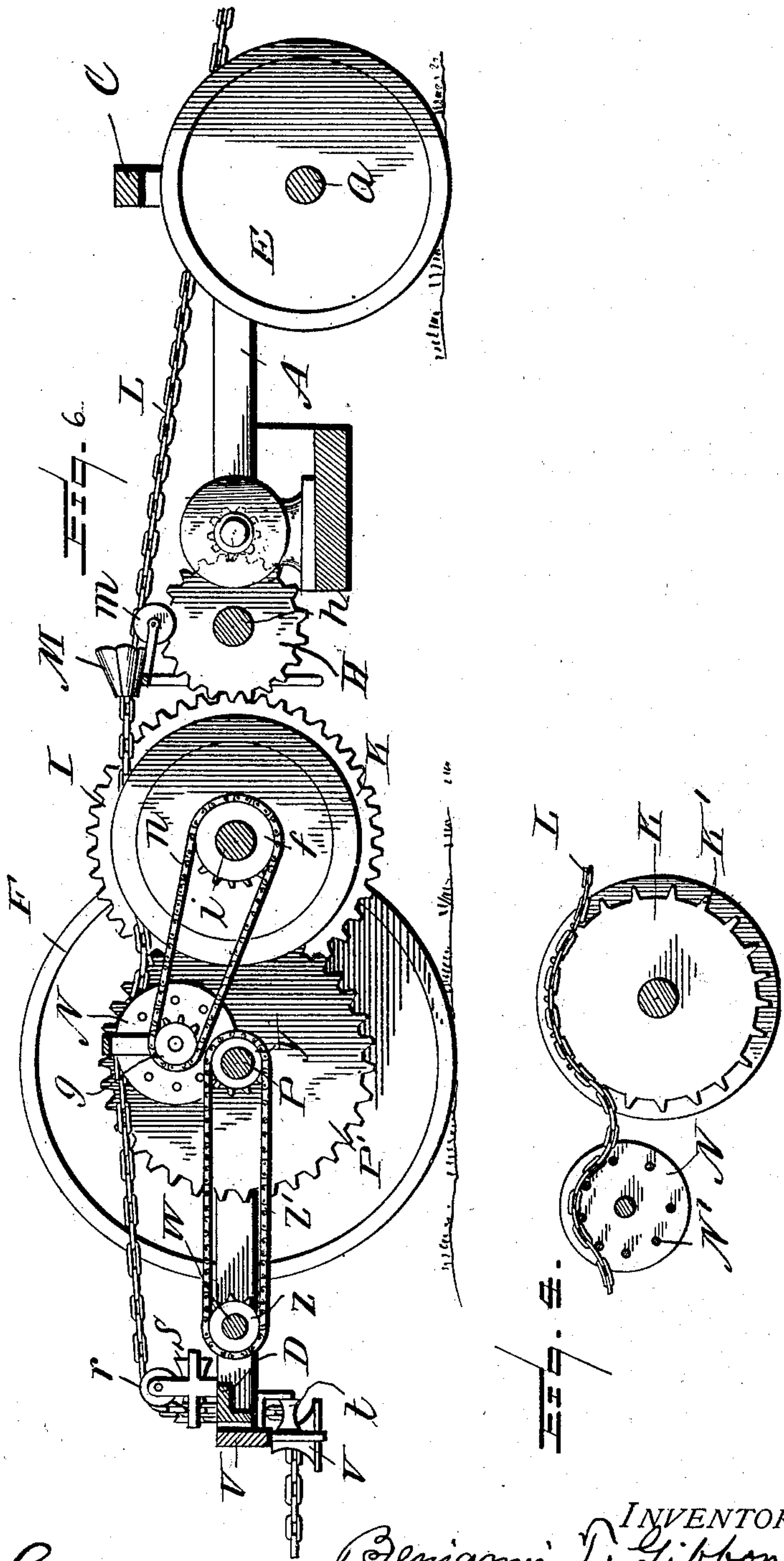
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Wm. F. Day & Co.
N. A. Mayhew.

INVENTOR
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UNITED STATES PATENT OFFICE.

BENJAMIN TRUMAN GIBBONS, OF BUFFALO, NORTH DAKOTA.

TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 722,096, dated March 3, 1903.

Application filed August 29, 1902. Serial No. 121,502. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN TRUMAN GIBBONS, a citizen of the United States, residing at Buffalo, in the county of Cass and State of North Dakota, have invented certain new and useful Improvements in Traction-Engines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to traction-engines, and particularly to means for propelling the same.

The invention has for its object to provide a chain or cable way fixed at its opposite ends and engaged with the driving mechanism of the engine.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawings, Figure 1 is a plan of the vehicle; Fig. 2, an elevation of the front truck; Fig. 3, a detail elevation of a driving connection. Fig. 4 is a detail of the chain-engaging means. Fig. 5 is a detail of the guide-sleeve, and Fig. 6 is a longitudinal section on line 10 10 of Fig. 1.

Like letters of reference indicate like parts in the several figures of the drawings.

The frame of the vehicle is composed of the side bars A B and end bars C D, while the main traction-wheels F G are mounted upon a shaft P, journaled in the frame. Beneath the end bar C a truck *a* is pivoted and provided with wheels E E. The shaft P is provided with a pinion P', which meshes with a gear O, loosely mounted upon the counter-shaft *i* by a sleeve *o*, provided at opposite ends with the clutch members *o'* and *o''*, and is adapted to be shifted by the lever *q*. Secured to the shaft *i* is a pinion I, meshing with a pinion H on the shaft *h*. A beveled pinion-wheel *h''* is mounted on and rotates with the shaft *h* and is in mesh with a gear-wheel *h'''*, which is mounted on and rotates with the shaft *h''* of the motor H'. Said mo-

tor may be of any type and is adapted to be mounted upon the frame of the apparatus, as illustrated. The shaft *i* has also loosely mounted thereon a chain-wheel K by means of a sleeve *k*, which is provided next the sleeve *o* with a clutch member *j* to engage the clutch *o''*. This sleeve may be shifted by a lever *q'* to drive the chain-wheel instead of the traction-wheels F G.

Over the chain-wheel K the fixed chain L passes, and the links thereof are engaged by teeth K', carried by the wheel, (see Fig. 4,) while the chain is lifted from the wheel by the roller N, having cross-bars N' to hold the chain and lift it from the teeth K'. This roller is rotated by a driving-chain *n*, extending from a sprocket *f* on the sleeve *k* to a sprocket *g* on the roller-shaft. (See Fig. 6.)

The chain L may be fixed at its opposite ends by anchors (not shown) or other suitable means, with enough slack to permit its passage over and through the engine. At the front of the engine the chain passes over a guide-pulley L', thence over a bearing-roller *m*, and through a guide-sleeve M, by which it is turned so that the alternate links thereof lie in plane to engage the teeth K'. The opening in the sleeve is shown in detail by Fig. 5. After passing the wheel and lifting-roller the chain passes over pulleys *r* and *s*, set at a right angle to each other, and thence extends laterally to a roller *t* and a right-angle roller *v*, carried by an extension-pole V, which is also braced by a brace V' at the outer end thereof. The chain is thus laid in proper position for each succeeding draft across the land.

When the engine is used in plowing with a narrow gang of plows, the wheel G is liable to be thrown into the furrow, and to prevent this that wheel may be removed and attached to the stub-shaft W, which is mounted in a slotted way X, so as to be raised and lowered as desired. The shaft W is provided with a sprocket Z, connected by a chain Z' with a sprocket Y, carried by the shaft of the roller W.

This invention is particularly adapted for use of traction-engines in field-work where the ground is inadequate to furnish a hold for the traction-wheels of a light engine, and I am en-

abled by my construction to lessen the weight of the engine by using a fixed chain to be engaged by the moving parts of the engine.

It will be obvious that changes may be made in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

What I claim is—

1. In a traction-engine, a motor thereon, a sprocket-wheel geared to said motor, a chain fixed at its opposite end and passing over said sprocket, traction-wheels for said engine, gearing therefrom to a motor, and means for shifting the driving power from the sprocket-wheel to the traction-wheel, substantially as specified.

2. In a traction-engine, a chain fixed at its opposite ends, means upon said engine for engaging said chain to drive the engine, a laterally-extending arm at one end of said engine, and means carried by said arm to deflect said chain into a plane parallel to its plane of passage through the engine, substantially as specified.

3. In a traction-engine, a chain fixed at its opposite end, a driven sprocket upon said end to engage the chain, and a lifting-roller disposed at one side of the sprocket to raise the chain therefrom, substantially as specified.

4. In a traction-engine, a chain fixed at its

opposite ends, a driven wheel for engaging said chain, and a guide at one side of said wheel for turning the chain into position to engage the wheel, substantially as specified.

5. In a traction-engine, traction-wheels thereon, one of which is removable, a stub-shaft at the rear of the main shaft to which said removable wheel may be applied, and a gearing between the main shaft and stub-shaft, substantially as specified.

6. In a traction-engine, a frame, traction-wheels mounted thereon, a counter-shaft geared to the main shaft of the traction-wheel, a driving-shaft geared to said counter-shaft, a sprocket-wheel loosely mounted upon said counter-shaft, clutch mechanism carried by said sprocket-wheel for engaging the same with the gear upon the counter-shaft, a lifting-roller at one end of said sprocket, a guide at the opposite sides thereof, bearing-rollers disposed in alinement with said sprocket-wheel, a chain fixed at its opposite ends and extending over said sprocket-wheel, and a gearing from said sprocket-wheel to said lifting-roller, substantially as specified.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

BENJAMIN TRUMAN GIBBONS.

Witnesses:

ANDREW JESPERSEN,
C. A. STOLTZ.