

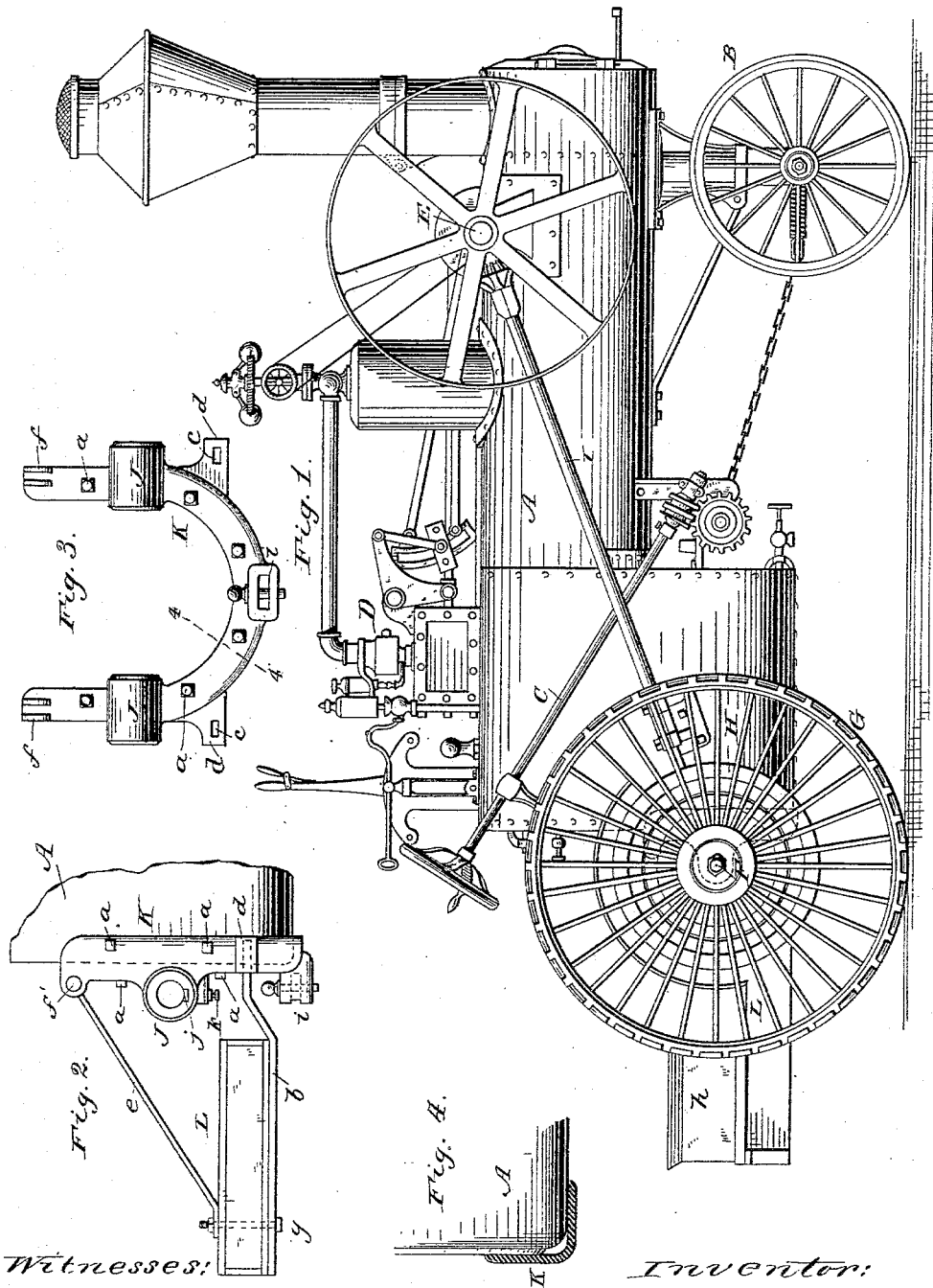
(No Model.)

F. L. FAIRCHILD.

TRACTION ENGINE.

No. 303,828.

Patented Aug. 19, 1884.



Witnesses:

H. N. Low
E. A. Dick

Inventor:

Frank L. Fairchild
by Marcellus Bailey
his attorney

UNITED STATES PATENT OFFICE.

FRANK L. FAIRCHILD, OF MOUNT VERNON, OHIO, ASSIGNOR TO C. & G.
COOPER & CO., OF SAME PLACE.

TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 303,828, dated August 19, 1884.

Application filed May 22, 1884. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. FAIRCHILD, of Mount Vernon, in the county of Knox and State of Ohio, have invented certain new and useful Improvements in Traction-Engines, of which the following is a specification.

These improvements mainly relate to the arrangement and manner of supporting the main or driving axle of the engine, and to the construction and arrangement of the platform at the rear of the engine. The main or rear axle on which the driving-wheels are mounted is placed in rear of the fire-box, and is supported in journal-boxes carried by a stirrup-bracket which passes beneath and around the under part of the boiler, so as to form in effect a bed in which the rear part of the boiler rests. Power is transmitted to the driving-wheels through a single inclined shaft, which, at its upper end, gears with the engine-shaft, and at its lower end engages the compensating-gear of the driving-wheels. The platform is made hollow, so as to constitute a water-tank, and is supported and carried by the stirrup-bracket above referred to, its connection therewith being of such a nature that it can be readily removed when desired. The improvements result in the production of a simple and efficient road engine and motor. There are fewer parts to keep in repair than in ordinary road-engines. The whole arrangement is compact and convenient, and the weight is about evenly divided between the front and rear axles, thus insuring tractive power and enabling the engine to more easily pass over obstructions.

I shall now proceed to more particularly describe my improvements by reference to the accompanying drawings, in which—

Figure 1 is a side view of an engine embodying said improvements. Fig. 2 is a side elevation of the stirrup-bracket hereinbefore referred to, together with that part of the fire-box end of the boiler that rests in it, and also the platform-tank. Fig. 3 is a rear elevation of said bracket without the platform-tank. Fig. 4 is an enlarged section of the stirrup-bracket on line 4 4, Fig. 3.

The engine represented in Fig. 1 is in its

general organization and form similar to the road-engine manufactured by C. & G. Cooper & Co., of Mount Vernon, Ohio.

A is the horizontal boiler, supported at the front by the front axle and wheels B, as customary. C is the usual guiding-rod, for turning the front axle on its pivot. D is the engine proper, and E is the engine-shaft.

F is the rear or main axle, on which are mounted the driving-wheels G and their compensating-gear H. This compensating-gear being of known form and construction, it is not necessary to describe. It is sufficient to say that motion is imparted thereto from a pinion on the lower end of the inclined shaft I, which latter, at its upper end, is geared to the engine-shaft E, as indicated in Fig. 1. The main axle is supported in large bearings or journal-boxes J, which are part of the stirrup-bracket K. This bracket, owing to its form, is of great strength. It is L-shaped approximately in cross-section, as indicated in Fig. 4. It passes under the boiler around its rear end and sides, against which it fits snugly, being held thereto by bolts *a*. The bracket thus forms in effect a bed on which the boiler rests, the strain due to the weight of the latter coming upon the bracket itself and not upon the bolts *a*. The axle-boxes J project from the rear of the L-shaped bracket in a position to properly receive the axle, which passes across the rear end of the boiler or fire box in such position as not to interfere with the doors therein.

The platform upon which the engineer stands is indicated at L. It is made hollow and in tank form, so as to serve as a water-tank for the engine. I attach it to the stirrup-bracket K by means of supporting-bars *b*, which fit in sockets *c* formed in side lugs, *d*, cast or made in one with the bracket, and of braces or rods *e*, which at the top are pinned, as at *f'*, between ears *f*, formed at each upper end of the bracket, and at the bottom are bolted to the top of the platform-tank, as shown in Fig. 2. The tank is also bolted to the bars *b*, as indicated at *g*. The platform-tank is thus securely held in place, but is so connected to the bracket that it can be easily detached and re-

moved, all that is needed for this purpose being to remove the pins *f'*, which will leave the platform, together with its supporting-bars *b* and braces or rods *e*, free to be withdrawn from the bracket K.

I have not deemed it requisite to show the opening through which the tank is filled, nor the pipe connecting said tank with the boiler-feed, these being well-known devices. Upon the platform-tank can also be placed the fuel-boxes *h*, if desired, there being ample room on it for this purpose. The bracket K also has the coupling *i*, to which can be hitched any wagon or the like. The journal-boxes J are each provided in the under part with gibs *j*, adjustable by means of set-screws *k* to take up wear.

Having now described my improvements, and the manner in which the same are or may be carried into effect, what I claim as new and of my own invention is—

1. The combination, with the boiler and the main or rear axle, extending across in rear of said boiler, of the stirrup-bracket extending beneath the boiler and formed to fit around and upon its rear end and sides, and provided with journal boxes or bearings for the axle, substantially as and for the purposes hereinbefore set forth.

2. The combination of the boiler, the stirrup-bracket supporting said boiler at its rear

end, and main or rear axle having bearings in said bracket, and extending across in rear of the boiler, the driving-wheels and compensating-gear carried by said axle, the inclined shaft I, and the engine-shaft E, these parts being arranged together substantially in the manner hereinbefore set forth.

3. The combination of the boiler, the stirrup-bracket for supporting said boiler, and the hollow platform-tank detachably connected to said bracket, substantially as hereinbefore described.

4. The boiler-supporting stirrup-bracket provided with lugs or ears for receiving the platform-tank-holding bars and rods, in combination with the platform-tank and the bars or rods connecting the same to the bracket, substantially as and for the purposes hereinbefore set forth.

5. The combination of the stirrup-bracket, the boiler and platform-tank supported by said bracket, and the main or rear axle mounted in boxes or bearings on said bracket, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand.

FRANK L. FAIRCHILD.

Witnesses:

A. R. McINTIRE,
H. M. SWITZER.