L. WALKER.

TRACTION-ENGINES.

No. 193,737. Patented July 31, 1877.

Fig. 1

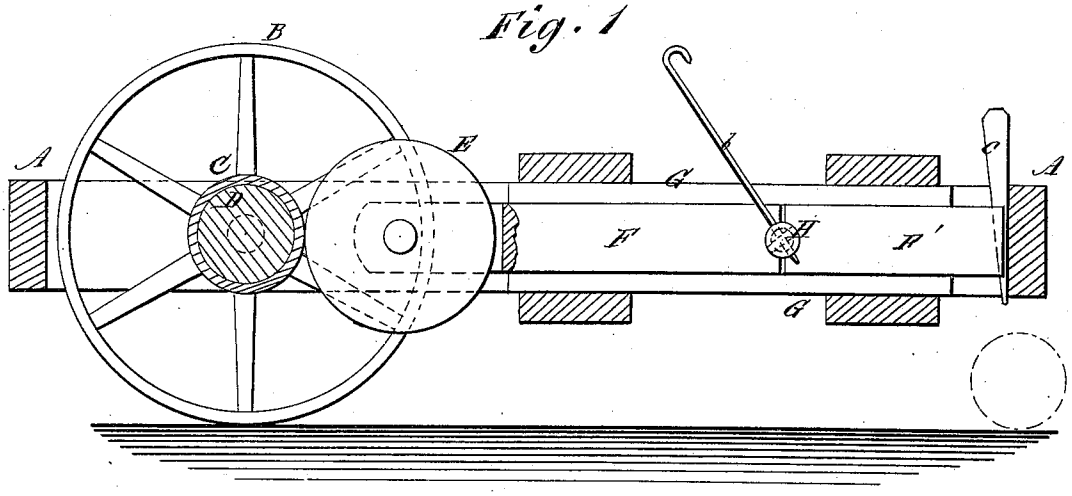
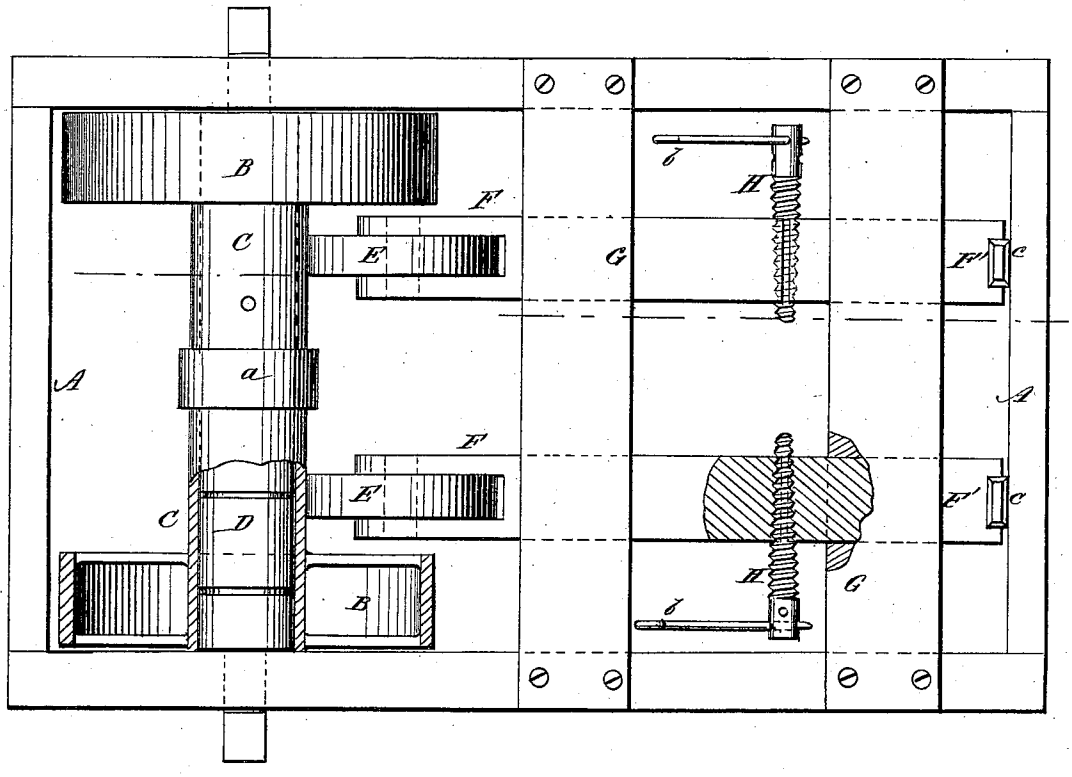


Fig. 2



WITNESSES:

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UNITED STATES PATENT OFFICE.

LEANDER WALKER, OF DALLAS, TEXAS.

IMPROVEMENT IN TRACTION-ENGINES.

Specification forming part of Letters Patent No. **193,737**, dated July 31, 1877; application filed June 25, 1877.

To all whom it may concern:

Be it known that I, LEANDER WALKER, of Dallas, in the county of Dallas and State of Texas, have invented a new and useful Improvement in Traction-Engines, of which the following is a specification:

This invention has relation to traction-engines for running on common roads and rails, and to be used for drawing plows, and as a motive power generally.

The nature of my invention consists, mainly, in transmitting motion to the driving and transporting wheels by means of the friction of a long rotating shaft inclosed inside of elongated hubs of said wheels, as will be hereinafter fully explained.

The invention further consists in combining friction pressure-wheels with the hubs of the driving-wheels for increasing the friction on the latter, as will be explained.

In the annexed drawings, Figure 1 is a longitudinal section taken vertically through the improved machine. Fig. 2 is a plan view of the machine, partly in section.

Similar letters of reference indicate corresponding parts.

The letter A designates a rectangular frame of suitable size and strength, and B B are two broad-tread transporting-wheels having hubs C C. The wheels and hubs may be made wholly of metal or partly of metal and partly of wood.

D designates a shaft on which wheels B B are applied, and about which they can turn. Shaft D is journaled in the longitudinal side bars of the carriage-frame A, and at the middle of its length is an enlargement, *a*, which serves as a pulley for a belt leading from an engine on the carriage.

The hubs C C, which extend up to the sides of the pulley *a*, are perforated, and the shaft or axle D is grooved at suitable points for the purpose of supplying the latter with boiled tar, lead, soap-stone, or some other suitable substance which will prevent undue heating, and which will at the same time retard as much as possible the rotary movement of the shaft or axle D.

E E are pressure-wheels which have their bearings in the rear ends of endwise adjustable bars F F, arranged in front of the hubs C C, and movable in guides G G.

Between the bars F F and the short bars F′ F′ are tapered screws H H, provided with lever-handles *b b*, and between the front ends of the bars F′ F′ and the front cross-beam of the carriage-frame A wedges *c c* are driven, which will press the wheels E E against the circumference of the hubs C C and increase the friction between these hubs and their axle.

By means of the screws H H the wheels E E can be very forcibly pressed against the hubs C C and any desired degree of friction produced.

It will be seen from the above description that the power which drives the wheels B B acts through the medium of the axle D, which may turn faster than the wheels; consequently the amount of friction can be so regulated that the wheels cannot slip on the ground, however great may be the power applied to turn the axle.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In combination with transporting-wheels B B, having elongated hubs C C, the shaft D and pressure-wheels E E, arranged to operate in the manner and for the purpose described.

2. Adjustable bars F′ F′, wedges *c*, screws H, and pressure-wheels E E, combined with the hubs of transporting-wheels B and shaft D, substantially as and for the purpose set forth.

LEANDER WALKER.

Witnesses:
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ALBERT WALKER.