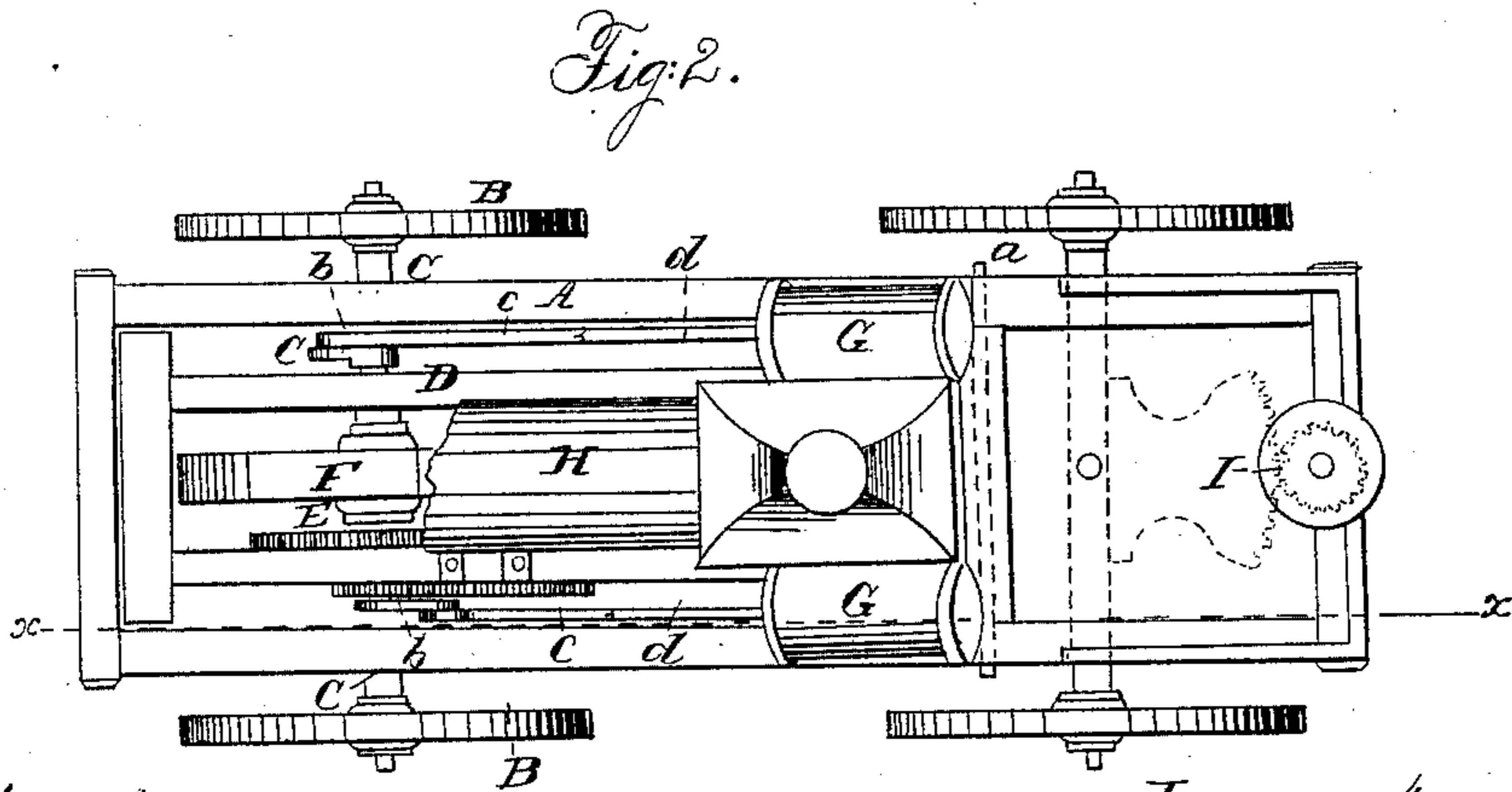
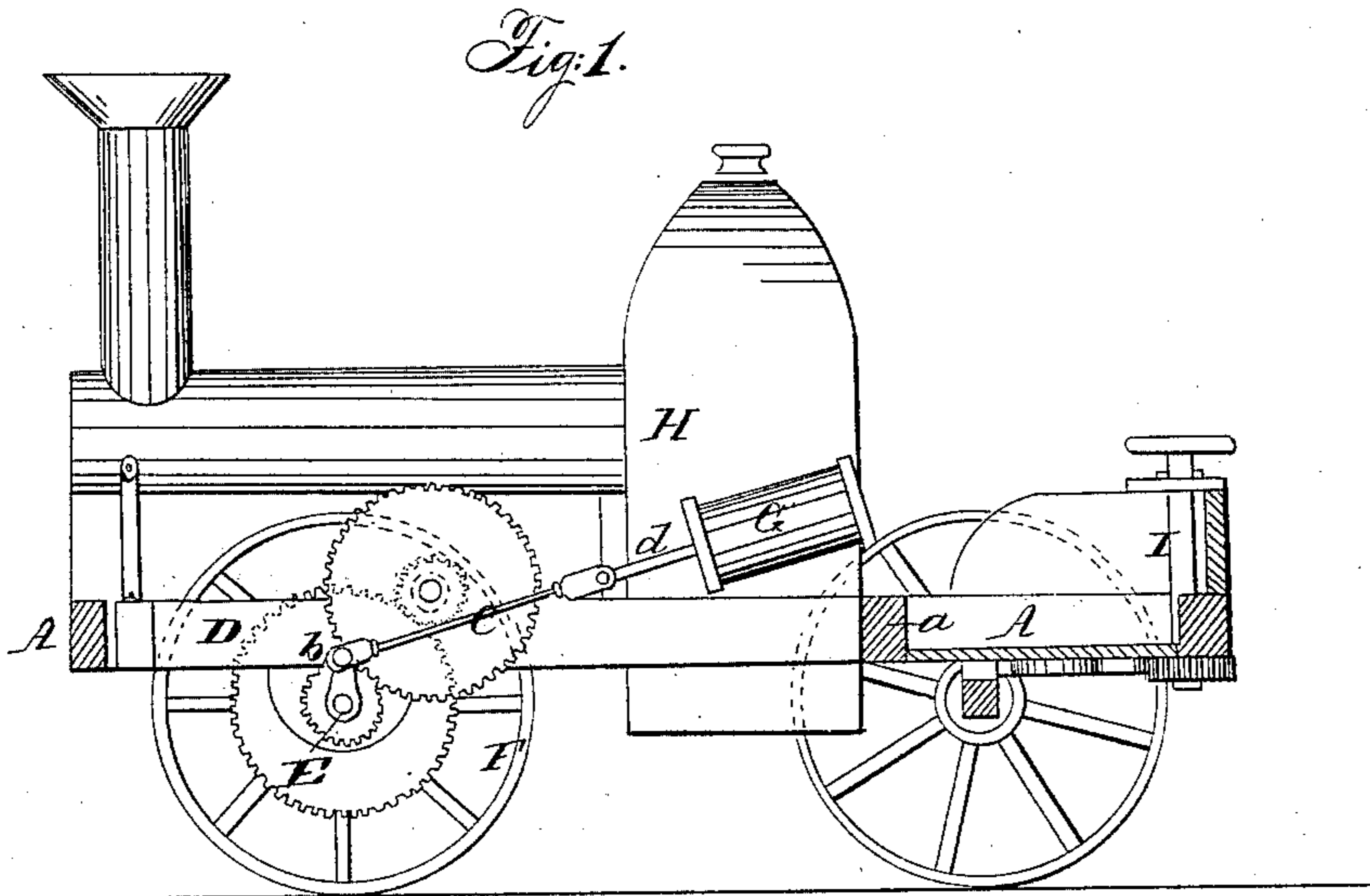


G. W. BARNETT.

Traction-Wheel.

No. 45,130

Patented Nov 22, 1864



Witnesses.  
Theo Lusch  
Henry Lewis

Inventor.  
G. W. Barnett  
per *[Signature]*  
attorneys

# UNITED STATES PATENT OFFICE.

G. W. BARNETT, OF URBANA, OHIO.

## IMPROVEMENT IN STEAM-CARRIAGES.

Specification forming part of Letters Patent No. 45,130, dated November 22, 1864.

*To all whom it may concern:*

Be it known that I, G. W. BARNETT, of Urbana, in the county of Champaign and State of Ohio, have invented a new and Improved Traction-Engine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a sectional plan or top view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to render the driving mechanism of a traction-engine entirely independent of the truck, so that said driving mechanism is free to follow the sinuosities of the ground.

The invention consists in the employment or use, in combination with the truck, of a hinged frame, which carries the steam boiler and cylinder and the driving-gear, and which forms the bearing for the axle of the driving-wheel in such a manner that said driving-wheel is free to follow the sinuosities of the ground and to act with its full power, assisted by the weight of the boiler and driving-gear and independent of the position of the wheels supporting the truck-frame.

A represents the truck-frame, which may be made of wood or any other suitable material. This truck-frame is supported by four wheels, B, which run on axles C, and it carries a secondary frame, D, to which the driving mechanism is attached. This secondary frame is hinged to the truck-frame by means of the pivot *a*, and its rear end rests upon the axle E of the driving-wheel F. A rotary motion is imparted to this wheel by means of two steam-cylinders, G, which are secured to the sides of a steam-boiler, H, from which they are supplied with steam, and which is supported by

the hinged secondary frame D, as clearly shown in Fig. 2 of the drawings. The axle E of the driving-wheel is furnished with two cranks, *b*—one on either end—which connect by rods *i* with the piston-rods *d* of the cylinders G, and a suitable multiplying or back gear increases the power and decreases the speed of the driving-wheel. This back-gear may be constructed as shown in the drawings or in any other suitable manner, or in some cases, where great speed and little power are desired, it may be dispensed with altogether; and I do not wish to confine myself to any particular construction of this part of my invention.

Suitable water-tanks may be placed on the sides of the truck-frame, or, if desired, on the hinged frame, to increase the weight resting on the driving-wheel, and consequently its adhesion to the ground, and the position of the front axle of the truck-frame is governed by a steering-gear, I.

By the use of the hinged frame D the driving-wheel is allowed to follow the sinuosities of the ground without being disturbed by or made dependent on the position of the wheels of the truck-frame, and said driving-wheel will always be depressed on the ground with the full weight of the machinery resting on the hinged frame. The engines act in perfect unison, there is no scraping and no getting on the centers when starting or when running on heavy grades, and the whole engine can be made with little, if any, increase in the cost of an ordinary traction-engine.

I claim as new and desire to secure by Letters Patent—

The driving-wheel F, steam boiler H, and cylinders G, mounted upon the hinged frame D, in combination with the truck-frame A, all constructed and operating substantially as and for the purposes set forth.

G. W. BARNETT.

Witnesses:

WM. SPICKLER,  
J. C. COULSON.