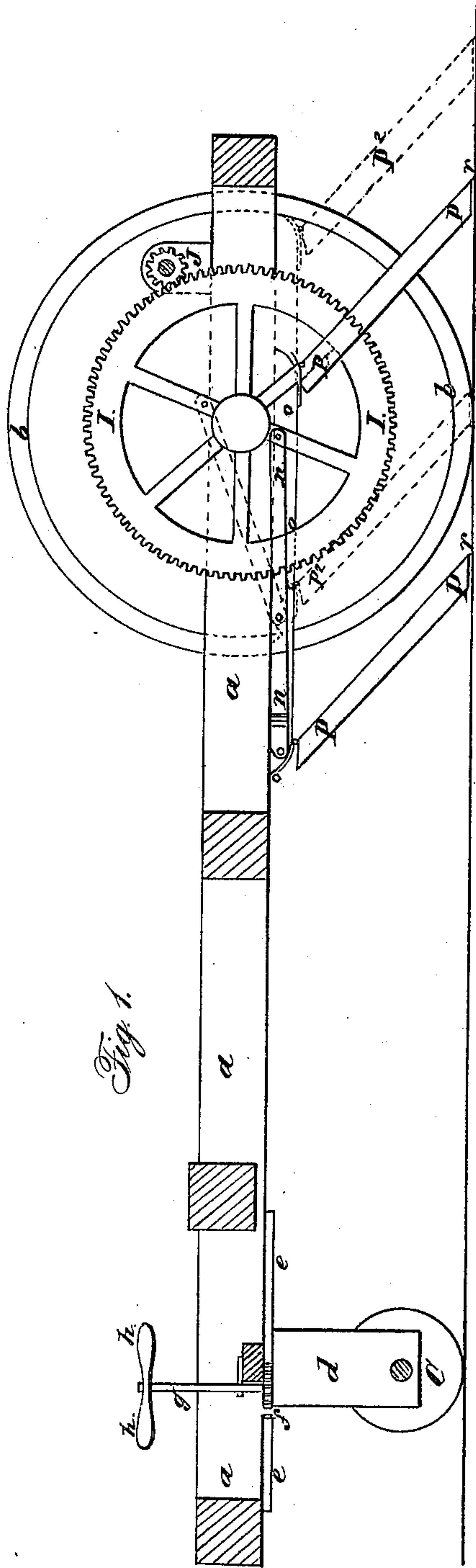
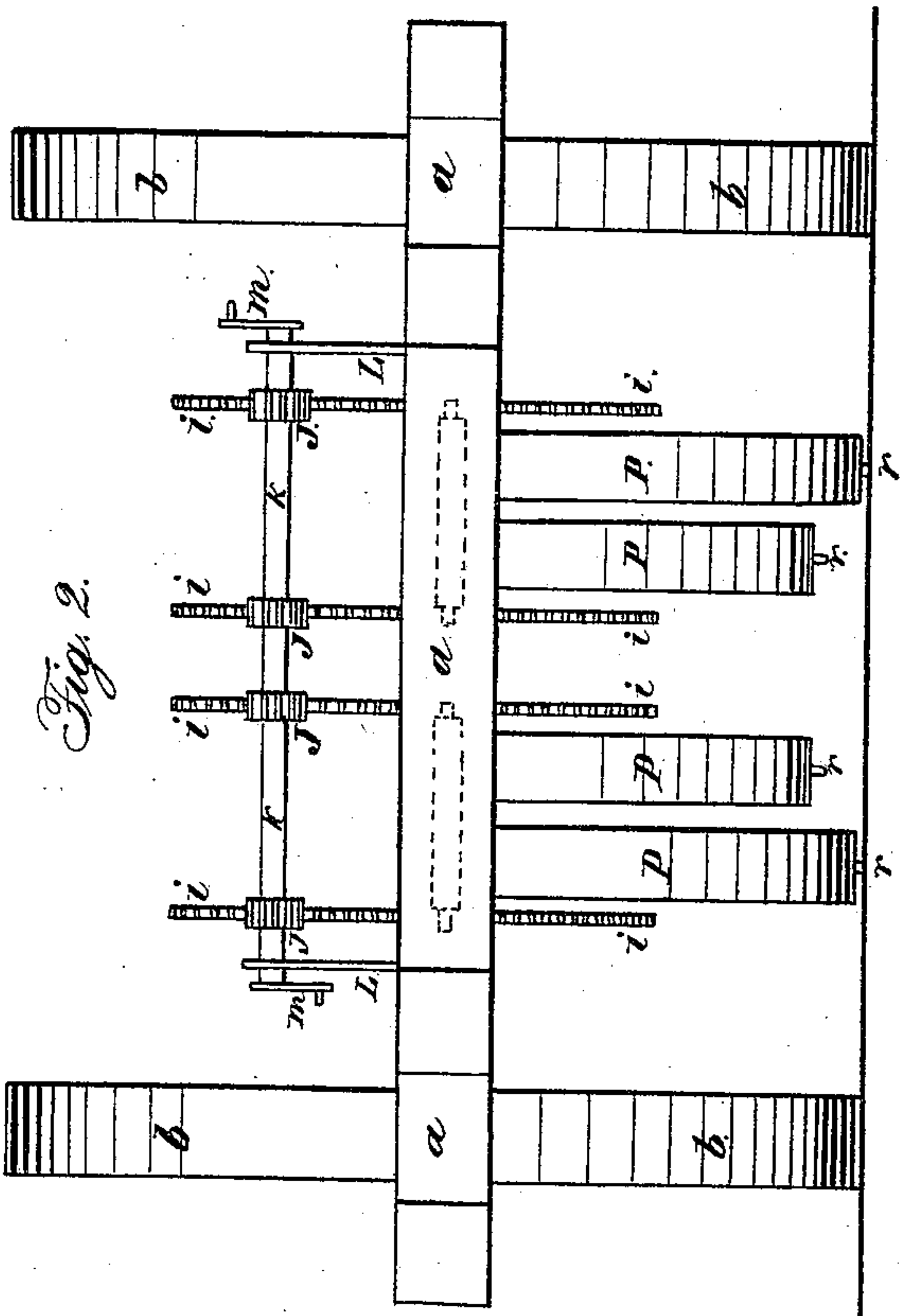


S. G. HOGGE  
Traction-Wheel.

No. 19,468.

Patented Feb. 23, 1858.





# UNITED STATES PATENT OFFICE.

SOLOMON G. HOGE, OF BELLEFONTAINE, OHIO, ASSIGNOR TO HIMSELF AND R. H. ST. JOHN,  
OF SAME PLACE, AND J. E. LEAS, OF DAYTON, OHIO.

## MANNER OF ATTACHING LEGS TO WALKING LOCOMOTIVES.

Specification of Letters Patent No. 19,468, dated February 23, 1858.

*To all whom it may concern:*

Be it known that I, SOLOMON G. HOGE, of Bellefontaine, in the county of Logan and State of Ohio, have invented, made, and  
5 used a certain new and useful machine for running on common roads, ascending inclined planes, and to assist in plowing ground, which machine I designate as the  
10 "Walking Locomotive or Preambulating Engine;" and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

15 Figure 1, is a longitudinal sectional side view. Fig. 2, is an end elevation.

The nature of my invention, consists in constructing a machine for the above purposes wherein I employ a suitable framing  
20 or superstructure *a a, a a*, supported on two transportation or carriage wheels *b b, b b*, each wheel independent of each other, having short separate axles of their own, working in suitable journal boxes; a small front  
25 guide, adjustable wheel *c*, is also used, having an upright shank part *d*, to which is attached a horizontally arranged gear wheel *e, e*. This wheel is arranged and sustained in the center of the frame at the front of the  
30 machine, and on the side works a small spur pinion wheel *f*, having a vertical shaft, *g*, with leverage handle *h*, Fig. 1. To the framing of the machine are attached four (or more) gear wheels of from 3 to 6 feet  
35 diameter, as at *I, I I I, I, I I I*. These wheels are arranged parallel to each other as in Fig. 2, and in couples or pairs, two each having one common axle as at the dotted lines Fig. 2. To each of these large gear  
40 wheels are suitable spur pinion wheels *J, J, J, J*, Fig. 2, attached to one common shaft *k, k* supported by suitable standards or bearings *L, L*, bolted on, or attached substantially to the rails of the framing. To  
45 each end of this shaft or axle *k, k* are crank arms *m, m*, not arranged alike or opposite to each other, but turned in opposite directions, as shown in Fig. 2. To the large gear  
50 wheels, are attached connecting, or driving rods as at *n, n*, Fig. 1, and the other ends of said rods connect to sliding bars, *o, o, o, o, o*, of which it is required there should be one to each large gear wheel. These sliding  
55 bars, *o, o, o, o, o*, are kept in place by suitable staples or equivalents, all of which are

arranged underneath the framing *a, a, a, a*, longitudinally being supported by the rails forming a part of the framing. To each end of these sliding bars, are hinged, pend-  
60 ently, what may be designated as legs, or walkers, *P, P, P, P, P, P, P, P*, their positions inclining backwardly at a suitable required angle, as in Fig. 1. The ends, of these legs, next the ground, are provided  
65 with spikes or tines *r, r, r, r*, Figs. 1, 2.

The whole of this machine is intended to be combined in operation with an engine and boiler, to be mounted and arranged on the  
70 framing *a, a, a, a, a*, or on a separate frame, and wheels if desired. Connecting rods reach from the engine to the crank arms  
75 *m m*, Fig. 2.

When the machine is set in motion, the power to propel it, is communicated to the small driving pinions or spur wheels *J, J, J, J*, which set in motion the large wheels  
80 *I, I, I, I*, which being attached to the rods *n, n*, and the ends of these rods being connected to the sliding bars *o, o, o, o, o*. Said bars thereby have a reciprocating motion  
85 horizontally, back and forth, and as the legs or walkers *P, P, P, P*, are hinged to the said sliding bars, these legs must consequently have a forward and backward motion, each pair of legs, alternating in po-  
90 sition, and as it were stepping off distances, the relative position of each pair of legs, being indicated by *P, P*, and *P<sup>2</sup>, P<sup>2</sup>*, Fig. 1.

It will be perceived, that the direct application of the motive power, is made to  
95 act on the legs, or walkers *P, P*, through the intervention of the crank arms *m, m*; transmitting motion to the pinions or spur wheels *J, J, J, J*, which working into the circumference or periphery of the large  
100 gear wheels multiply their power, and thus bring into requisition an immense leverage power which is exerted upon the legs or walkers, they being drawn forward, and  
105 then pushed backward, in which last, or reverse movement, the ends resting on the ground acquire a purchase backward at an angle, and thereby exert great pressure or  
110 resisting force against the ground, and thus it is, the whole machine is caused to advance forward, and transport itself on the carriage, or transportation wheels *b, b*. In backing; provision can be made by suitable devices for lifting up the legs or walkers, and by an operator controlling the front



guide wheel C, the whole machine can be readily managed.

From sundry experiments, it has been found that my machine, can actually be  
5 driven up hill readily, and as even a simple attachment, or auxiliary to trains of cars, its many advantages will be readily developed, in heavy grades, preventing any undue tendency of sliding, or retrograde  
10 motion. On common macadamized, or plank, or paved roads, and thoroughfares; my walking locomotive, or perambulating engine, can be used with great advantage; and in the operation of plowing in level  
15 or in prairie land, a succession, or gangs of plows, can be attached and dragged along with great expedition and certainty of operation.

Having fully described and shown the  
20 nature, construction and operation of my

machine and being fully aware that machines or land conveyances have been moved or actuated by leg-like or perambulating devices, such however as an original principle of invention I do not claim, but, 25

What I do claim as new and desire to secure by Letters Patent of the United States, is as follows, viz:

I claim the construction and arrangement of the sliding bars *o, o, o, o*, with pendent 30 hinged legs, or perambulating devices *P, P, P, P*, and the combination thereof, with the connecting rods *n, n*, and the wheels *I, I, I, J, J, J*, when operated substantially in the manner described and set forth. 35

SOLOMON G. HOGE. [L. s.]

This specification signed in presence of the following witnesses:

WM. MILLER,  
SOLOMON ADAMS.