No. 611,635. Patented Oct. 4, 1898.

W. S. KELLEY.

TRACTION ENGINE TENDER.

(Application filed Jan. 26, 1898.)

(No Model.) 2 Sheets—Sheet 1.

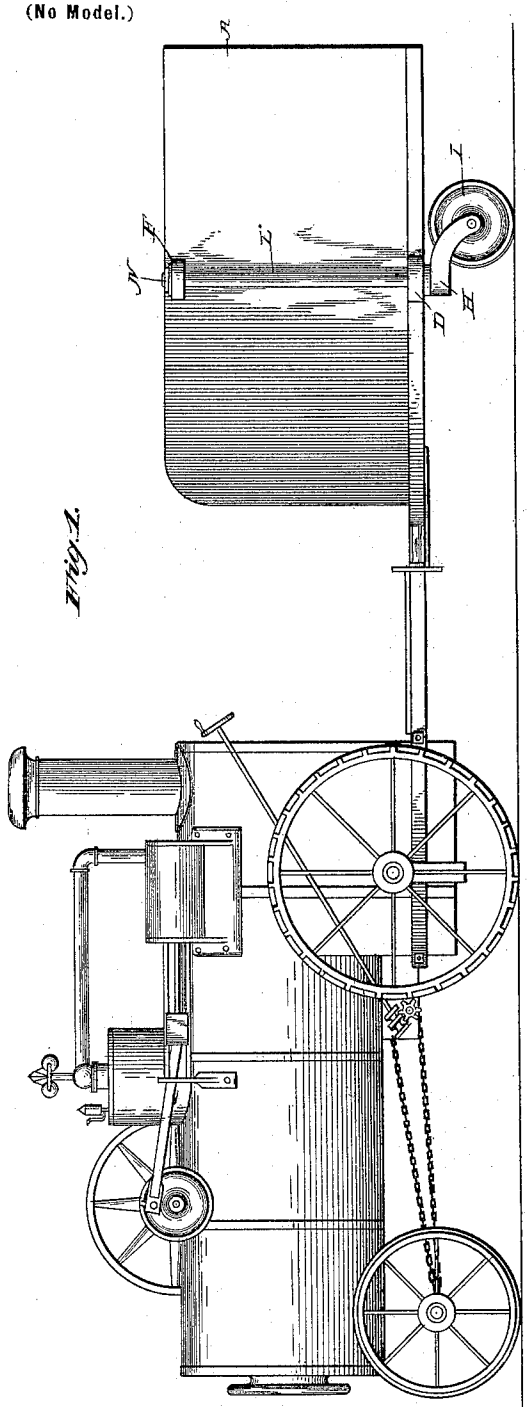


Fig. 1.

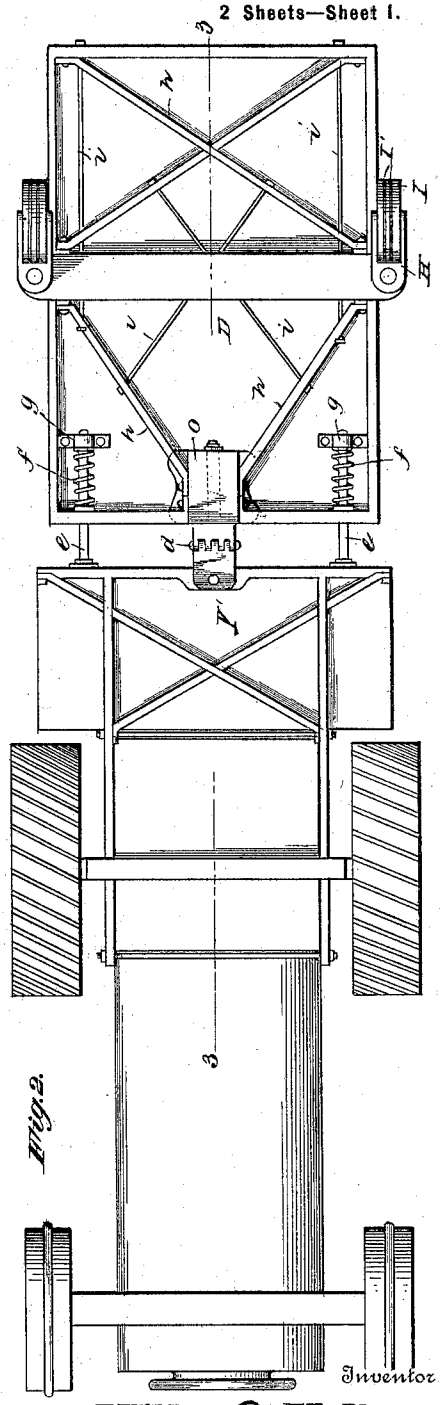


Fig. 2.

Witnesses
W. F. Doyle
Chas. E. Brock

Inventor
Wilbur S. Kelley
by Dewey & Co
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 611,635. Patented Oct. 4, 1898.

W. S. KELLEY.

TRACTION ENGINE TENDER.

(Application filed Jan. 26, 1898.)

(No Model.) 2 Sheets—Sheet 2.

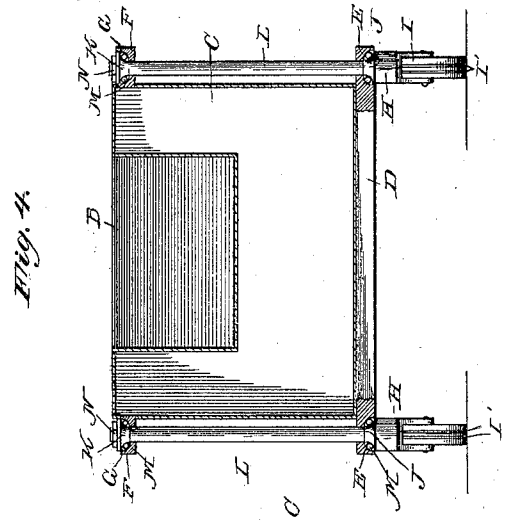


Fig. 4.

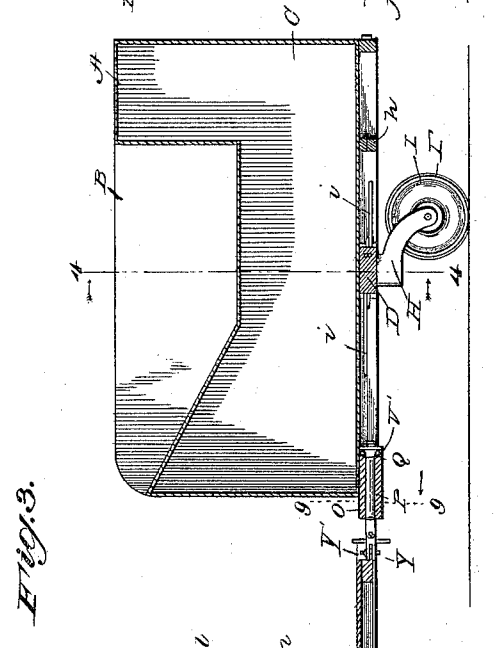


Fig. 3.

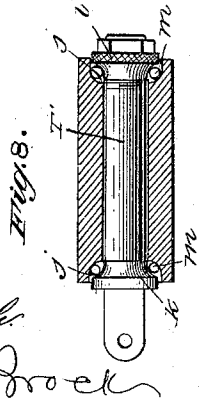


Fig. 8.

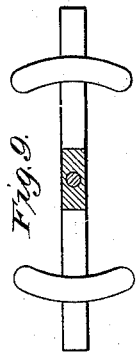


Fig. 9.

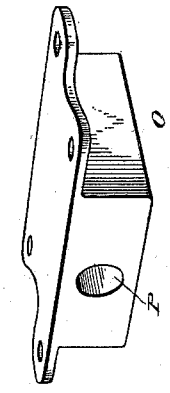


Fig. 7.

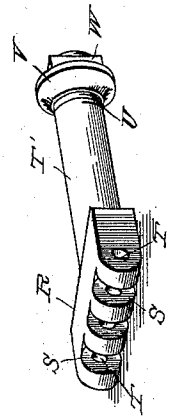


Fig. 6.

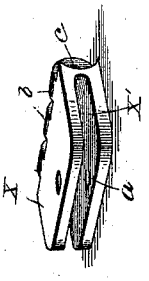


Fig. 5.

Witnesses
Wm. F. Doyle.
Chas. E. Brock

Inventor,
Wilbur S. Kelley,
by Dewey & Co
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILBUR S. KELLEY, OF AYR, NEBRASKA.

TRACTION-ENGINE TENDER.

SPECIFICATION forming part of Letters Patent No. 611,635, dated October 4, 1898.

Application filed January 26, 1898. Serial No. 668,091. (No model.)

To all whom it may concern:

Be it known that I, WILBUR S. KELLEY, residing at Ayr, in the county of Adams and State of Nebraska, have invented a new and useful Traction-Engine Tender, of which the following is a specification.

This invention relates to improvements in traction-engine tenders; and the object thereof is to provide an easy-running tender which is simple and light in construction.

A further object is to provide an improved coupling for attaching the tender to the engine which will permit a vertical movement of said tender or of either side thereof independent of the engine, as well as a lateral movement, so that said tender can travel over ditches, furrows, and ridges and can also be turned in either direction.

With the above objects in view the invention consists of the body having a reservoir for the storage of water and a receptacle for the fuel and ball-bearing casters supporting said body adjacent to its center.

The invention also consists in a coupling comprising two members pivoted together to swing vertically, one of said members pivoted to the engine to move laterally and the other member having a rotatable connection with the tender and provided with ball-bearings whereby an easy movement of the tender thereon is effected.

The invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the claims.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, having reference to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a traction-engine with my improved tender attached thereto. Fig. 2 is a bottom plan view of the same. Fig. 3 is a vertical longitudinal sectional view on the line 3 3 of Fig. 2. Fig. 4 is a vertical transverse sectional view on the line 4 4 of Fig. 3. Fig. 5 is a perspective view of one of the coupler members. Fig. 6 is a similar view of the other member of the coupler. Fig. 7 is also a perspective view illustrating the box or bearing of the coupler member illustrated in Fig. 6. Fig. 8 is a sectional view taken through the bearing, showing the coupler member in position therein, said view illustrating a modified construction. Fig. 9 is a detail view showing the bumpers on the edge of the engine-platform.

Referring to the accompanying drawings, A indicates the body of the tender, having the fuel-receptacle B formed at the top thereof and surrounded at its bottom, sides, and rear by the water reservoir or receptacle C, which is closed at its upper end to prevent the passage of dirt, &c., into the water contained therein.

Extending transversely across the bottom of the body, at the center thereof, is the plate or bar D, having its ends projecting beyond the sides of said body and formed in the under surface thereof with the cups E.

Secured to the respective sides of the body adjacent the upper edge thereof and in line with the projecting ends of plate D are the brackets F, having the cups G formed in the upper surface thereof.

H are the brackets in which the casters I are mounted, said brackets having the cones J formed integral with the upper edge thereof, the brackets being keyed to the vertical shafts L, which are mounted in the projecting ends of plate D, and the brackets F, the cones J, engaging the cups E, and the adjustable cones K upon the upper screw-threaded ends of the shafts fitting in the cups G, antifriction-balls M being arranged in said bearings. The adjustable cones are secured in position by the lock-nuts N. The casters have the two parallel annular flanges or ridges I′ to prevent the slipping thereof, as will be understood. Thus it will be seen that the tender is nicely balanced upon the casters and that it can be turned laterally upon said casters in either direction, the turning thereof being very easy through the medium of the ball-bearings.

Secured to the bottom of the tender on the under side thereof and adjacent its forward end is the box O, formed with a central bore P, having the cup Q formed at the rear end thereof.

One of the coupler members consists of the

head R, slotted vertically at its forward edge to form the recesses S, the walls of which are provided with the alined perforations T. Said member also consists of the stem T′, which extends rearwardly from the central bore of the head and is screw-threaded at its rear end, as illustrated at U. Said stem extends through the central bore or passage P of the box and receives the adjustable cone V on its screw-threaded end, antifriction-balls V′ being arranged in the cup Q to be engaged by said cone. The cone is held in its adjusted position by the nut W. The other member of the coupler consists of the plate X, which is slotted horizontally, as illustrated at X′, to embrace the plate Y, extending from the platform of the engine, and to which member X is pivoted by a pivotal pin Y′, which passes through the perforations *a* of said member. Projecting from the outer edge of said plate X are the ears *b*, which are adapted to extend within the slots S of head R and are provided with alined perforations *c*, which register with the perforations T of said head to receive the coupling-pin *d*.

Thus it will be seen that the tender is permitted a lateral movement through the medium of the pivotal connection of plate X with the platform of the engine and also permitted an upward movement through the medium of the pivotal connection of the two members of the coupler, and should one of the casters of the tender encounter a ridge or obstruction said tender will raise, an easy movement thereof being permitted through the medium of the rotatable ball-bearing connection between the stem T′ and the box.

Bumpers *e* are carried by the forward end of the tender and are movable thereon, the same being held normally pressed outwardly and engaging the engine-platform through the medium of the coiled springs *f*, said bumpers being movable in brackets *g*, secured to the bottom of the tender.

The frame of the tender is braced by the bars *h* and the rods *i*, as illustrated, so that the same is rendered very strong and durable.

In the modification illustrated in Fig. 8 the box is provided with a cup *j* at each end and the stem T′ of the coupling member formed with a fixed cone *k* to engage one of the cups and with the adjustable cone *l* for the opposite cup, antifriction-balls *m* being arranged in the cups, thus providing the stem with ball-bearings at each end.

From the above description it will be seen that I have provided a tender which is simple and light in construction and which is permitted a lateral movement in each direction, as well as a vertical movement independent of the engine, and also permitted an upward movement of each side of the tender when an obstruction or inequality of the ground is encountered by either of the supporting-wheels.

While I have illustrated and described the best means now known to me for carrying out my invention, I do not wish to be understood as restricting myself to the exact details of construction shown and described, but hold that any slight changes or variations such as might suggest themselves to the ordinary mechanic will properly fall within the limit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a tender for traction-engines, the combination of the body, vertical shafts mounted on each side thereof, caster-brackets and casters carried by the lower ends of said shafts, and ball-bearings for the upper and lower ends of said shafts, substantially as set forth.

2. In a tender for traction-engines, the combination of the body, brackets carried thereby on each side and adjacent the upper and lower ends thereof, the upper brackets having cups formed in their upper surfaces and the lower brackets having cups formed in their lower surfaces, vertical shafts mounted in said brackets, caster-brackets and casters carried by the lower ends of said shafts, cones carried by the shafts at their lower ends and adapted to engage the cups of the lower brackets, adjustable cones on the upper ends of the shafts and engaging the cups of the upper brackets, and antifriction-balls arranged in said cups and engaged by the cone, substantially as set forth.

3. The combination with a traction-engine and tender, of a coupling comprising two members pivoted together vertically, one of said members being rotatably secured to the tender and the other member pivoted to the engine to swing laterally, substantially as set forth.

4. The combination with a traction-engine and tender, of a coupler comprising two members pivoted together vertically, one of said members being pivoted to the engine to swing laterally, and the other member rotatably mounted upon the tender, and ball-bearings for said rotatable member, substantially as set forth.

5. In a traction-engine and tender, the combination of a box carried by the tender having a cup formed therein, a coupler composed of two members pivoted together vertically, one of said members pivoted to the engine and adapted to swing laterally, and the other member provided with a stem which engages the box, an adjustable cone arranged on said stem and engaging the cup of the box, and antifriction-balls arranged in said cup, substantially as set forth.

6. The combination with a traction-engine and tender, of a coupling therefor comprising two members, one of said members comprising a stem which is rotatably mounted upon the tender and formed at one end with a head provided with a plurality of vertical slots, the other member comprising a plate which is pivoted to the engine and having a plurality of ears projecting therefrom which are adapt-

ed to extend in the vertical slots of the head of the other member, and a pivotal pin extending through the head and ears and pivotally connecting the two members, substantially as set forth.

7. The combination with a traction-engine and tender, of a coupling therefor comprising two members, one of said members consisting of a bifurcated plate which is adapted to be pivoted to the engine to swing laterally, and provided with a plurality of ears projecting therefrom, the other member having a stem which is rotatably mounted upon the tender and provided with ball-bearings, said stem carrying a head, which is provided with a plurality of vertical slots to receive the ears of the other member, and a pivotal pin extending through said head and ears and pivoting the two members together, substantially as set forth.

WILBUR S. KELLEY.

Witnesses:
EDGAR R. HOLMES,
PETER UERLING.