

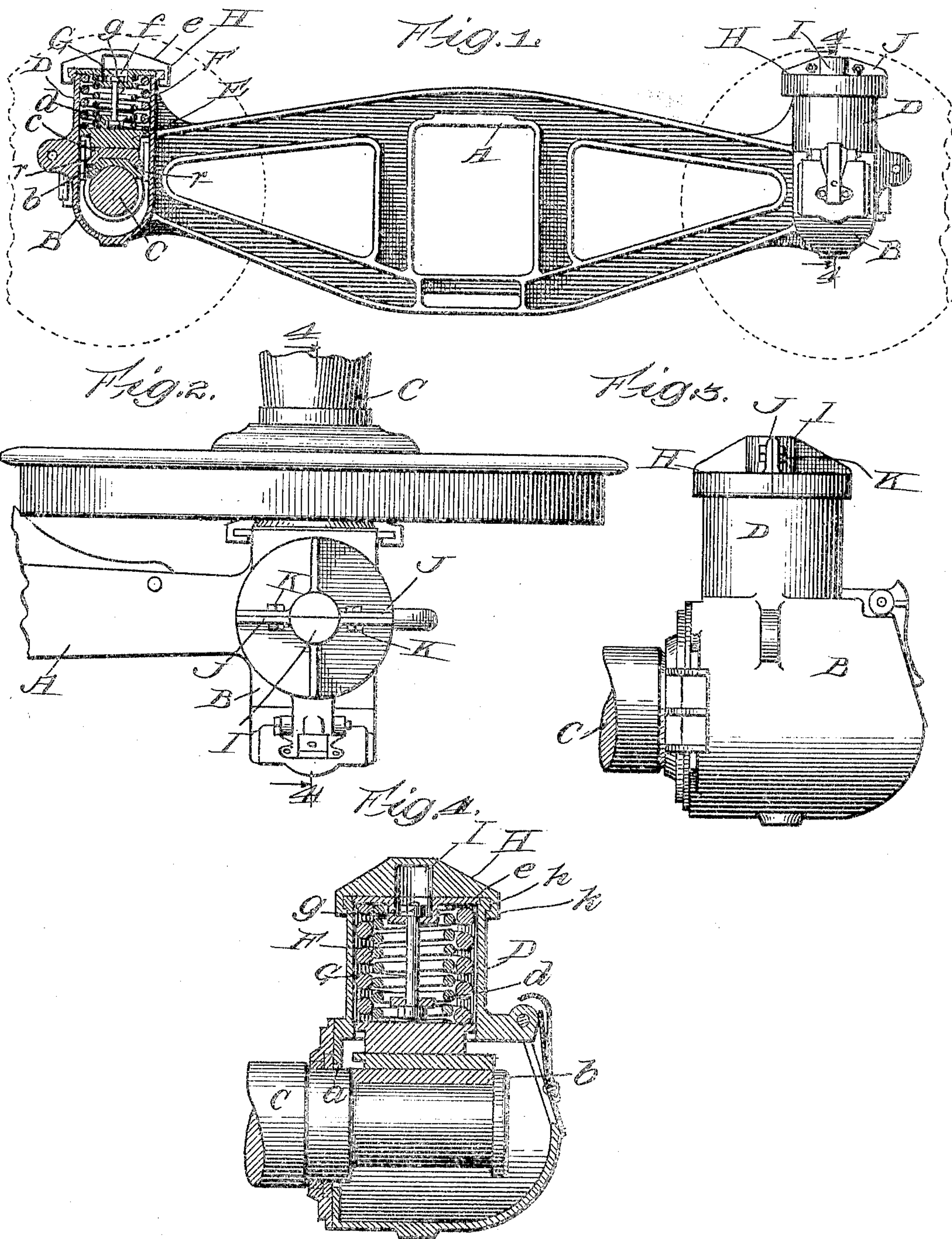
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CAR TRUCK.

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CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 793,764, dated July 4, 1905.

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To all whom it may concern:

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Car-Trucks, of which the following is a full, clear, and exact description.

The object of my invention is to provide a car-truck in which the journal-boxes and side frames of a pedestal-truck move independently of the journal-bearings and car-axles, and thereby avoid the construction heretofore considered essential to obtain the advantages of such a truck, as well as facilitate the building of a truck having a spring-bolster or a swing-motion bolster combined with the characteristics of a pedestal-truck with an ease heretofore impossible. This I accomplish by the means hereinafter fully described and as particularly pointed out in the claims.

In the drawings, Figure 1 is a side view of the side frame of a truck having my invention, showing one of the journal-boxes in transverse section. Fig. 2 is a plan view, on an enlarged scale, of one end of the same. Fig. 3 is an end view thereof. Fig. 4 is a longitudinal central section taken on dotted line 4 4, Figs. 1 and 2, looking in the direction indicated by the arrows.

In the drawings, A represents a side frame for car-trucks, which is shown as cast in one piece of metal, although I desire to be understood that this construction is not essential to my invention.

B B represent journal-boxes, preferably cast integral with the ends of the side frame, with the bodies thereof built to correspond with that of the journal-box known as the "Master Car-Builders" journal-box and substantially as shown and described in Letters Patent No. 740,617, granted to me October 6, 1903. My invention, however, is not confined to journal-boxes of this type, but may be applied to any type or style whether made integral with the side frames or constructed in such manner as to be permanently fastened to the same. The only change deemed advisable is the increase in vertical dimensions of height of the axle-opening *a* in the rear of the box.

The axle C projects into the box in the same manner as heretofore and is engaged in the usual manner by an ordinary journal-bearing *b*, which is keyed in position by a wedge *c* of the usual construction, preferably having a flat top.

Preferably cast in one piece with and arising from the top of the journal-box is a suitable dome or spring-chamber D, which I prefer to make cylindrical with the axis thereof at right angles to the axis of the axle and in a transverse plane, preferably intersecting a point near the center of length of the journal of the axle. The exact location of this spring-chamber D and its exact construction as herein set forth are not essential. They may be changed to suit the requirements of any particular case. Seated on the wedge is a circular spring-seat E, whose upper flanged portion is about the same in diameter as the width of the interior of the journal-box and normally enters slightly into the lower end of the spring-chamber and limits the upward movement of the journal-box by coming in contact with the upper ends of the guide-lugs *r r*, that are engaged by the journal-bearing. The top of this spring-seat is provided with an L-shaped lug *d*, which has the end of its overhanging portion bifurcated. Supported on this spring-seat are concentric spiral springs F, that extend to the top of the chamber, where they are provided with a suitable spring-cap *e*. These springs F are compressed between the spring-seat and the cap *e* to the extent sufficient to enable them to support the ordinary load compression before they are inserted in the journal-box, and they are held in this compressed position by an inverted bolt G, the head of which is caught under the bifurcated overhanging end of lug *d* and the upper screw-threaded end of which extends through the central opening in the central counter-sunk portion *f* of the cap and is provided with a suitable nut *g*. The assembled spring-plate, springs, and spring-cap when thus assembled are inserted down through the top of the spring-chamber D until the spring-seat rests upon the wedge *c*, whereupon the side frame is lifted until the edges of the cap *e* rest in the seat made by rabbeting the inner

circumference of the upper edge of the spring-chamber. In this position the springs are confined in the spring-chamber by means of a cover H, whose outer circumferential edges
 5 *h* are flanged downward past the outwardly-projecting flange *h* of the upper edge of the spring-chamber and then turn inward and are caught under the shoulder formed by the flange *h*. This cover is provided with a cen-
 10 tral dome I, which is located over the depressed central portion *f* of the cap *e* and communicates therewith in such manner as to form a closed chamber within which the upper end of the bolt G can play. Consider-
 15 ing the construction of the flanged edges *h* of this cover it would be impossible for it to be fitted down over the flange *h* of the upper end of the spring-chamber were it made only in one piece. I have therefore divided it into
 20 two equal sections and have between said dome and the outer circumference provided each with vertical web J, arising from their meeting edges, and secure said cover in place by bringing the two sections thereof later-
 25 ally together in such manner that the flanged edges *h* thereof will catch under the flanged edge *h* of the spring-chamber and then bolt these two sections together by means of the bolts or rivets K, which pass through said
 30 webs.

If desired, the spring-seat might be dispensed with and the springs rest directly upon the wedge *c*. In fact, the entire construction of the invention as hereinbefore described
 35 may be modified and changed without departing from the spirit of my invention, the principal feature of which is the cushioning of the axles within the journal-boxes so that the former may have vertical play in said journal-
 40 boxes independent of the same and the side frame of the truck.

What I claim as new is—

1. A car-truck comprising side frames having integral journal-boxes made of one body
 45 of metal therewith, and axles journaled in said boxes and movable vertically independent of said boxes.

2. A car-truck comprising side frames having integral journal-boxes made of one body
 50 of metal therewith, car-axles journaled in said boxes and coil-springs disposed wholly within said boxes whereby said axles have a vertical movement independent of said boxes.

3. A car-truck comprising side frames, hav-
 55 ing integral journal-boxes made of one body of metal therewith, car-axles journaled in said boxes, and coil-springs inclosed wholly within said boxes and placed above and interposed between the journals of said axles and the tops
 60 of said boxes.

4. A car-truck comprising side frames, journal-boxes having a dome or spring-chamber in the top thereof extending above the plane of the ends of said side frame, car-axles
 65 journaled in said boxes and a spring in said

boxes and domes thereof resting on said axles and supporting said boxes.

5. A car-truck comprising side frames, journal-boxes rigidly secured thereto having a dome or spring-chamber in the top thereof ex-
 70 tending above the plane of the ends of said side frame, car-axles journaled in said boxes and a spring in said boxes and domes thereof resting on said axles and supporting said boxes.

6. A car-truck comprising side frames, having integral journal-boxes made of one body of metal therewith and having a dome or spring-chamber in the top thereof, car-axles
 80 journaled in said boxes and a spring in the dome of each of said boxes resting on said axles and supporting said boxes.

7. A car-truck comprising side frames, journal-boxes having a normally closed dome or spring-chamber in the top thereof extend-
 85 ing above the plane of the ends of the side frame, car-axles journaled in said boxes and a spring in the dome of each of said boxes resting on said axles and supporting said boxes.

8. A car-truck comprising side frames, journal-boxes rigidly secured thereto having a normally closed dome or spring-chamber in the top thereof extending above the plane of
 90 the ends of the side frame, car-axles journaled in said boxes and a spring in the dome of each of said boxes resting on said axles and supporting said boxes.

9. A car-truck comprising side frames, having integral journal-boxes made of one body
 100 of metal therewith and having a normally closed dome or spring-chamber in the top thereof extending above the plane of the ends of the side frame, car-axles journaled in said boxes and a spring in the dome of each of said
 105 boxes resting on said axles and supporting said boxes.

10. A car-truck comprising side frames, journal-boxes having a dome in the top thereof, car-axles journaled in said boxes, and
 110 means placed wholly within said boxes for cushioning said axles.

11. A car-truck comprising side frames, journal-boxes having a dome or spring-chamber in the top thereof extending above the
 115 plane of the ends of the side frame, car-axles journaled in said boxes, springs inclosed within said dome or spring-chamber, and means independent of the load for retaining said springs in a compressed condition therein.

12. A car-truck comprising side frames, journal-boxes having a dome or spring-chamber in the top thereof extending above the plane of the ends of the side frame, car-axles
 125 journaled in said boxes, springs inclosed within said dome or chamber, spring-seats therefor supported above said axle, spring-caps above said springs and bolts for compressing said springs between said seats and caps.

13. A car-truck comprising side frames, 130

journal-boxes having a dome or spring-chamber in the top thereof, a suitable cover closing the upper end of the same, car-axles journaled in said boxes, and springs inclosed in said
5 spring-chamber or dome, and interposed between said axles and the cover of said dome or chamber.

14. A car-truck comprising side frames, journal-boxes having a dome or spring-chamber in the top thereof, a suitable split cover closing the upper end of the same, car-axles journaled in said boxes and springs inclosed in said spring-chamber or dome and interposed
10 between said axles and the cover of said dome or chamber.

15. A car-truck comprising side frames, journal-boxes having a dome or spring-chamber in the top thereof the upper edges of which are flanged outward, a split cover closing the
20 upper open end of said spring-chamber and having outwardly-extending flanged edges the lower portions of which are intumed, means for securing the sections of said split cover together, and springs inclosed within said dome
25 and interposed between said axles and said cover.

16. A car-truck comprising side frames, journal-boxes having a dome or spring-chamber in the top thereof, a split cover closing
30 the open top of said chamber, springs inclosed within said chamber, and interposed between said axles and said cover, and means for hold-

ing said springs within said box in a compressed condition.

17. A car-truck comprising side frames, 35 journal-boxes having a dome or spring-chamber in the top thereof, a split cover closing the open top of said chamber, springs inclosed within said chamber, and interposed between said axles and said cover, spring-seats there- 40 for supported on said axles, spring-caps interposed between said springs and said cover, and bolts for compressing said springs between said seats and caps.

18. A car-truck comprising side frames, 45 journal-boxes having a dome or spring-chamber in the top thereof, a split cover closing the upper open end of said spring-chamber and having a central chamber therein, car-axles journaled in said boxes, springs inclosed 50 within said spring-chamber, seats having said springs supported on said axles, caps interposed between said springs and said cover and having a centrally-disposed portion communicating with the central chamber in the lat- 55 ter, and bolts for compressing said springs between said seats and caps the lower end of which is held immovable in said seats.

In testimony whereof I have hereunto set my hand this 9th day of March, 1904.

WILLIAM P. BETTENDORF.

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