

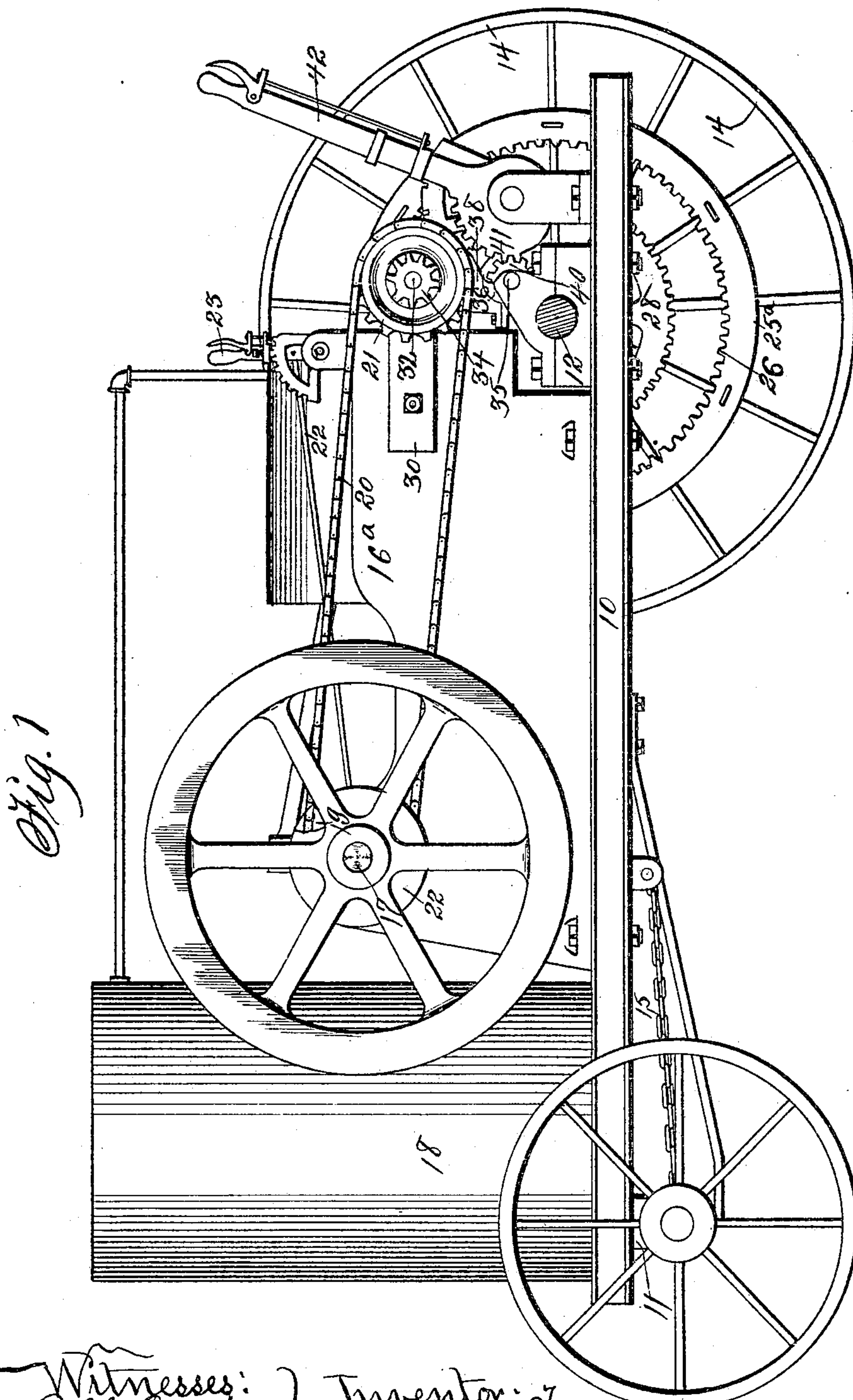
No. 808,230.

PATENTED DEC. 26, 1905.

F. N. BRINEY.
TRACTION ENGINE.

APPLICATION FILED JUNE 17, 1905.

3 SHEETS—SHEET 1.



Witnesses:
R. H. Orwig,
L. H. Leibrock

Inventor: Fred N. Briney,
By Thomas G. Orwig & Co. Attys.

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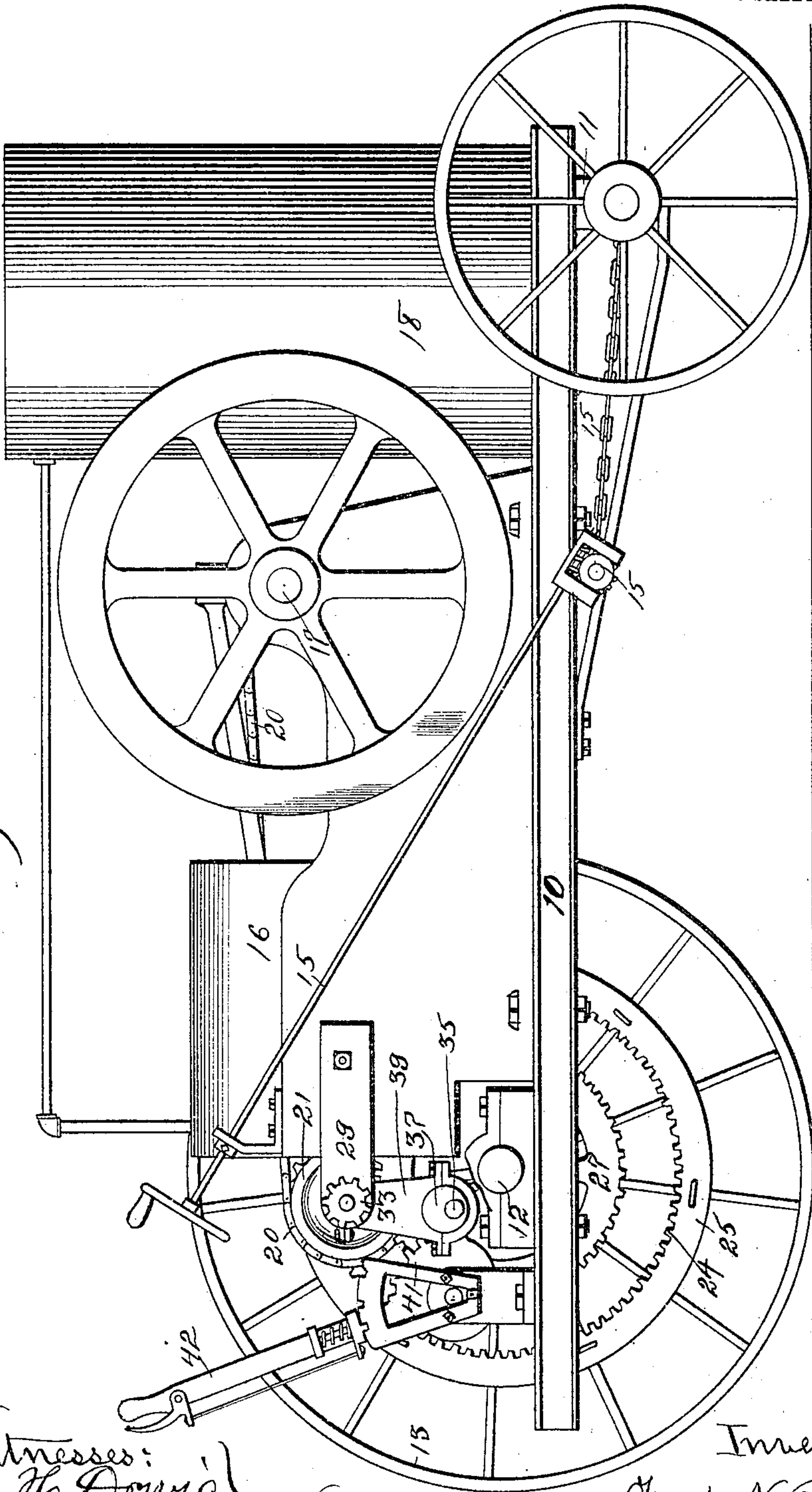
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3 SHEETS—SHEET 2.

Fig. 2



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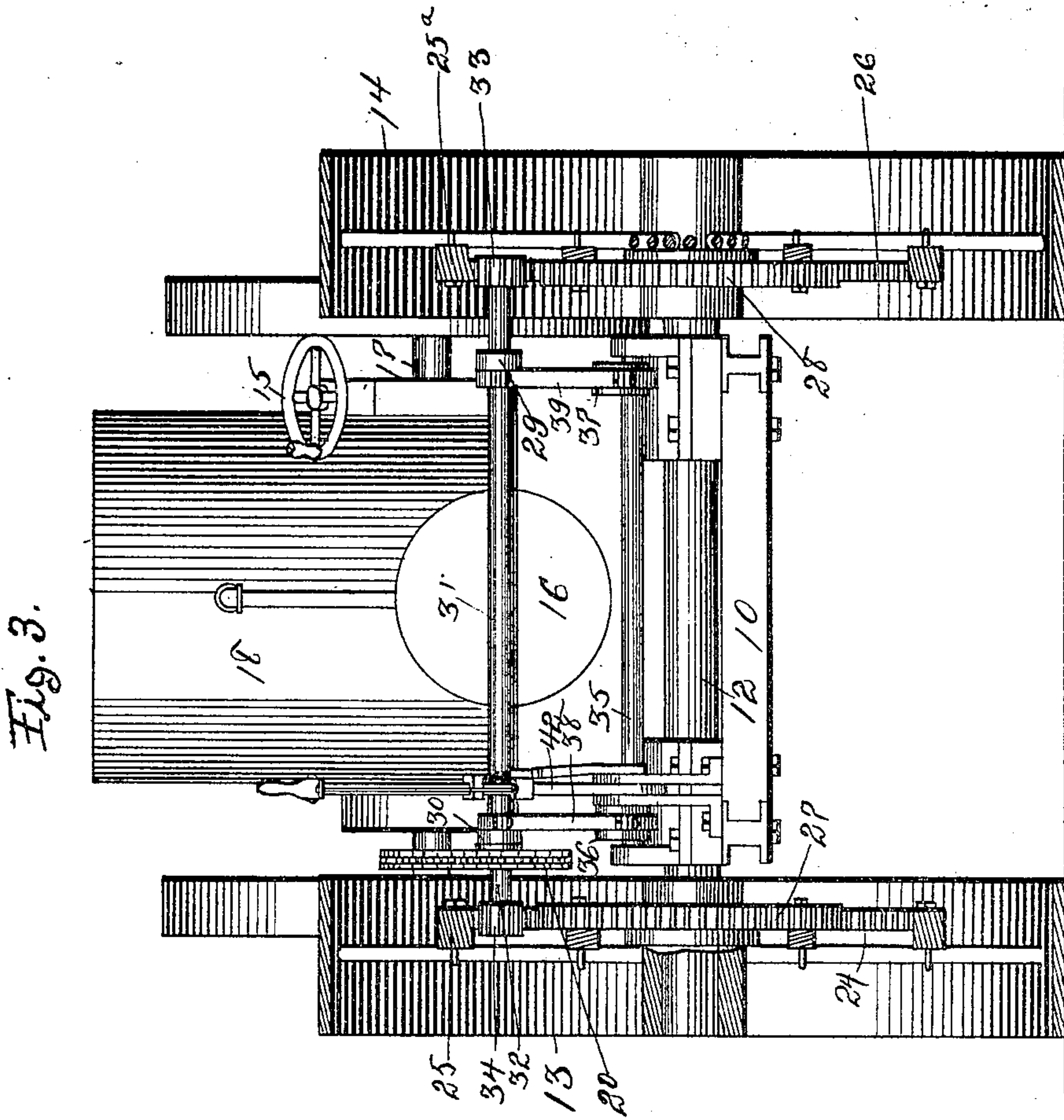
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

FRED N. BRINEY, OF LACEY, IOWA, ASSIGNOR TO BRINEY BROTHERS, OF LACEY, IOWA.

TRACTION-ENGINE.

No. 808,230.

Specification of Letters Patent.

Patented Dec. 26, 1905.

Application filed June 17, 1905. Serial No. 266,058.

To all whom it may concern:

Be it known that I, FRED N. BRINEY, a citizen of the United States of America, and a resident of Lacey, Mahaska county, Iowa, have invented a new and useful Traction-Engine, of which the following is a specification.

The object of this invention is to provide improved gear mechanism for traction-engines.

10 A further object of this invention is to provide improved means for reversing the gear of a traction-engine.

A further object of this invention is to provide means for reversing the application of 15 power of a motor, operating in one direction only, to a traction mechanism.

My invention consists in the construction, arrangement, and combination of elements hereinafter set forth, pointed out in my claims, 20 and illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of a traction-engine embodying my improvements, one of the traction-wheels being removed. Fig. 2 is 25 an elevation of the engine opposite to Fig. 1, the other of the traction-wheels being removed. Fig. 3 is a cross-section of the engine on the indicated line 3 3 of Fig. 2.

In the construction of the engine and improvements, as shown, the numeral 10 designates a bed-frame or platform supported at its forward end on a steering-truck 11 and at its rear end portion on a traction-axle 12, 30 mounted rigidly in traction-wheels 13 14 and adapted for rotation therewith. The steering-truck is provided with a steering mechanism 15, adapted for manual actuation and of conventional form. A motor 16, such as 35 a gasolene-engine adapted to operate a crank-shaft 17 in one direction only, is mounted on the bed-frame or platform 10, and said crank-shaft also is journaled on and arranged transversely of said platform. A supply-tank 18, 40 adapted to contain gasolene or other fluid with which the motor is operated, is mounted on the forward portion of the bed-frame or platform 10. A sprocket-wheel 19 is mounted loosely on the crank-shaft 17 and is connected by a chain 20 to a sprocket-wheel 21 on a reversing-shaft 32. Clutch mechanism 22, of 45 conventional form, is adapted to connect the crank-shaft 17 to the sprocket-wheel 22 and is

under manual control through the medium of a lever 23. An internal gear 24 is formed on a gear-ring 25, fixed to the traction-wheel 13, 55 and a gear-ring 25^a, formed with an internal gear 26, of the same pitch as the gear 24, is mounted on the traction-wheel 14 concentric with the axle 12. Gear-wheels 27 28 are mounted rigidly on the axle 12 within and 60 spaced apart from the internal gears 24 and 26. Bearing-arms 29 30 are pivoted at their forward ends on and extend rearwardly from opposite sides of the motor-bed 16^a, and a boxing 31 is mounted in and connects said arms. 65 A reversing-shaft 32 is mounted for rotation in the boxing 31, and pinions 33 34 are mounted rigidly on the end portions of said shaft and are adapted to mesh at times with the internal gears 24 and 26 or with the gears 70 27 and 28. A rock-shaft 35 is journaled on the bed-frame or platform 10, and eccentrics 36 37 on the end portions thereof are connected by eccentric-straps 38 39 to the boxing 31. A gear 40 is mounted rigidly on the 75 rock-shaft 35 and meshes with a toothed segment 41 on a reversing-lever 42, journaled on the platform 10.

In the practical operation of the machine the motor is started in a conventional manner 80 and drives the crank-shaft 17. The lever 23 is then operated manually to cause the clutch mechanism 22 to apply the motion of the crank-shaft 17 to the sprocket-wheel 19, from whence it is transmitted to the sprocket-wheel 85 21 on the reversing-shaft 32 and drives said shaft in the same direction as the crank-shaft. The reversing-lever 42 is set in its rearmost position, where it causes the toothed segment 41 thereon to engage and rotate the gear 40 and 90 rock-shaft 35 into such position that the eccentrics 36 37 on said rock-shaft lift the boxing 31 through the medium of the eccentric-straps 38 39. Such lifting of the boxing 31 raises the reversing-shaft 32, so that the gears 95 33 34 thereon engage the internal gears 24 and 26 and drive the gear-rings 25 25^a and traction-wheels forward. By shifting the reversing-lever 42 manually into its foremost position the toothed segment operates the 100 gear 40, rock-shaft 35, eccentrics 36 37, straps 38 39, boxing 31, and reversing-shaft 32 oppositely to disengage the gears or pinions 33 34 from the internal gears 24 and 26 and

cause said pinions to engage the gears 27 and 28 and reversely rotate the axle 12 and traction-wheels.

I claim as my invention—

5 1. In a traction-engine, a motor, an axle, traction-wheels rigidly mounted on said axle, a reversing-shaft mounted for lateral adjustment, gears on said shaft, connections between said shaft and the motor, internal gear-
10 rings on said traction-wheels, gears on said axle, a manually-operated rock-shaft, and eccentric connections between said rock-shaft and the reversing-shaft whereby the latter
15 may be moved toward or away from the internal gear-rings and the gears on the axle respectively.

2. In a traction-engine, a motor, an axle, traction-wheels rigidly mounted on said axle, a reversing-shaft mounted for lateral adjustment, gears on said shaft, connection between said shaft and the motor, internal gears on said traction-wheels, gears on said axle, a rock-shaft, a hand-lever mounted for oscillation and formed with teeth, a gear on the rock-shaft meshing with the teeth on the lever, 25
eccentrics on said rock-shaft, and straps connecting said eccentrics with the reversing-shaft.

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Witnesses:

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