

No. 752,684.

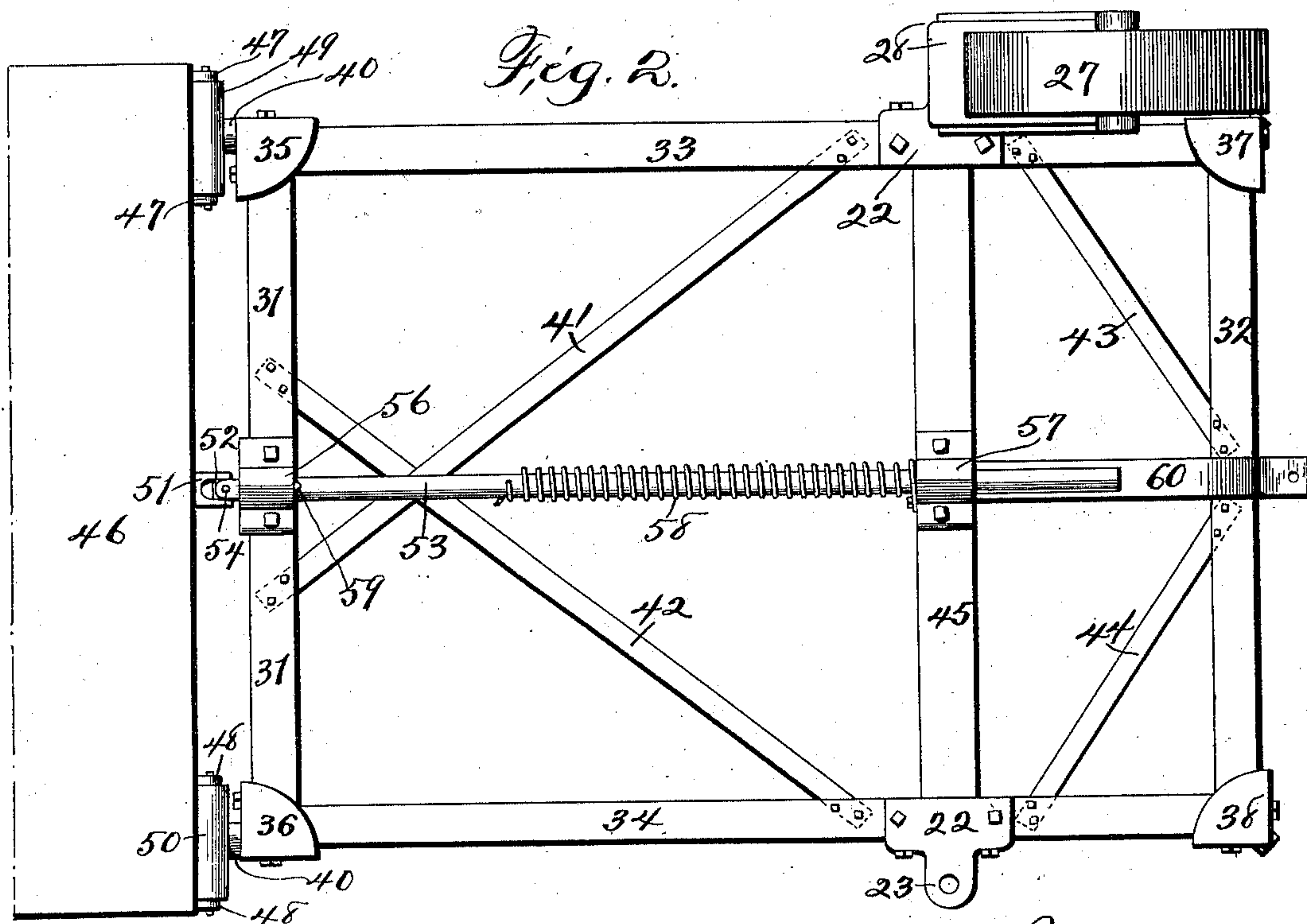
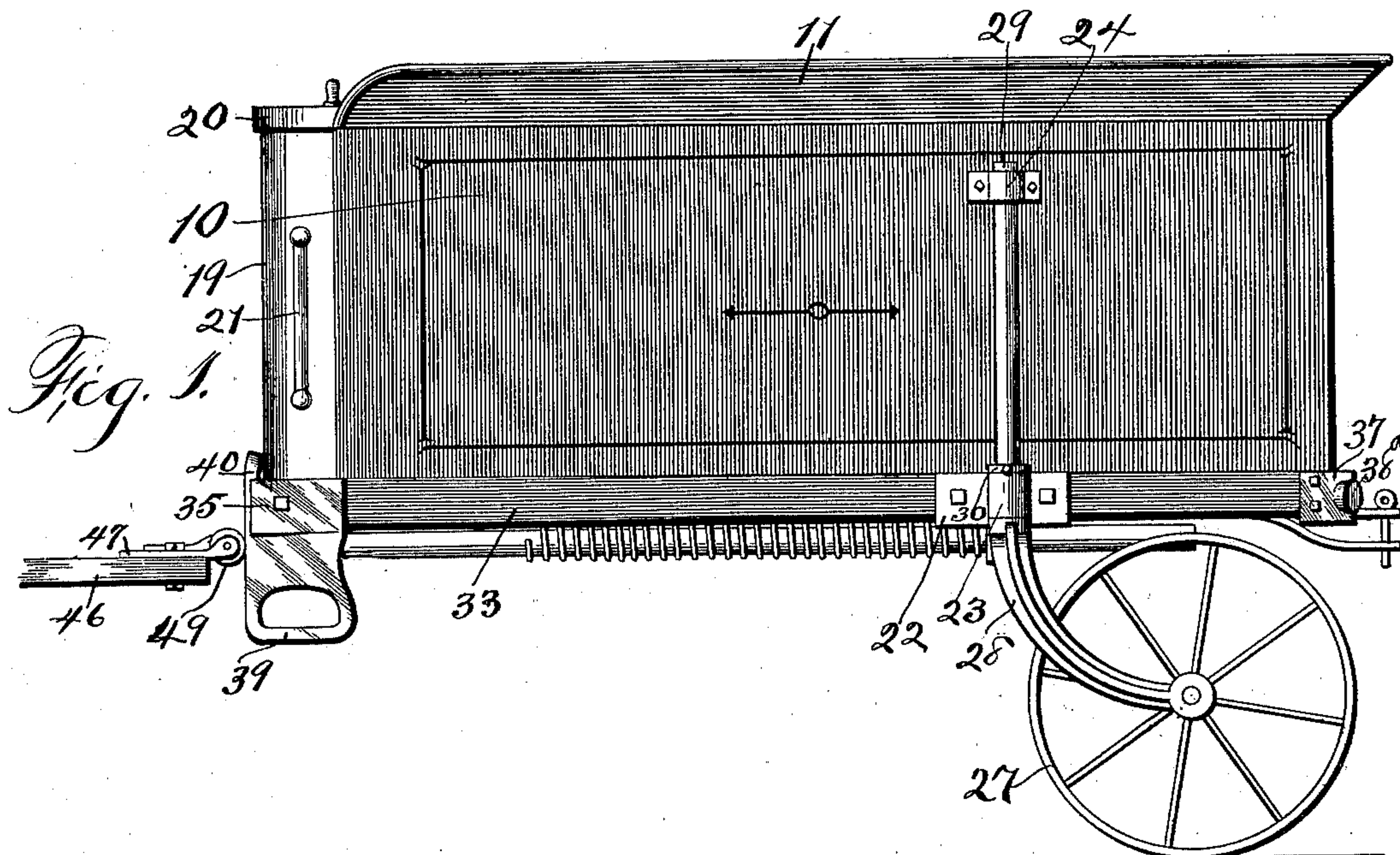
PATENTED FEB. 23, 1904.

W. S. KELLEY.  
TENDER FOR TRACTION ENGINES.

APPLICATION FILED MAR. 26, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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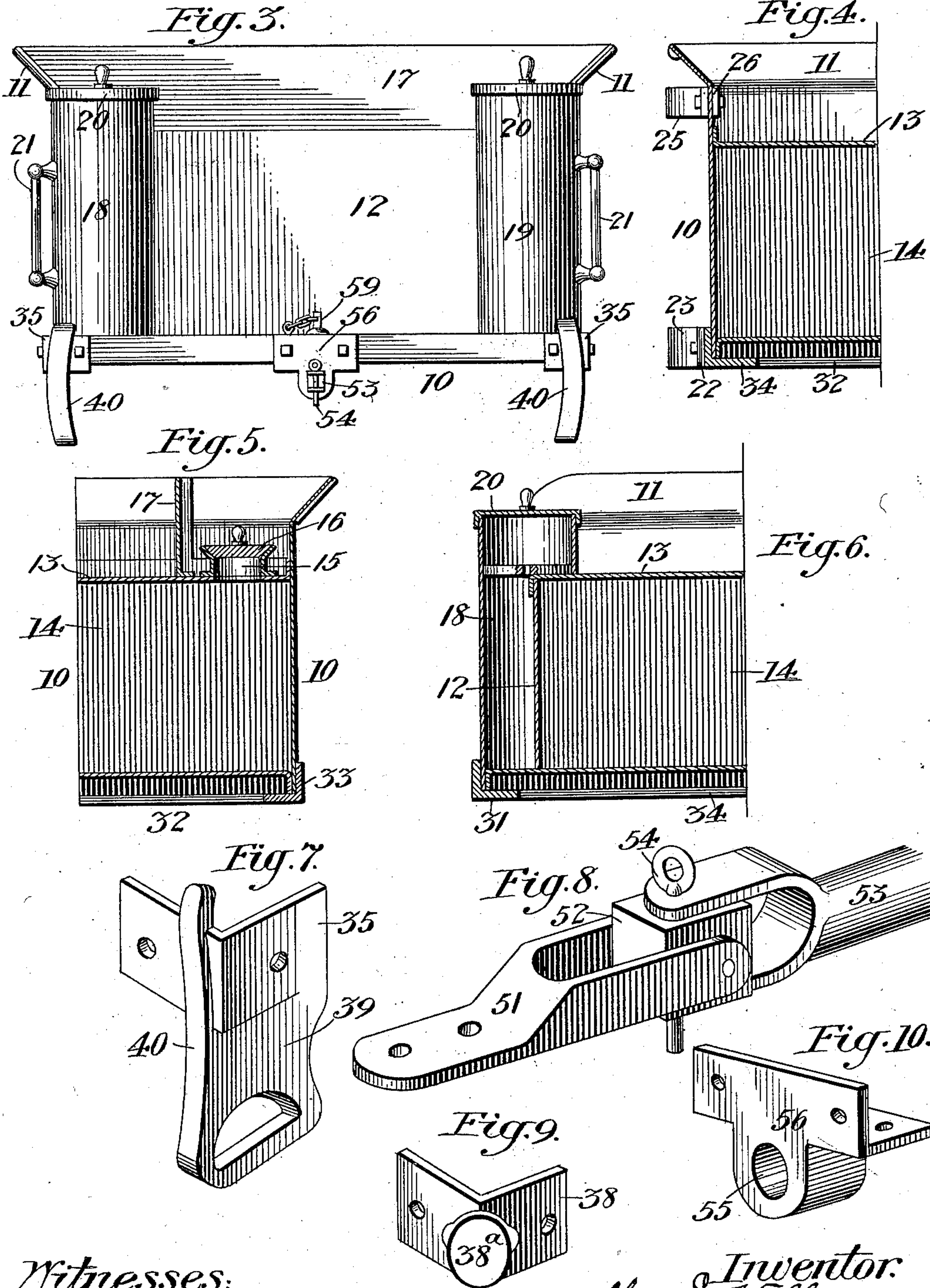
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

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## TENDER FOR TRACTION-ENGINES.

**SPECIFICATION** forming part of Letters Patent No. 752,684, dated February 23, 1904.

Application filed March 26, 1903. Serial No. 149,758. (No model.)

*To all whom it may concern:*

Be it known that I, WILBUR S. KELLEY, a citizen of the United States of America, and a resident of Newton, Jasper county, Iowa, have invented a new and useful Tender for Traction-Engines, of which the following is a specification.

The object of this invention is to provide a tender for traction-engines arranged for travel in line with the engine and susceptible of convenient handling, as in turning curves and corners, either in forward or backing travel.

A further object of this invention is to be found in the provision of means for flexibly connecting the draft-bar to the hauled machine practically independent of the tender, whereby the load being hauled may be turned as to its direction of travel with a minimum of resistance and with a minimum of side draft on the tender and traction-engine.

A further object of this invention is to provide improved means for permitting rocking or lateral oscillation of the traction-engine and tender independent of each other.

A further object of this invention is to be found in the provision of caster-wheels journaled on and supporting the tender-body.

A further object of this invention is to be found in the provision of a draw-bar carried by the tender-body and normally fixed thereto and yielding pressure connections between said draw-bar and the tender-body, whereby when the draw-bar is unlocked the tender-body may yield longitudinally of the draw-bar and shift the point of application of the engine-draft to facilitate turning the direction of travel of the load being hauled.

A further object of this invention is to be found in the provision of flaring extensions on the upper margins of the sides and rear end of the tender-body.

A further object of this invention is to be found in the provision of corner-brackets at the lower forward corners of the tender, which brackets combine the functions of corner-stays, buffer-plates, and steps.

A further object of this invention is to be found in the provision of a tender-body containing a water-tank, a fuel-receptacle, oil-receptacles, and a container for tools and the like.

A further object of this invention is to be found in the provision of means for steering the tender of a traction-engine without the use of chains or other connections with the steering mechanism of the engine.

A further object of this invention is to be found in the provision of means for connecting a traction-engine to a tender and hauled load, whereby the tender may swing freely toward either side while turning curves and avoid sluing of the engine from its course on soft or slippery ground.

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

Figure 1 is a side elevation of a complete tender and a portion of the platform of a traction-engine. Fig. 2 is an inverted plan view of the parts shown in Fig. 1, except that one of the caster-wheels is removed. Fig. 3 is a front end elevation of the tender detached from the traction-engine. Figs. 4, 5, and 6 are vertical sections of the tender-body, illustrating the construction of various parts thereof. Fig. 7 is a perspective of one of the corner-brackets removed from the tender-body. Fig. 8 is a perspective illustrating the construction of the draft connections between the tender and the traction-engine platform. Fig. 9 is a perspective of one of the rear corner-brackets of the tender. Fig. 10 is a perspective of a combined bracket and slide bearing to support the forward end portion of the draft-bar detached from the tender.

In the construction of the devices as shown the numeral 10 designates generally the tender-body formed of sheet-metal sides and rear end fixed to and rising from a floor, flaring extensions 11 being fixed to and rising and extending outward from the upper margins of said sides and rear end. Generally speaking, the front of the tender is open; but a vertical partition 12 is mounted transversely of the forward portion of the tender-body and a horizontal partition 13 connects the upper margin of the vertical partition to the rear end of the tender-body and forms part of the inclosing means for a water-tank compartment 14. An



ingress-port 15 is provided in the rear portion of the horizontal partition 13 (or top of the water-tank compartment) and is normally closed by a plug 16, through which port the compartment 14 may be supplied with water for use in the traction-engine. A vertical partition 17 is mounted across the rear portion of the tender-body a little in advance of the port 15 and serves to limit rearward movement of fuel carried on the horizontal partition 13 and between the sides of the tender-body and the flaring extensions. Tanks 18 19, normally closed by caps 20, are located at the forward corners of the tender-body and being of generally cylindrical form are positioned vertically and provided with handles 21 21 on their outer forward portions. The tanks 18 19 extend nearly to the tops of the flaring extensions of the tender-body and provide a finish for the sides of the tender-body in front of the water-tank compartment. The tanks 18 and 19 may be employed respectively for different kinds of oil, and small tools and oil-cans may be carried therein and supported on the inwardly-projecting portions of the horizontal partition 13. Side brackets 22 22 are provided and formed as angle-irons fixed to the side margins of the floor of the tender-body and to the lower marginal portions of the sides of the body intermediate of the ends of the tender. Ears 23 are formed on and project horizontally outward from the side brackets 22 and 22, and said ears are vertically apertured. Journal-bearings 24 25 are mounted on the upper portions of the sides of the tender-body in vertical alinement with the apertures of the side-bracket ears 23, and stay-bars 26 are mounted on the inner faces of the sides of the tender-body and are bolted thereto conjunctively with the journal-bearings. Caster-wheels 27 are provided and are journaled for revolution in yokes 28, and the yokes in turn are provided with stems 29, which stems are journaled for rotation in the apertures of the ears 23 of the side brackets and in the journal-bearings 24 25 above them. Collars 30 are mounted on the stems 29 of the yokes above the ears 23 and act with the upper portions of the yokes in retaining the stems in the bearings. It will be noted that the caster-wheels may turn inward or outward and may turn under the tender-body without contact therewith, thus permitting the tender to be backed or turned in either direction on a short curve.

It will be observed that the tender-body is mounted on and fixed to frame-bars 31 32 33 34, the front bar being connected to the front ends of the side bars by corner-brackets 35 36 and the rear bar being connected to the rear ends of the side bars by a pair of corner-brackets 37 38. The corner-brackets 37 38 are identical in construction and their bottom plates are shown in Fig. 2 as overlapping the lower faces of frame-bars to which they are

riveted, and the side plates thereof at right angles to each other overlap the corners of the tender-body and are bolted, riveted, or otherwise fixed thereto. Ornamental and strengthening bosses 38<sup>a</sup> are fixed to or formed on the angles of the corner-brackets 37 38, Fig. 9. The corner-brackets 35 36 are of similar construction, and each comprises bottom plates overlapping the ends of frame-bars and riveted thereto, Fig. 2, and side plates at right angles to each other and to the bottom plate and bolted or otherwise fixed to the tank-floor and vertical portions of frame-bars. Each of the corner-brackets 35 36 is formed with a depending loop 39, serving as a step, and the forward edge or margin of each step and a rib 40, extending vertically therefrom across the bracket, forms and constitutes a buffer-plate or rubbing-plate for a purpose hereinafter made plain. The frame-bars are stayed and the tender-body made more rigid by the employment of braces 41 42 43 44 and a cross bar or beam 45 fixed thereto, the braces arranged diagonally of the frame-bars.

The tender is employed in connection with a traction-engine having a platform 46, and brackets 47 48 are fixed to and overlap the rear margin of said platform. The brackets 47 48 are forked in their rear portions, and relatively long rollers 49 50 are journaled therein for revolution on horizontal axes in contact with the buffer-plates or rubbing-plates 40 of the corner-brackets 35 36. A coupler member 51, Fig. 8, is fixed to and overlaps the rear margin of the platform 46 and is forked in its rear end portion. A pivot-block 52 is mounted for oscillation in the fork of the coupler member 51, and a draft-rod 53 or draw-bar, forked at its forward end, embraces said pivot-block in its fork and is pivotally and detachably connected thereto by a coupling-pin 54. The draw-bar 53 extends through a bearing-aperture 55 in a block 56, fixed to the central portion of the forward frame-bar 31, and is at times free to slide longitudinally therein and at all times may oscillate therein. The rear end portion of the draw-bar 53 extends through a journal-bearing 57 on the central portion of the cross bar or beam 45. A retractile coil-spring 58 is fixed at one end to the bearing 57 and, coiled on the central portion of the draw-bar, has its other end fixed to the forward portion of the draw-bar. A pin 59 is mounted through a slot in the forward portion of the floor of the tender and also extends through a hole transversely of the draw-bar and limits and determines longitudinal reciprocation of said draw-bar. The pin 59 is flexibly connected to the floor of the tender-body. The pin 59 may be removed and establish the function of the spring draw-bar to allow the tender to swing freely to either side while turning curves when a load is being hauled by attachment to a trailing draw-bar 60 at the rear of the tender-body and not per-



mit the engine to slue or be turned from its course in soft or slippery ground and still to swing the tender in line with or directly behind the engine when not hauling a load.

5 It will be observed that the construction above described avoids the use of steering-chains or other connections between the tender and the steering wheels or mechanism of the traction-engine.

10 I do not wish to be understood as limiting myself to the details of construction and combination of elements herein shown and described, as other and various forms of mechanism may be employed without departing  
15 from the scope of my production.

I claim as my invention—

1. A tender for traction-engines, comprising the body, the draw-bar mounted longitudinally thereof, detachable connections consisting of a removable pin between said draw-bar and the tender-body, and yielding pressure connections consisting of a retractile coil-spring on the draw-bar between said tender-body and the draw-bar, whereby the tender  
25 may yield laterally and longitudinally under strain of a load being hauled.

2. A tender for traction-engines, comprising the body, the draw-bar mounted longitudinally thereof, detachable connections between said draw-bar and the tender-body, whereby the draw-bar may be locked to the body, and auxiliary yielding pressure connections between said draw-bar and body, whereby when said draw-bar is unlocked the tender  
35 may yield laterally and longitudinally under strain of a load being hauled.

3. A tender for traction-engines, comprising the body, the corner-brackets and buffer-plates thereon, the engine-platform, the rollers thereon engaging said buffer-plates, the  
40 caster-wheels journaled on and supporting said body, and the flexible connections between the body and said platform intermediate of the buffer-plates.

45 4. A tender for traction-engines, comprising the body, the engine-platform, the rubbing connections between said tender body and platform, consisting of rollers on the platform and buffer-plates on the tender-body engaging  
50 said rollers, and the flexible yieldingly-mounted connections between said body and platform intermediate of the rubbing connections.

5. A tender for traction-engines, compris-

ing the body, the engine-platform, the rubbing connections between said body and platform, 55 consisting of rollers arranged for rotation on horizontal axes on the engine-platform and vertical buffer-plates on the tender in contact therewith, the flexible, yielding pressure draft connections between said body and platform, 60 and the caster-wheels journaled on and supporting said body.

6. A tender for traction-engines, comprising the body, caster-wheels supporting said body, the coupling-bar fixed to and extending 65 rearward from said body, the draw-bar mounted for rectilinear reciprocation on and beneath the central portion of said body and spring-held in one direction, and corner-brackets on the forward corners of said body and 70 formed with vertical buffer-plates, in combination with an engine-platform, a coupling on said platform detachably connected to said draw-bar, and rollers on said platform engaging said vertical buffer-plates. 75

7. In a tender for traction-engines, the angle-bars connected at their ends to form a rectangular frame, the corner-brackets on said frame, two of said corner-brackets formed with steps and vertical buffer-plates, the tender-body carried by said frame, the bearings 80 on said tender-body and the bearings on said frame in alinement therewith, the caster-wheels journaled in said bearings, means for attaching said frame to draft mechanism and 85 means for attaching said frame to an object to be drawn.

8. In a tender for traction-engines, the combination of the tender-body and frame therefor, the draw-bar extending longitudinally of 90 said frame, a pin removably and replaceably connecting said draw-bar and frame, the coil-spring on said draw-bar and connected at its ends respectively to the draw-bar and said frame, the engine-platform, the coupling device 95 thereon, the coupling-block pivoted in said coupling device and embraced by said draw-bar and the pin removably and replaceably connecting said draw-bar and coupling-block. 100

Signed by me at Des Moines, Iowa, this 16th day of March, 1903.

WILBUR S. KELLEY.

Witnesses:

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