

No. 885,818.

F. M. WHYTE
CAR TRUCK.

APPLICATION FILED JULY 22, 1907.

PATENTED APR. 28, 1908.

2 SHEETS—SHEET 1.

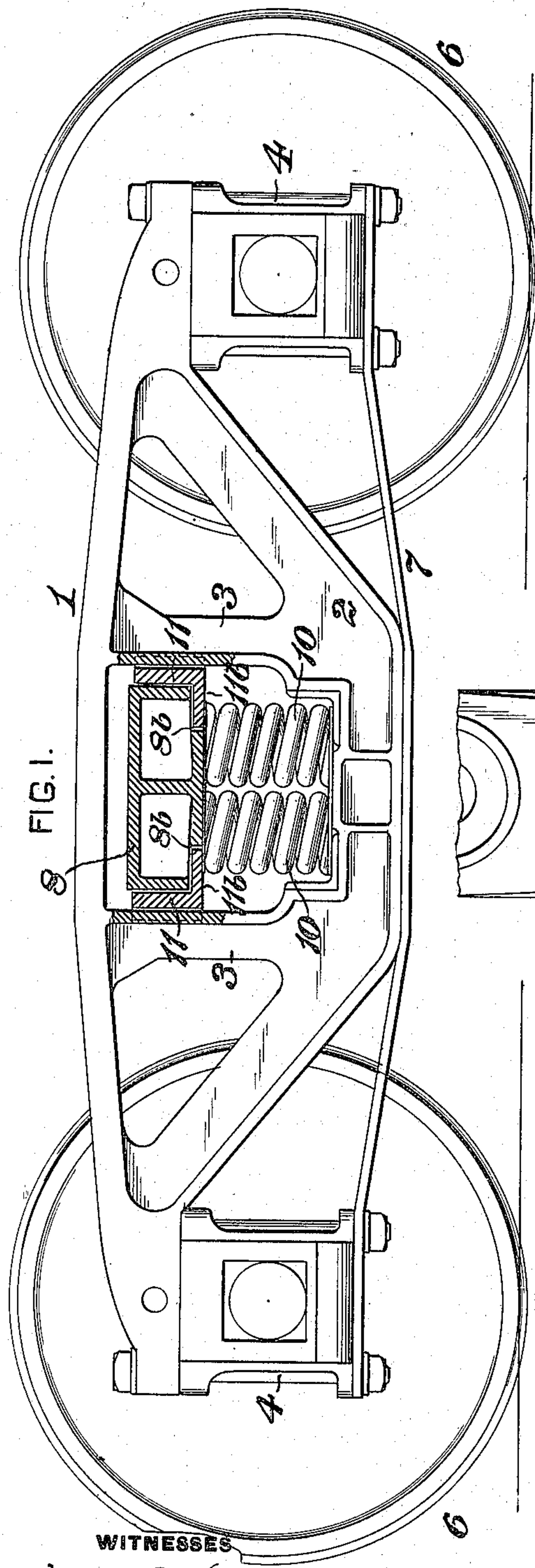


FIG. 1.

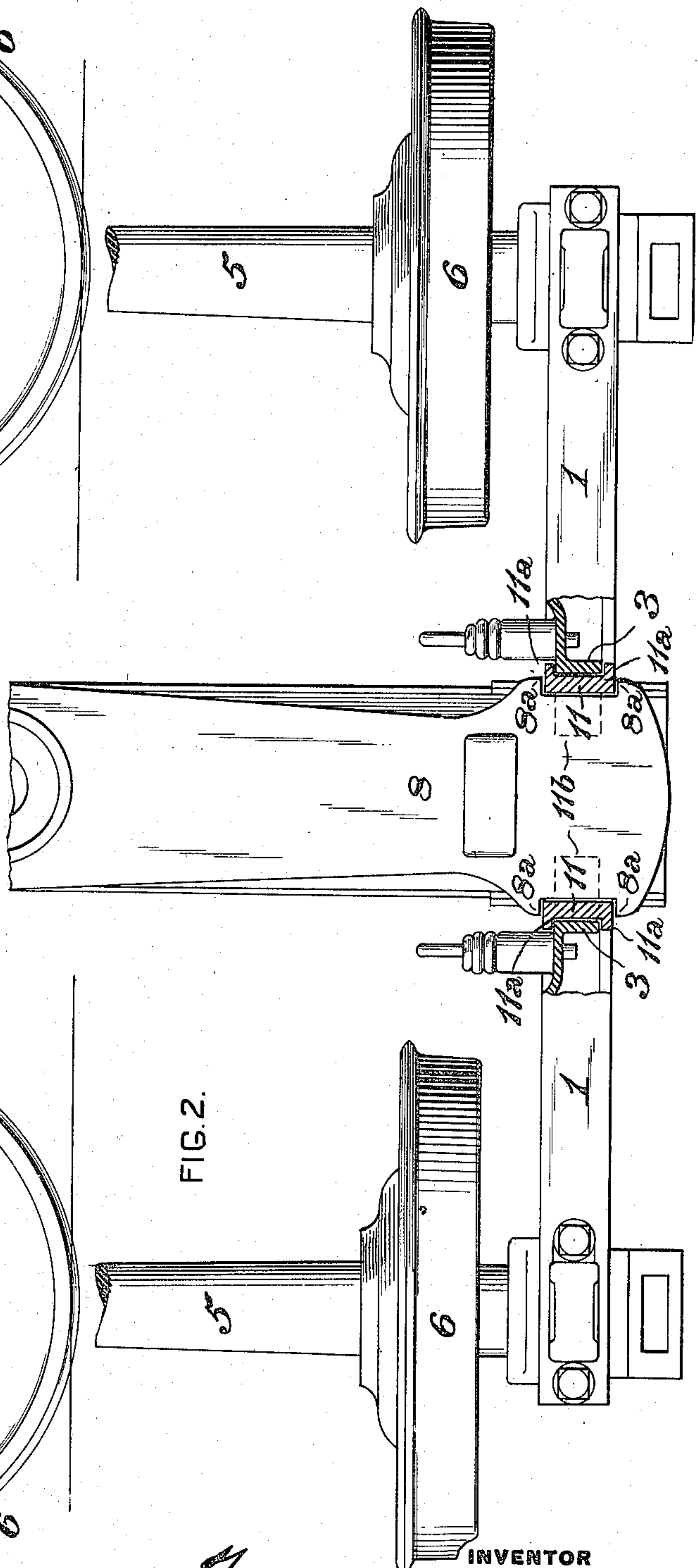


FIG. 2.

WITNESSES

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INVENTOR

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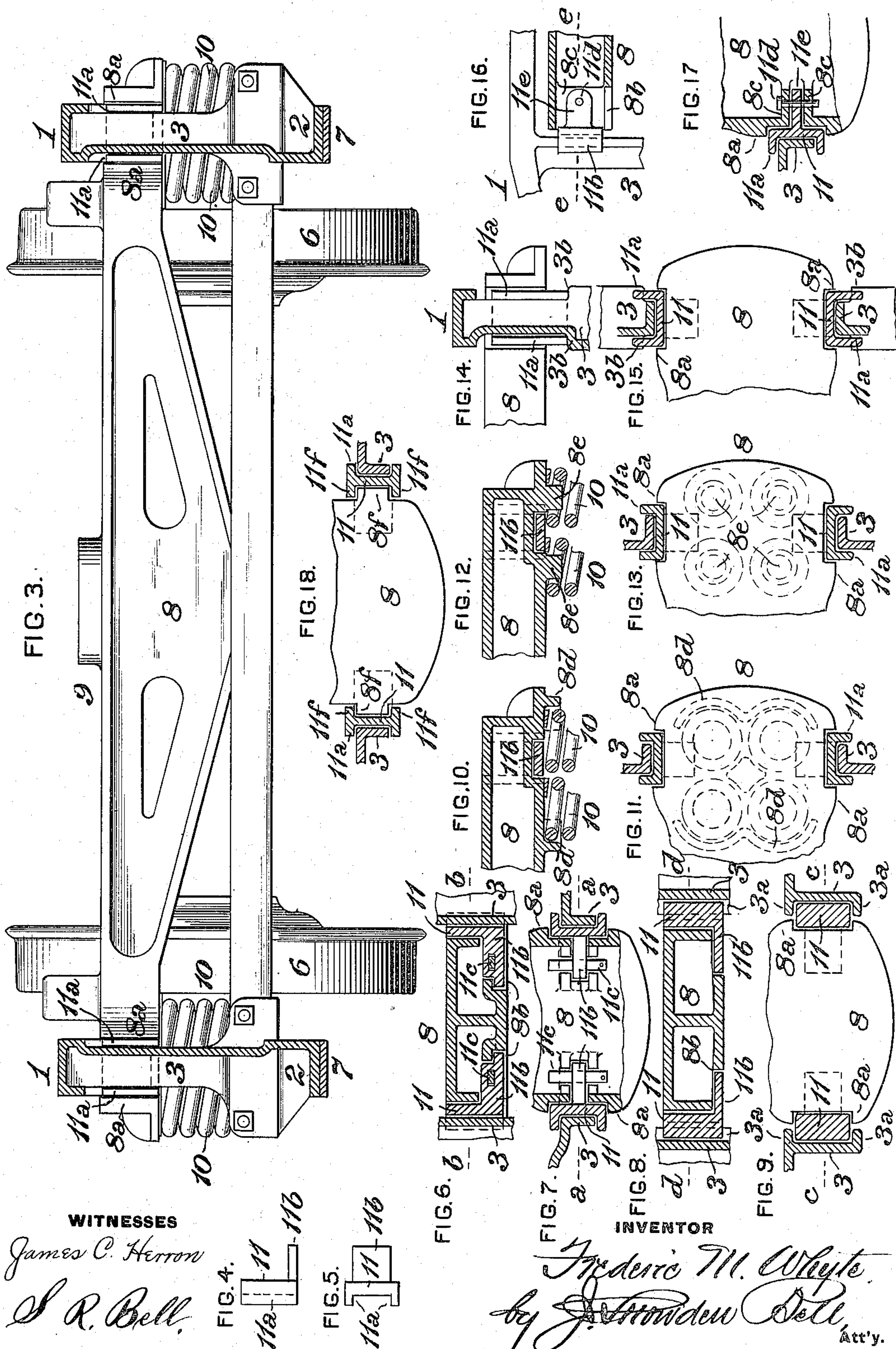
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WITNESSES

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FIG. 4.

FIG. 5.

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UNITED STATES PATENT OFFICE.

FREDERIC M. WHYTE, OF TARRYTOWN, NEW YORK.

CAR-TRUCK.

No. 885,818.

Specification of Letters Patent.

Patented April 28, 1908.

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To all whom it may concern:

Be it known that I, FREDERIC M. WHYTE, of Tarrytown, in the county of Westchester and State of New York, have invented a certain new and useful Improvement in Car-Trucks, of which improvement the following is a specification.

My invention relates to car trucks of the class in which the weight of the car body is transmitted to the truck frame through a spring supported bolster, and its object is to provide simple, effective, and inexpensive means whereby the bolster may be readily inserted in, and removed from, operative position, and be suitably guided in its vertical movements relatively to the truck frame.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings: Figure 1 is a side view, partly in section, of a car truck embodying my invention; Fig. 2, a half plan view, partly in section, of the same; Fig. 3, a vertical transverse section through the same; Fig. 4, a side view of a bolster guide, detached; Fig. 5, a plan view of the same; Fig. 6, a vertical transverse section through the bolster, on the line *a a* of Fig. 7, illustrating a modification of structural detail; Fig. 7, a horizontal section through the same, on the line *b b* of Fig. 6; Fig. 8, a vertical transverse section through the bolster, on the line *c c* of Fig. 9, illustrating another structural modification; Fig. 9, a horizontal section through the same, on the line *d d* of Fig. 8; Figs. 10 and 12, vertical longitudinal sections through bolsters, at and adjoining their ends, showing means for maintaining them in normal relation to their supporting springs; Figs. 11 and 13, horizontal sections through the bolster columns and bolster guides of the constructions of Figs. 10 and 12, respectively; Fig. 14, a vertical section through the upper portion of a bolster column, showing another structural modification; Fig. 15, a horizontal section through a pair of bolster columns and column guides of the construction of Fig. 14; Fig. 16, a vertical transverse section through the end portion of a bolster, showing another structural modification; Fig. 17, a horizontal section through the same, on the line *e e* of Fig. 16; and, Fig. 18, a similar section, showing another structural modification.

My invention is herein exemplified as applied in a car truck of the diamond or arch bar type, the side frames of which are, in this

instance, illustrated as integral castings comprising an upper arch bar, 1, a lower inverted arch bar, 2, and vertical bolster columns, 3. Pedestals, 4, bolted to the ends of the side frames, are fitted with the usual journal bearings for the axles, 5, on which the wheels, 6, are secured, and the pedestals of each side frame are connected at bottom by a pedestal tie bar, 7. The specific construction of the side frame does not, however, form part of my invention, which may be embodied, without variation of structural or operative principle, in connection with side frames of the standard built up or bar type. A bolster, 8, carrying the usual center casting, 9, is supported on springs, 10, seated in the spaces between the bolster columns, 3, and is adapted to move vertically in the upper portions of said spaces, as in the ordinary constructions of car trucks of this general type.

In the practice of my invention, the maximum width of the bolster, 8, does not exceed that which will permit it to be inserted in and removed from its operative position by being passed through the spaces between the bolster columns, 3, of the truck side frames, and the bolster is provided on each of its sides, adjacent to each of its ends, with a pair of vertical lips or flanges, 8^a, the distance between the lips or flanges of each pair being greater than the width, in transverse section, of the bolster columns. Bolster guides, the preferred construction of which is clearly shown in Figs. 1 to 5 inclusive, are fitted between each end of the bolster and the adjacent bolster columns, each of said guides fitting between a pair of the lips or flanges, 8^a, of the bolster, and fitting over the adjacent bolster column, 3. The bolster guides comprise a vertical body, 11, having lateral lips or flanges, 11^a, and a lateral extension or base, 11^b, projecting oppositely from, and substantially at a right angle to, the body, 11. The bodies, 11, of the bolster guides fit in the spaces between the lips or flanges, 8^a, of the bolster; the bases, 11^b, fit in lateral recesses, 8^b, cut through the bottom web of the bolster, below which they do not project, and the lips or flanges, 11^a, fit on opposite sides of the bolster columns, 3. The bolster guides are held in position, as against downward displacement, by the bolster springs, 10, with which they contact, either directly, as in the instance shown, or through the caps of said springs, when spring caps are used and are prevented from up-

ward displacement by their engagement with the bottom recesses, 8^a, of the bolster, and from lateral displacement by the engagement of their lateral lips or flanges with the bolster columns. Under the above described construction, the leading and characteristic feature of which is the means provided for effecting a tongue and groove engagement of a bolster, bolster columns, and interposed bolster guides, it will be seen that the bolster guides are movable vertically with the bolster, and guide it, in its vertical movements, by their relation to the bolster columns, while permitting its ready insertion in, and removal from, the truck frame as desired.

The bolster is inserted through the space between the bolster columns of one of the side frames, and moved longitudinally and upwardly to its operative position in the truck frame; the bolster guides are then slid upwardly on the bolster columns, until their bases fit in the bottom recesses of the bolster, and the bolster springs, and their caps if used, are placed in position. The removal of the bolster is effected by the same operations, in reverse order, which, for either insertion or removal, may be readily and expeditiously effected, and it will be seen that the opening or space between the bolster columns may be made of uniform width throughout.

Various modifications of structural detail may be made, in the discretion of the constructor, without departure from the spirit and essential and characteristic features of my invention. Thus, for example, as shown in Figs. 6, 7, 16 and 17, the bases of the bolster guides may be extended upwardly through the bottom web and detachably connected to the bolster by locks, 11^c, (Figs. 6 and 7) or pins, 11^a, (Figs. 16 and 17). In the latter case, the laterally extending base portion, 11^b, of the bolster guide, is turned from the bottom to the side thereof, so as to form a vertical web, 11^c, which passes through the bottom recess, 8^b, of the bolster, and receives the pin, 11^a, which passes through a pair of vertical flanges, 8^c, on the bolster.

As shown in Figs. 8 and 9, the lateral lips or flanges, 11^a, of the bolster guides, are omitted, and, as their mechanical equivalent, similar lips or flanges, 3^a, between which the bodies of the bolster guides fit, are formed on the bolster columns, 3.

In the structural modifications shown in Figs. 10 to 13 inclusive, which are designed for application in cases where spring caps are not used, the bolster guides are similar, and similarly fitted, to those first above described, and projections are formed on the bottom of the bolster to retain the bolster springs, 10, in normal relation thereto; said projections

being shown in Figs. 10 and 11, in the form of curved webs, 8^d, extending partially around the upper ends of the springs, and, in Figs. 12 and 13, as cylindrical lugs, 8^e, fitting inside the springs.

Figs. 14 and 15 show a modification in which the bolster columns, 3, are slightly widened below the bolster guides, so as to form seats or shoulders, 3^b, on which the bolster guides rest.

Fig. 18 shows another modification, in which the engagement of the bolster guides with the bolster and bolster columns is effected in a similar manner to that in the construction first above described, but, as a mechanical equivalent, in lieu of forming pairs of vertical lips or flanges, 8^f, on the bolster, corresponding pairs of vertical lips or flanges, 11^f, are formed on the adjacent sides of the bodies of the bolster guides, and lateral tongues or projections, 8^e, fitting between said flanges, are formed on the bolster.

Other variations of structural detail, embodying the essential features of my invention, may be made, without departure therefrom, by those skilled in the art of railroad car construction.

I claim as my invention and desire to secure by Letters Patent:

1. A truck bolster having pairs of vertical guide flanges on its sides adjacent to its ends, and having its lower web cut away at its sides between the guide flanges for the reception of bolster guides.

2. A truck bolster having pairs of vertical guide flanges on its sides adjacent to its ends, and recesses on its lower side extending inwardly from the spaces between the guide flanges and extending entirely through the bottom web of the bolster at their central portions.

3. A truck bolster having pairs of vertical guide flanges on its sides adjacent to its ends, recesses on its lower side extending inwardly from the spaces between the guide flanges, and downwardly extending projections on its lower side adjacent to said recesses.

4. In a car truck, the combination of a side frame having a pair of vertical bolster columns, a bolster having pairs of vertical guide flanges on its sides adjacent to its ends, and having its lower web cut away at its sides between the guide flanges, and bolster guides having bodies fitting between said flanges and having a tongue and groove engagement with the bolster columns and lateral extensions fitting in the cut away portions of the lower web of the bolster.

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Witnesses:

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ROBT. S. KEARNEY.