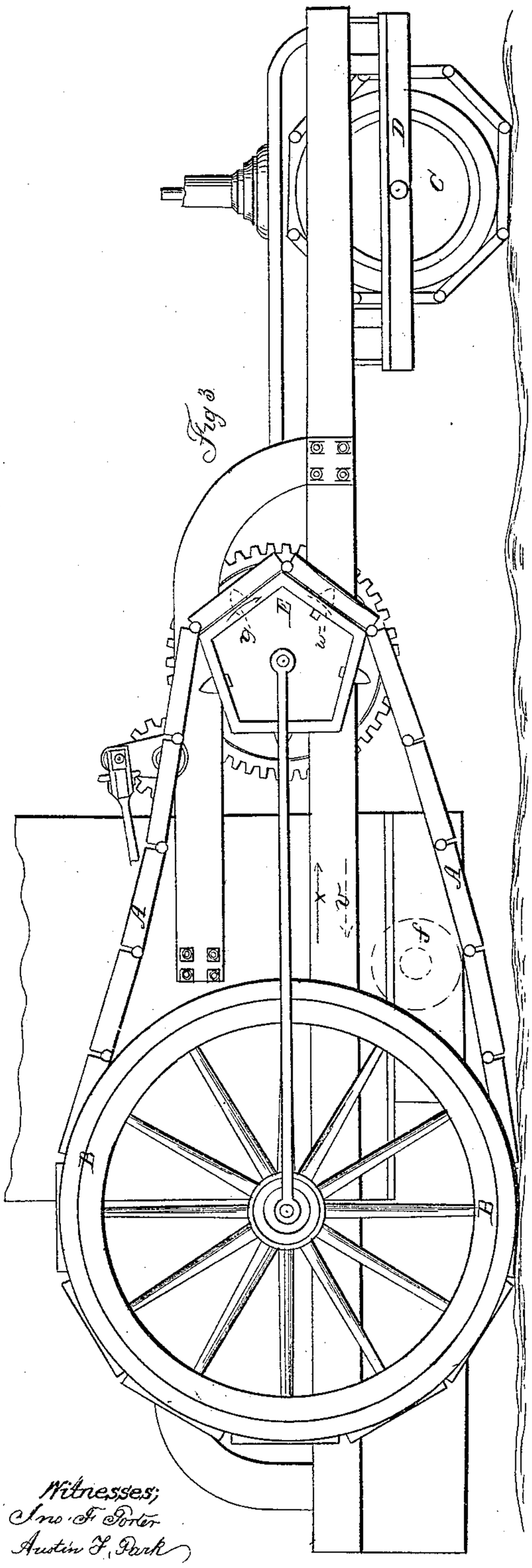
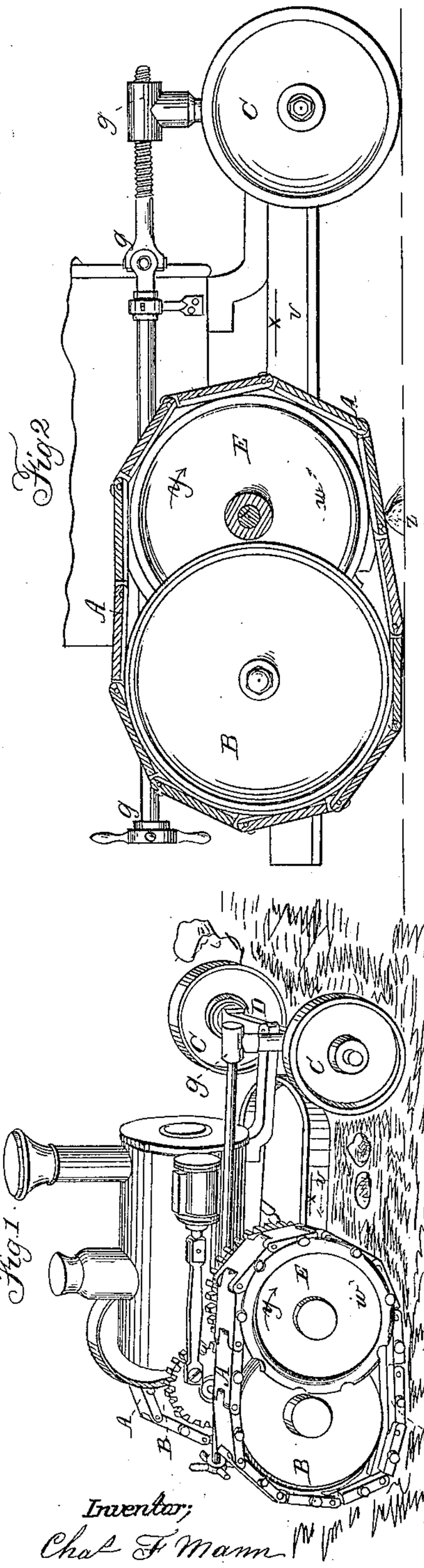
C. F. MANN.

Traction-Wheel.

No. 26,195. Patented Nov. 22, 1859.





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UNITED STATES PATENT OFFICE.

CHARLES F. MANN, OF TROY, NEW YORK.

TRACTION-LOCOMOTIVE CARRYING ITS OWN RAILWAY.

Specification of Letters Patent No. 26,195, dated November 22, 1859.

To all whom it may concern:

Be it known that I, CHARLES F. MANN, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful improvement on such locomotives (for drawing plows or pulling loaded wagons over fields or on common roads) as have their supporting wheels run on a track of endless chains which are carried along, laid down, and taken up by the locomotive; and I do hereby declare that the following contains a full and exact description of my invention, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view, and Figs. 2 and 3 partial longitudinal elevations, illustrative of my improvement.

The same letters refer to like parts in all the figures.

The distinguishing characteristic of my improvement in locomotives of the kind above mentioned is the fact that in my improved locomotive the track of endless chains, A, which the supporting wheels, B, of the locomotive run upon, is also the means by which the steam-engine or other prime-motor propels the locomotive along the ground.

The body of my improved locomotive is supported by the two wheels, B, one on each side thereof in combination with a steering wheel or wheels, C, hung in or upon a swivel-block or axle, D, at either the forward or the back end of the locomotive. The endless track-chains, A, (one shown in central longitudinal section in Fig. 2,) extend around over and under both the supporting-wheels, B, (which sustain the greater part of the weight of the locomotive,) and the wheels E which are placed so high that they do not support any part of its weight except sometimes while the wheels B are rising over obstacles, as at *z*, Fig. 2. The wheels E form a part of the gearing of, and are revolved by the engine which propels the locomotive along, and so engage with the track-chains, A, as to thus give a positive motion to the latter. The supporting wheels, B, do not engage with the track-chains so as to be positively revolved thereby; but have smooth circular peripheries which roll evenly along on the track chains.

The supporting wheels, B, bear so heavily upon the track-chains, A, as to hold the lower portions of them fast or stationary on the ground when the wheels E are revolved. This being the case, it is obvious that if the wheels E turn in the direction pointed by the arrow *y*, they will then, by means of the track-chains, A, acting on the wheels B, on the parbuckle principle, draw the whole locomotive along in the direction pointed by the arrow *x*, much in the manner that stevedores commonly haul heavy casks along up inclined platforms by means of two ropes passing down under and up around over the cask. And it is also evident that if the wheels E are turned in the direction pointed by the arrow *w*, they will then, by means of the lower portions of the track chains A acting or serving as fixed racks, and the wheels E acting as pinions gearing into them, propel the whole locomotive along in the direction pointed by the arrow *v*.

In Figs. 1 and 2 the wheels E lap past the wheels B and are so arranged as to give support to the track-chains when they meet a stone or other obstacle, *z*. Small wheels or rollers may be arranged for the same purpose, over the lower part of the track-chains near the wheels B, as indicated by dotted lines at *f*, Fig. 3.

Since there is but one carrying wheel B running on the track-chain, A, on each side of my improved locomotive, the engineer or person in charge of the locomotive can easily direct its course while in motion and cause it to turn short around, and to run in any desired direction, by altering the course of the steering wheels, C, by the aid of any suitable mechanical device, *g*.

In the ordinary manner of making a steam engine propel a locomotive by having the engine geared directly with the supporting wheels, without the intervention of the track-chains upon which the supporting wheels travel, it is necessary that those wheels should have their peripheries so provided with depressions and elevations, or teeth, that they will positively engage with, and not slip upon the track-chains, which construction of the supporting wheels makes them run in a more or less jolting manner along the track-chains, and renders them liable to get clogged up with dirt and mud and to be damaged by running against stones and other obstacles on the ground. But those defects are avoided by my mode of making the engine propel the locomotive by means of the track-chains upon which its

supporting wheels run; for it does not require the supporting wheels to engage with the track-chains, and they are made smooth and even on their treads so that they run without jolting and do not clog with dirt and mud; and the wheels E which drive the track chains are entirely off from the ground.

What I claim as my improvement in such locomotives as have their supporting-wheels run on a track of endless chains which are carried along, laid down, and taken up by the locomotives, and desire to secure by Letters Patent is,—

So applying the endless chains, A, as to make them not only the track for the supporting-wheels, B, of the locomotive to run on, but also the means by which the engine propels the locomotive along the ground, substantially as herein described.

CHAS. F. MANN.

Witnesses:

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