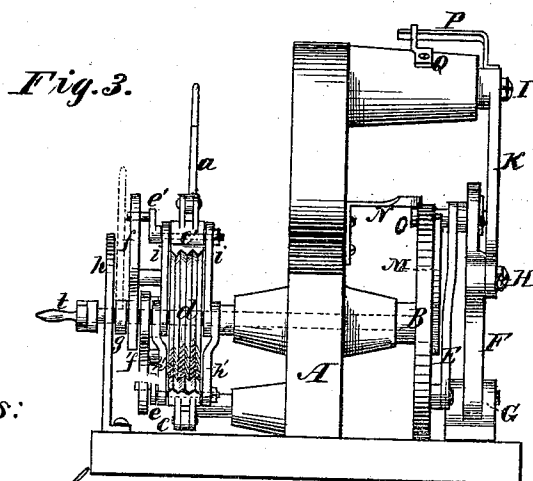
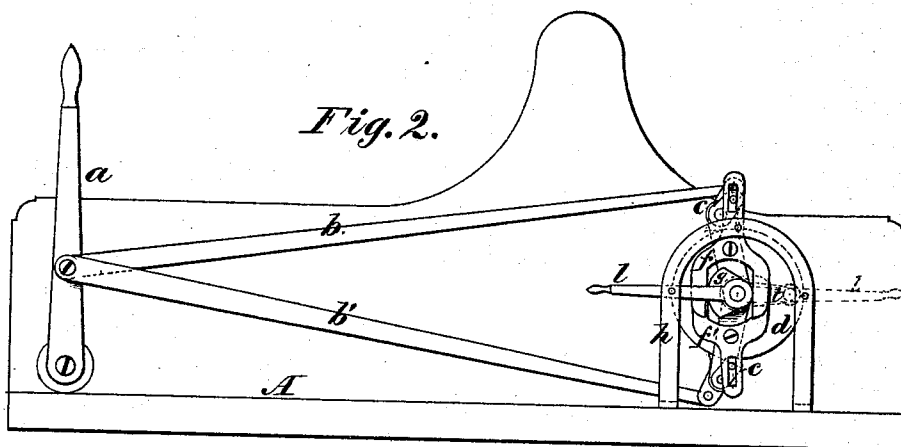
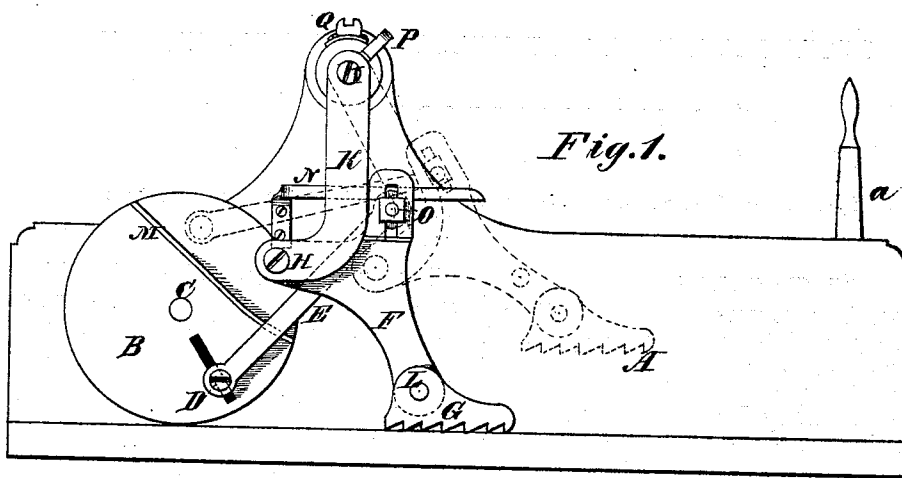


G. N. TIBBLES.

Improvement in Traction-Engines.

No. 129,437.

Patented July 16, 1872.



Witnesses:

Alf Wessernburg,
Edw. Neipenborn.

Inventor:

George N. Tibbles.

UNITED STATES PATENT OFFICE.

GEORGE N. TIBBLES, OF HUDSON CITY, NEW JERSEY.

IMPROVEMENT IN TRACTION-ENGINES.

Specification forming part of Letters Patent No. 129,437, dated July 16, 1872.

SPECIFICATION.

I, GEORGE N. TIBBLES, of Hudson City, Hudson county and State of New Jersey, have invented certain new and useful Improvements in Movements in Traction-Engine patented by said GEO. N. TIBBLES November 9, 1869, of which the following is a specification:

Nature and Object of the Invention.

My invention relates to the mode of adhesion to the surface of the road by means of the use of feet, combined with the wheel or axle; also, a friction-roller and clutch, hereinafter more fully described.

Description of the Accompanying Drawing.

Figure I is a side elevation of the pulling movements. Fig. II is a side elevation of the friction movements of the same. Fig. III is an elevation, showing a vertical section of both movements.

General Description.

A, Fig. I, is the support, to which the movements are attached and which serve as a substitute for a wagon. B is a wheel fastened on axle C. This wheel B has a crank-pin, D, which drives rod E and gives motion, lever F with its foot-piece G intended to rest on the ground. This lever F swings on pin H of the pendulum K, which pendulum has its fulcrum at I. If wheel B revolves the cam M receives pin L and raises foot G from the ground, and roller O, Fig. III, on stationary rod N. When roller O reaches the end of the rod N foot G drops to the ground, and by means of crank and shaft E pulls the wagon. To give a rotary motion to wheel B, lever A, Fig. II, has to be moved, and connecting rods *b* and *b* will

pull or push on dogs *c c*, Figs. II and III, which are swinging in arms *i i* and *h h*, which arms are movable on axle C. By this motion the dogs *c c* are forced against grooved roller *d* in such a manner as to prevent the dogs *c c* from slipping, and causes axle C to rotate in a continuous manner. To allow roller *d* to turn in both directions the position of the dogs *c c* are changed, which is effected by two projections or cranks, *e e*, Fig. III, and the forked pieces *f f*, by means of an eccentric attached to lever *l*. Arched stand *h'* is intended to hold lever *l* in its proper place.

Claims.

I claim—

1. The motion produced by the combination of devices described, whereby the feet are brought in contact with the surface of the road, propel the wagon, and are raised and moved into position.

2. The pin D, rod E, lever F, pendulum K, cam M, pin L, stationary rod N, roller O, and foot G, arranged and operating in the manner and for the purpose substantially as herein shown and described, in combination with the friction-roller *d* and clutches or dogs *c c* with reversing-lever *l*, and eccentric *g* and forked shafts *f f*, and arms *h h*, whereby the motion may be reversed or the devices thrown out of gear altogether.

3. The combination of devices which produces a double-acting reversible friction-clutch, as and for the purpose set forth.

GEORGE N. TIBBLES.

Witnesses:

EDW. WEISSENBORN,
ALBERT WEISSENBORN.