(No Model.) 2 Sheets—Sheet 1.

L. C. TABER.

TRACTION ENGINE.

No. 341,702. Patented May 11, 1886.

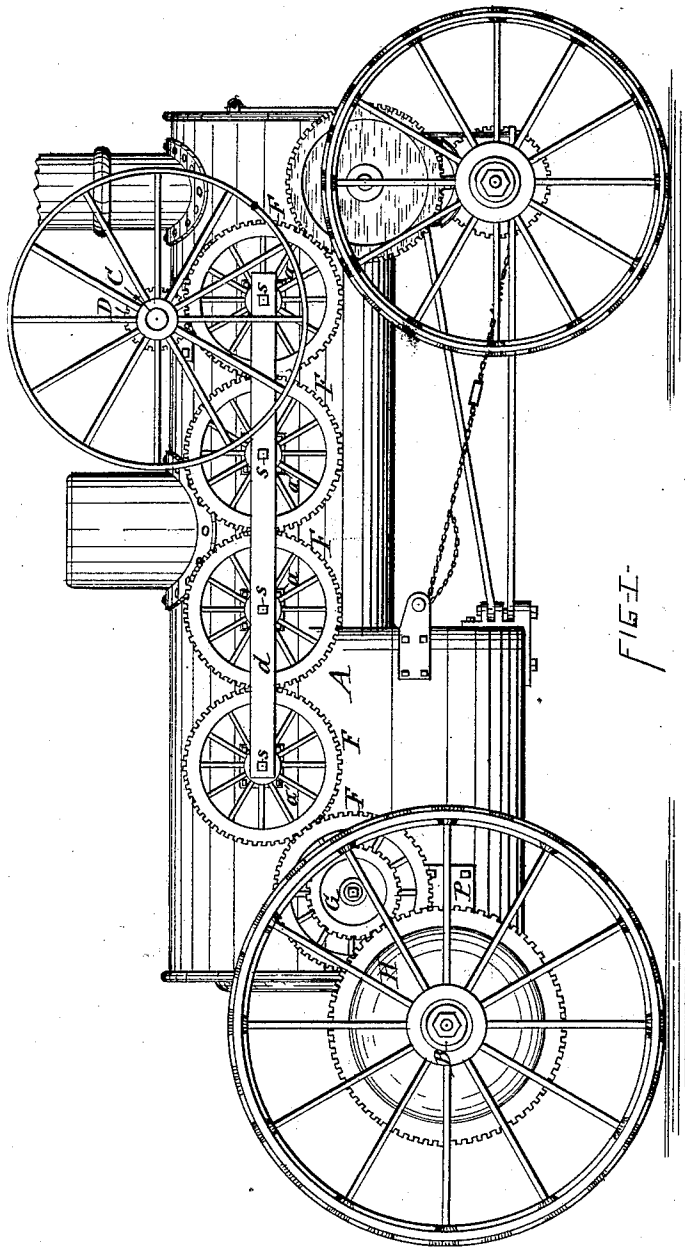

FIG. 1.

WITNESSES

C. Bendixon

E. C. Cannon

INVENTOR

Loyal C. Taber

per Church, Lacey & Hay

his Attys

(No Model.) 2 Sheets—Sheet 2.

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FIG-II-

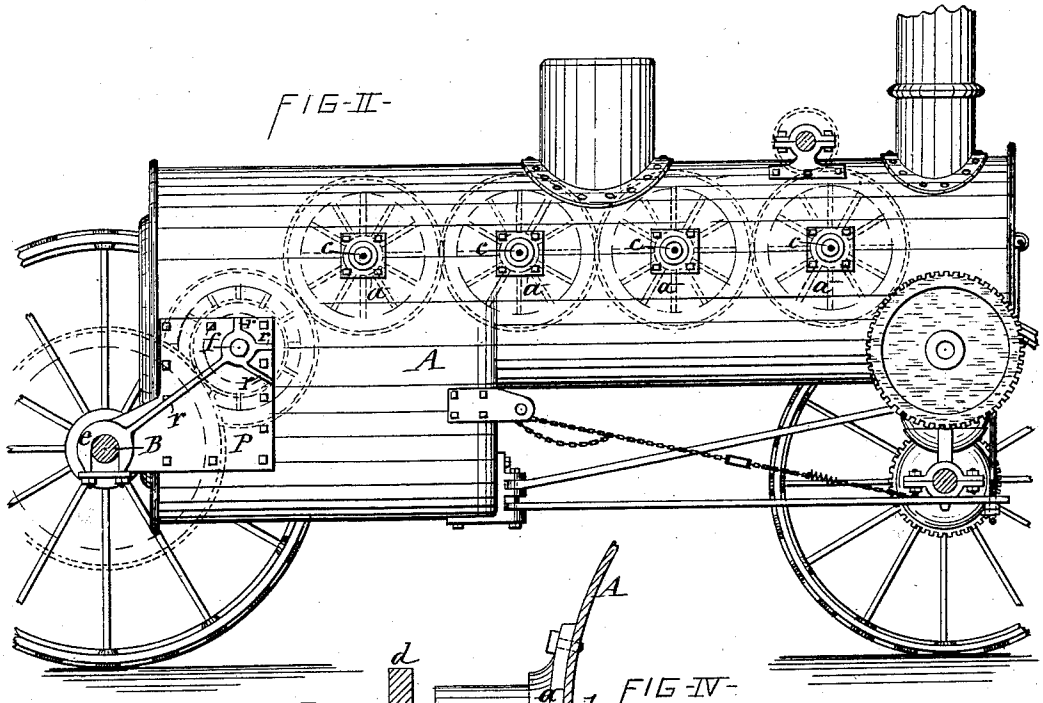
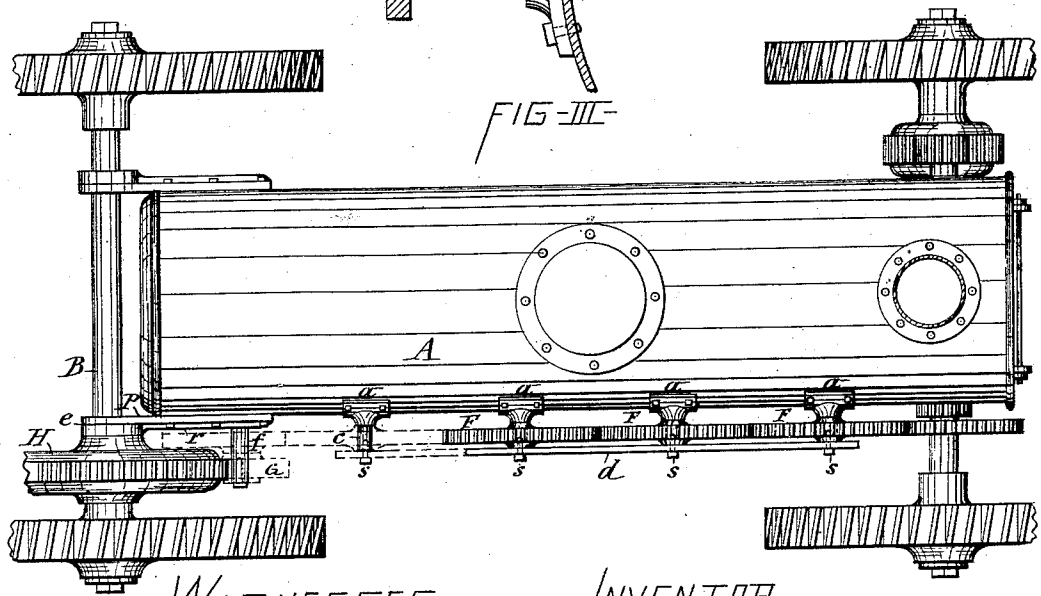


FIG-IV-

FIG-III-



WITNESSES

C. Bendixon

E. C. Cannon

INVENTOR

Loyal C. Taber

per Duell, Crosby & Hay

his Attys

UNITED STATES PATENT OFFICE.

LOYAL C. TABER, OF DANFORTH, ASSIGNOR TO WOOD, TABER & MORSE, OF EATON, NEW YORK.

TRACTION-ENGINE.

SPECIFICATION forming part of Letters Patent No. 341,702, dated May 11, 1886.

Application filed September 11, 1885. Serial No. 176,779. (No model.)

To all whom it may concern:

Be it known that I, LOYAL C. TABER, of Danforth, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Traction-Engines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the traction-engine for which I have obtained Letters Patent No. 294,930, dated March 11, 1884.

My present invention consists in improved devices for securing the journals of the train of gears on the boiler so as to thoroughly brace said journals and maintain the same in parallelism and at the requisite distances apart, all as hereinafter more fully described, and specifically pointed out in the claims.

In the annexed drawings, Figure I is an elevation of that side of the traction-engine to which my improvements are applied. Fig. II is a view of the same side of the engine with the train of gears removed and only indicated by dotted lines. Fig. III is a top plan view, and Fig. IV is an enlarged detail view of the axial support of one of the gears.

Similar letters of reference indicate corresponding parts.

A represents the boiler of the traction-engine.

C is the driving-shaft, mounted on pillow-blocks secured to the top of the boiler.

D is a pinion attached to the driving-shaft.

H represents the gear, mounted on the hind axle, B, of the traction-wheels; and F F F F F designate the train of gears, which, together with a pinion, G, cast in one piece with one of the gears F, and meshing in the gear H, transmit motion from the driving-shaft C to the axle B.

In traction-engines which have the boiler supported at its extremities on the axles of the traction-wheels, as shown, the central portion of the boiler carrying the weight of the engine and the train of gears is subjected to considerable strain, especially when traveling over a rough road, and inasmuch as the train of gears have to be pivoted to the side of the boiler A, and the pivots or journals of said gears are of the form of trunnions projecting horizontally from the boiler and unsupported at their outer ends, said journals are liable to become disarranged from their requisite position in relation to each other, and thus cause the gears F F to be thrown out of line and to bind on each other. To obviate such defects I employ stout cast-metal plates *a a*, which are each formed with a segmental back, *b*, by which they rest against the side of the boiler-shell, as shown in Fig. 4 of the drawings, said plates being provided with holes for the reception of bolts or rivets by which to fasten them on the boiler-shell. From the outer side of each plate *a* projects a trunnion, *c*, which is cast in one piece with the plate, and thus immovable thereon, and on the trunnions of the several plates are mounted the gears F F, which are retained thereon by a stout metal strap, *d*, extending across the free ends of the trunnions, and detachably secured thereto by set-screws *s s*, passing through the strap *d*, and engaging screw-threaded sockets tapped in the ends of the trunnions. The heads of the set-screw bearing on the outside of the strap *d* retains the same in position to bear on the outer ends of the hubs of the gears. The described strap extending across the entire series of trunnions *c c c c* serves to brace the said trunnions so as to maintain them in parallelism and at the requisite distances apart.

P represents a stout cast-metal plate provided with holes for the reception of bolts or rivets by which to secure it to the side of the rear portion of the boiler-shell. This plate has a rearward extension projecting beyond the rear end of the boiler, and is provided in said extension with the bearing *e* for the axle B, and from the forward portion of the said plate projects horizontally outward a trunnion, *f*, of sufficient length to receive the axial bearings of the gear F, with the pinion G on the side thereof. A washer on the outer end of the trunnion *f* and a set-screw passing through the washer and entering a screw-threaded socket in the end of the trunnion confines the gear F with its pinion G on the trunnion *f*.

The plate P, with the axle-bearing *e* and trunnion *f*, are all cast in one piece, and thus firmly united, and in order to securely brace said parts I cast the plate P with stays or ribs *r r*, one of which is extended from the axle-bearing *e* to the hub of the trunnion *f*,

and the other ribs radiate from said hub, as shown in Fig. 2 of the drawings.

The plate P, constructed as aforesaid, serves to securely maintain the axle-bearing *e* and trunnion *f* in their requisite position in relation to each other.

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

1. In combination with the boiler A, driving-shaft C, axle B, and the train of gears for transmitting motion from the driving-shaft to the axle, the plates *a a*, provided with the segmental back *b* and with bolt-holes, and each having the trunnion *c* cast in one piece therewith, bolts or rivets fastening the plates *a* on the boiler-shell, and the metal strap *d*, extending across the ends of the trunnions and detachably secured thereto, whereby the axes of the gears are braced and maintained in parallelism and at the requisite distances apart, substantially as set forth and shown.

2. In combination with the boiler A, axle B, and gear H, mounted on said axle, the plate P, provided with bolt-holes, and having the axle-bearing *e*, trunnion *f*, and the stays *r r*, all cast in one piece with said plate, bolts or rivets fastening said plate to the side of the boiler-shell, and the gear F and pinion G, mounted on the trunnion *f*, substantially as described and shown.

In testimony whereof I have hereunto signed my name and affixed my seal, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 25th day of August, 1885.

LOYAL C. TABER. [L. S.]

Witnesses:
C. BENDIXON,
C. H. DUELL.