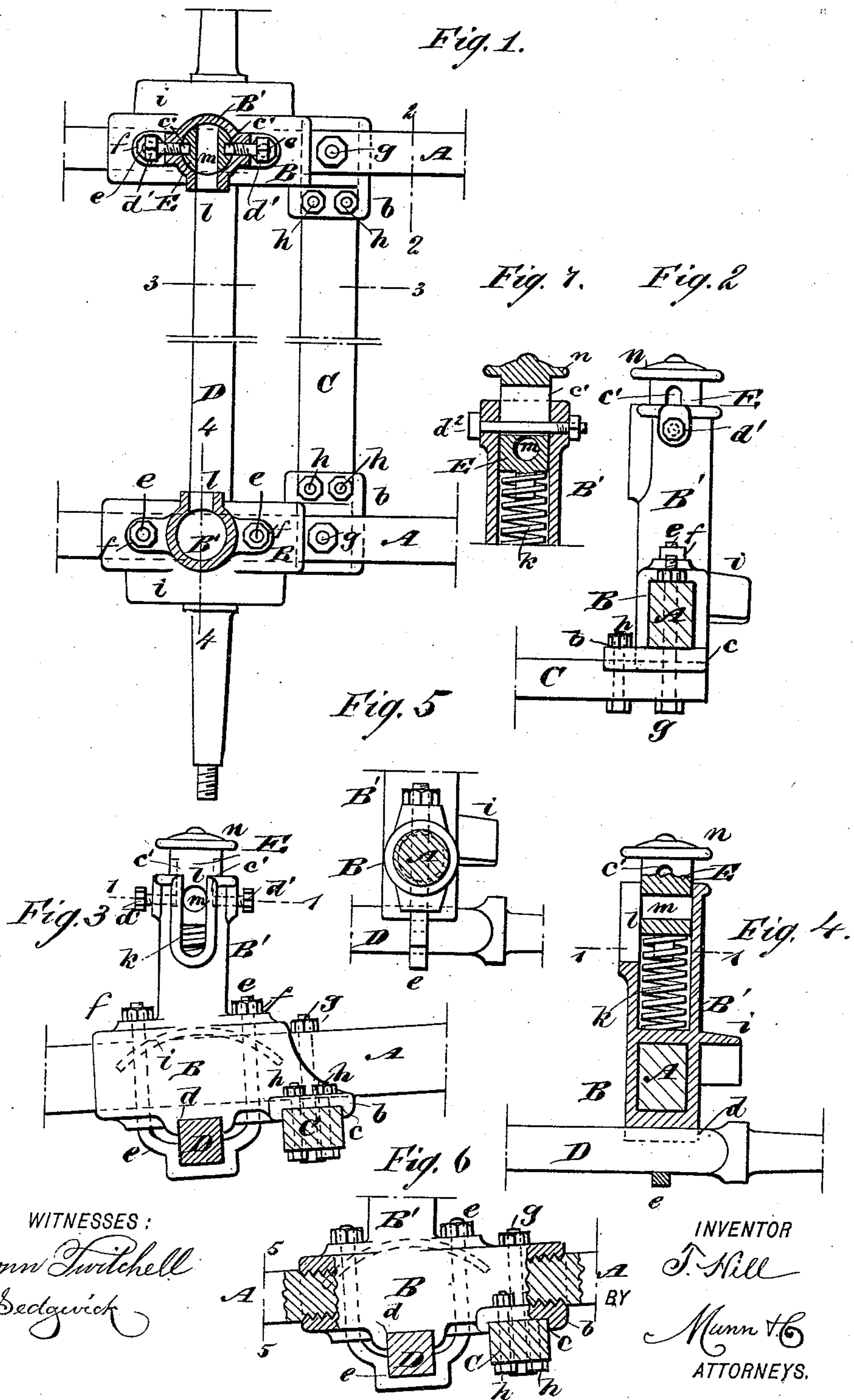


(No Model.)

T. HILL.  
WHEEL VEHICLE.

No. 490,562.

Patented Jan. 24, 1893.





# UNITED STATES PATENT OFFICE.

THOMAS HILL, OF JERSEY CITY, NEW JERSEY.

## WHEEL-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 490,562, dated January 24, 1893.

Application filed April 9, 1892. Serial No. 428,526. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS HILL, of Jersey City, in the county of Hudson and State of New Jersey, have invented new and useful  
5 Improvements in Wheel-Vehicles, of which the following is a full, clear, and exact description.

This invention relates to that portion of the running gear of wheel vehicles of different  
10 kinds which includes the main frame, the shafts or booms, axle supports, and pedestals used to carry or support the body of the vehicle. Although not so restricted, the invention will be found specially applicable to  
15 dumping carts or wagons.

The main objects of the invention are to combine lightness, durability and strength, also easy or light running of the vehicle free from rattle or shake, and to these and other  
20 ends the invention consists in certain novel constructions, arrangements and combinations of elements to be hereinafter fully described and specifically pointed out in the claims.

25 Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a sectional plan view,  
30 in part, of my improvement, the section being taken upon the lines 1—1 in Figs. 3 and 4; Fig. 2 is a sectional elevation in part, upon the line 2—2 in Fig. 1; Fig. 3 is a side elevation, in part; Fig. 4 a vertical section upon  
35 the line 4—4 in Fig. 1; Fig. 5 is a sectional elevation in part, on the line 5—5 in Fig. 6, showing a modified construction of certain portions; Fig. 6 a sectional side view of the same on the line 3—3 in Fig. 1; and Fig. 7 is  
40 a vertically central section, showing a modified construction of the pedestal portion of the invention.

Referring in the first instance or more particularly to the first four figures of the drawings, A A indicate the side pieces of the main  
45 frame, which may be extended in front to also form the booms or shafts of the vehicle. Each of said side pieces A, A, is entered longitudinally within and through a close fitting  
50 body part B of a T-shaped casting B, B', which virtually forms a part of the main

frame. The body part B is here shown mainly of square form in transverse section to hug the sides, top and bottom of either side piece A, of like square or rectangular shape, and it  
55 is constructed on its underside at its one end, extended for the purpose, with a bracket like projection b, cast in one piece with said body part but preferably of greater width than the latter, and having a recess c on its under face  
60 to receive within it the one end portion of a cross-bar or brace C, which connects the two side frame pieces A, A, or rather the body parts B of the two castings B B' on them. Each body part B of said castings has also a  
65 recess d on its under face to receive within it, directly beneath the portion B' of the T-shaped casting, the upper portion of the ends of the body of the axle D of the vehicle; double or suitable U-shaped bolts e sup-  
70 porting the bottom and lower parts of the sides of the axle and holding the axle within the recesses d. These bolts e are extended upward through the body parts B of the castings and through the side frame pieces  
75 A, and are fitted with nuts f, to hold the T-shaped castings firmly to the said frame pieces, in addition to supporting, after the manner of a clip or strap, the axle C beneath. Thus each bolt e performs a double function,  
80 rendering fewer bolts necessary, and as the projections or brackets b are integral with the T-shaped castings, said bolts also serve to aid in holding them. The castings B B' are further held to their place and the brace C  
85 secured to the brackets b, by a bolt g arranged to pass up through the brace, through the body part B of the casting and through the side piece A of the frame. Further bolts h h are passed up through the brace C and each  
90 bracket b. Upon the exterior side of each casting B, B' is a mud shield i.

The upper part B' of each casting B, B', being integral with the body part B, requires  
95 no separate bolts or fastenings to secure it. This part B' is made to form a hollow laterally slotted pedestal, provided internally with a spring k to support the body of the vehicle by a wrist pin or trunnion, on each side of  
100 the body, arranged to pass through the vertical slot l in the inner side of each pedestal so as to be supported by the springs within the



pedestals as in previous constructions. But these pedestals differ from previous constructions in several important respects. Thus each pedestal has its vertical side slot *l* open above, and each wrist pin or trunnion of the vehicle body works within an aperture *m* in an upright box or bushing *E* forming a bearing for the trunnion. Furthermore, this box or bushing *E* is integral with a cap or cover *n*, to the open-topped pedestal, thereby making the one casting serve both as the trunnion bearing and pedestal cover. The box, bushing or bearing *E* is fitted to enter freely down within the pedestal and has vertical slots *c' c'* in opposite sides of it within which setscrews *d' d'* applied to the pedestal pass, to hold said bearing or box from working out of the pedestal, yet permitting of its easy play up and down under the effect of the load and the bearing spring *k*. This construction of the pedestal and its cap or cover *n* and box or bearing *E* not only simplifies construction, but, on slackening the set screws *d' d'* so as to disengage them from the slots *c' c'*, the body of the vehicle may be readily lifted from the pedestals and the box or bearing *E* and bearing springs *k* be conveniently detached for repair or otherwise. In Fig. 7 of the drawings, I show the capped pedestal box *E* as having only a single slot *c'*, which is made to pass entirely through it and instead of the set screws *d'*, I pass a bolt *d<sup>2</sup>*, having a nut on its one end, through the pedestal and through the slot *c'*. This construction equalizes pressure and prevents lateral tilting of the pedestal capped box in any direction, also prevents expansion of the open-topped portion of the pedestal under heavy weight, shock or pressure. Such pedestals and boxes or bearings not only give an easy rising and falling elastic support to the vehicle body, and in case of the vehicle being a dumping cart, provide for the tipping or tilting of the body endwise, but the springs in the pedestals also serve to give an elastic support to the vehicle axle *D*. Such construction too, not only dispenses with a separate bolting of the pedestals to the main frame, thus besides saving labor, doing away with all liability of their working loose, but the pedestals are made to carry the axle and this in a most secure manner.

Another and valuable feature of the invention is that the pedestal portions *B'* are set inclining relatively to the body parts *B* of the castings *B, B'*, or in other words, the longitudinal axis of each body part *B* inclines upward in a forward direction while the vertical axis of each pedestal occupies an upright position and forms a slightly acute angle to the longitudinal axis of the body part *B* on its front side, so that when the booms or shafts of the vehicle are raised out of a horizontal position, as they usually are when draft is applied to the vehicle, the pedestals will still remain upright and thus secure an easy rising and falling motion, free from side friction or

binding, to the bearings or boxes *E* and their springs and consequently give a more free elastic support to the vehicle body and its axle.

In Figs. 5 and 6 of the drawings, substantially the same construction is shown as in the previous figures, excepting that the body part *B* of either casting *B, B'*, is made of circular form in transverse section at its ends and screw threaded internally to receive within it the screw threaded ends of a transversely divided or sectionally constructed round side frame piece *A*, the sections composing which may either be solid or tubular.

As before observed, the invention is not only applicable to dumping carts or wagons, but to various kinds of wheel or draft vehicles, such as carriages or different vehicles for carrying persons or merchandise, the respective bodies and axles of which may be similarly supported.

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

1. In a draft wheel vehicle, the spring carrying pedestals which support the body of the vehicle constructed to form integral portions of the main frame, and provided on the under side of the castings of which the pedestals form a part, with recesses adapted to receive the vehicle axle within them, in combination with *U* or clip-shaped bolts adapted to brace and support the sides and body of the axle, whereby the pedestals are made to carry the axle, substantially as described.

2. In a draft wheel vehicle, the tubular *T*-shaped portions *B B'* of the main frame constructed to receive the side pieces of the vehicle frame within or through them, and to form upper tubular pedestals integral with the main frame, and provided with recesses on their under side adapted to receive the upper side of the vehicle axle within them, essentially as described.

3. In a draft wheel vehicle, the tubular *T*-shaped portions *B, B'* of the main frame constructed to receive the shaft or side pieces of the vehicle frame within or through them, and to form upper tubular pedestals, and provided with recesses on their underside adapted to receive the vehicle axle within them, and with brace-carrying brackets integral with the bodies of said *T*-shaped portions, substantially as specified.

4. In a draft wheel vehicle, the combination, with the side pieces *A A* of the main frame, of the tubular *T*-shaped pedestal portions *B B'*, recessed on their under side to receive the vehicle axle within them, and provided with brace-carrying brackets *b* integral therewith, and the *U*-shaped bolts *e* constructed to support the lower part of the vehicle axle and arranged to pass through the body parts of the *T*-shaped portions and side frame-pieces therein, essentially as described.

5. The combination of the vehicle axle *D*,



the sidershafts or frame pieces A, A, the tubular T-shaped pedestal castings B B' having brace-carrying brackets b, the U-shaped or clip-like axle supporting bolts e, the brace C, and the bolts g h, substantially as specified.

5 6. The combination, with the open topped pedestal having a vertical slot in its inner side, opening upward through the pedestal, of a cap or cover to the pedestal constructed to also  
10 form a box or bearing integral with the cap

and free to move up and down within the pedestal, substantially as set forth.

7. The combination, with the capped pedestal box and pedestal, of the longitudinal bolt d<sup>2</sup>, passing entirely through both pedestal and  
15 said box, as and for the purposes described.

THOMAS HILL.

Witnesses:

C. SEDGWICK,  
E. M. CLARK.