

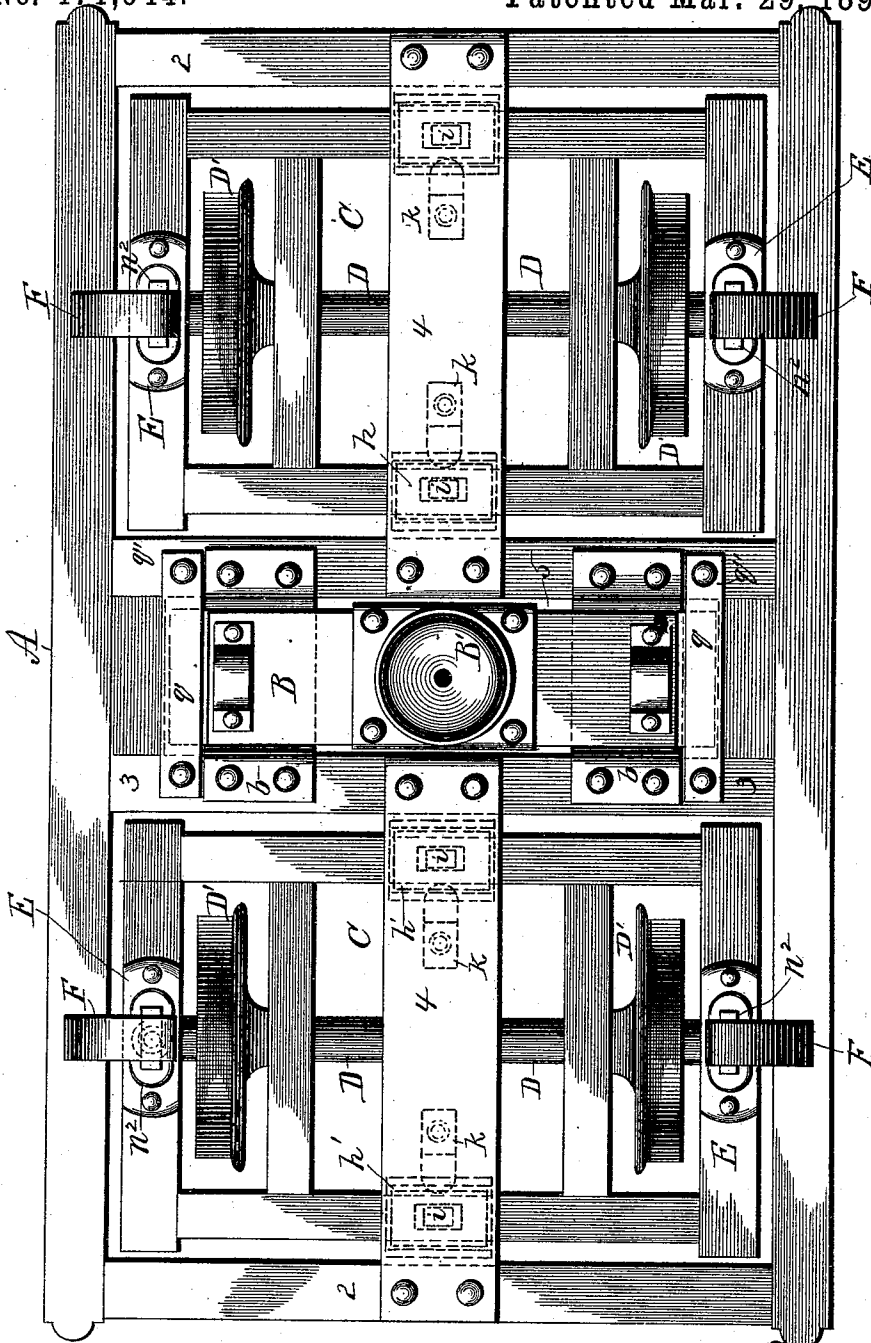
(No Model.)

2 Sheets—Sheet 1.

S. D. KING.
CAR TRUCK.

No. 471,644.

Patented Mar. 29, 1892.



Witnesses
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C. F. Downing

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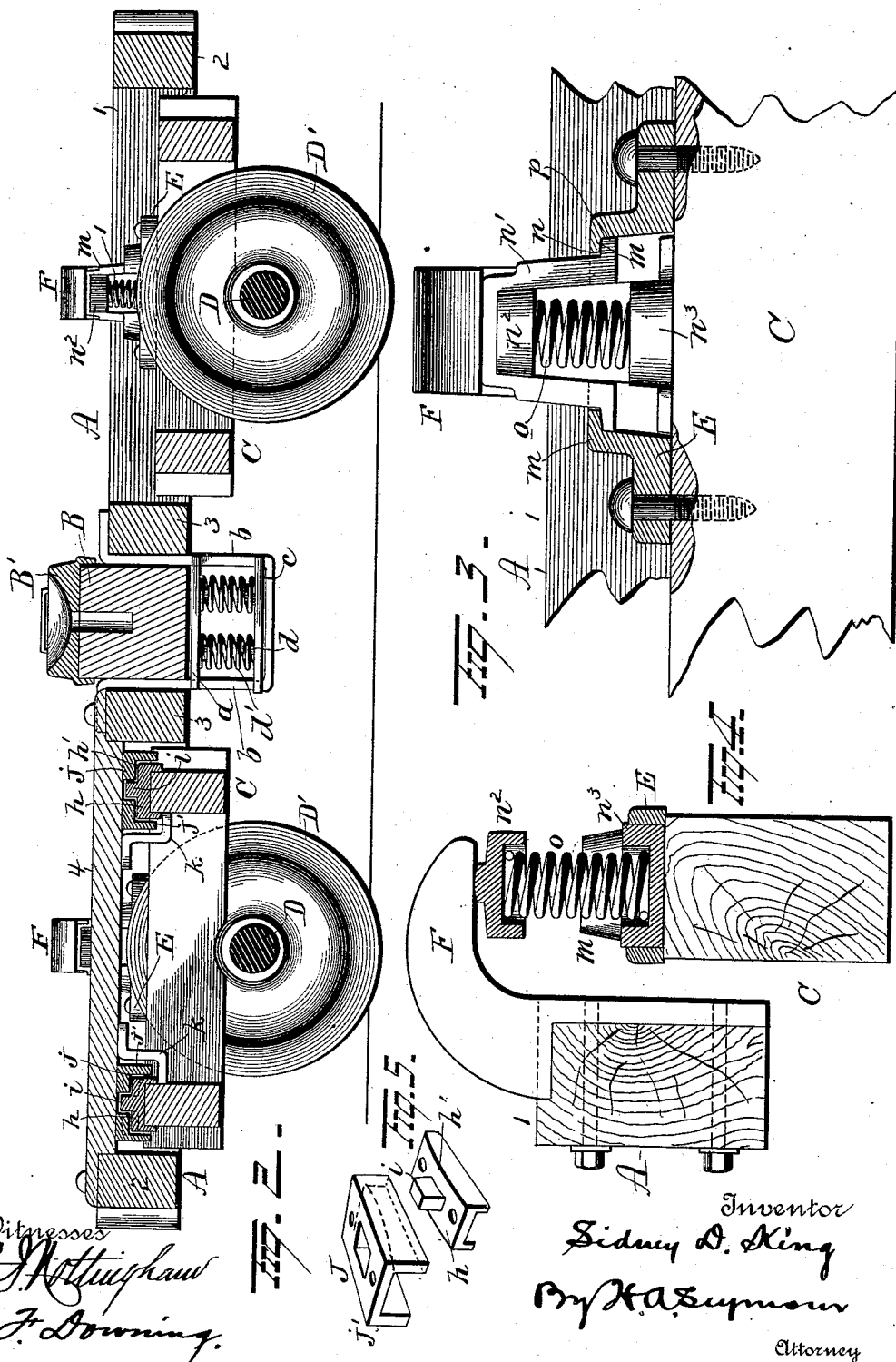
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S. D. KING.
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UNITED STATES PATENT OFFICE.

SIDNEY D. KING, OF PITTSBURGH, PENNSYLVANIA.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 471,644, dated March 29, 1892.

Application filed October 23, 1891. Serial No. 409,586. (No model.)

To all whom it may concern:

Be it known that I, SIDNEY D. KING, a citizen of Pittston, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Car-Trucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in car-trucks, and more particularly to such as are known as "center-carrying trucks," the object of the invention being to produce a truck which shall be so constructed that the twisting of the car will be prevented when the car is running over an irregular track.

A further object is to so construct a car-truck that the wheels will be relieved of a great amount of pressure while at rest on an irregular track and more when running on same.

A further object is to construct a truck in such manner that it shall in itself be a perfect truck and body equalizer, causing the car to be "center carrying."

A further object is to construct a car-truck in such manner that the equalizing-springs of the wheels and axles shall be normally relieved of the weight of the car, thus enabling the car-body to always maintain a horizontal position or a position parallel with the road, notwithstanding the irregularities of the track.

A further object is to produce a car-truck which shall be simple in construction, comprising a small number of parts, one which shall be easy in operation and effectual in the performance of its functions.

With these objects in view the invention consists in the combination, with a swiveling truck-frame, of non-swiveling truck-frames carried thereby and yielding side bearings for said non-swiveling frames.

The invention also consists in the combination, with a frame adapted to be swiveled to a car-body, of frames carried by the first-mentioned frame and adapted to have a vibratory movement when the car is in motion and yielding bearings at the ends of said last-mentioned frames.

The invention also consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improved truck. Fig. 2 is a longitudinal sectional view. Figs. 3 and 4 are detail views of one of the yielding bearings at the ends of the vibratory frames. Fig. 5 is a detail view.

A represents the main frame of a truck, comprising side bars 1 1, end bars 2 2, central cross bar or bars 3, and intermediate cross-bars 4 4, which extend from the central cross-bar to the end bars. The central cross-bar 3 is provided with an elongated slot or opening 5 for the reception of a bar B, to which a perforated socketed plate B' is attached, whereby the frame A may be swiveled to the car. Instead of providing the central cross-bar 3 with an elongated opening, said opening may be formed or produced by means of two cross-bars properly spaced apart. The bar B is adapted to rest loosely in the opening 5 in the central cross-bar, and has secured to its under face two or more plates *a*, having recesses in their opposite edges. Two or more brackets *b* are secured to the central cross-bar 3, the ends of each bracket being secured to the cross-bar at opposite sides of the opening 5, and said brackets being adapted to pass through the recessed ends of the plates *a* and depend somewhat below the same. Recessed plates *c* are located in the lower ends of the brackets *b*, and located between the plates *a* and *c* is a series of springs *d*, said plates being provided with projections *d'*, whereby to maintain said springs in place. Thus it will be seen that the bar B is yieldingly connected with the main truck-frame A.

Located in the space between the central cross-bar 3 and the end bars 2 and beneath the intermediate cross-bars 4 are two truck-frames C C. The construction of both truck-frames C and their connection with the main truck-frame A being the same, a detailed description of one will suffice for both.

Secured to the ends of each frame C are brackets *f*, which support axle-boxes *g*, said brackets entering recesses in the axle-boxes

and thus retaining them in place. Axles D are mounted at their ends in the axle-boxes *g* and carry car-wheels D'.

Secured to the side bars of the frames C, preferably at their centers, are plates *h*, having flanges *h'*, adapted to lie against the side faces of the side bars of the frames C. These plates *h* are also provided with lugs *i*, adapted to enter socketed plates *j*, secured to the intermediate cross-bars 4 of the main frame A, the faces of the plates *h j* being made with curved faces, whereby a vibratory or rocking motion of the frames C may be permitted when the car is traveling over a rough track. The plates *j* are provided with depending flanges *j'*, which lie parallel with the depending flanges *h'* of the plates *h*. The frames C are prevented from separation one from the other by means of irons *k*, which are secured to the intermediate bars 4 of the main frame and project under the depending flanges *h' j'* of the plates *h* and *j*.

Secured to the top of each end bar of each frame C is a plate E, having a central perforation *l* and a hollow boss *m* at each side of said perforation. The hollow bosses *m* are provided with recesses *n* for the accommodation of a yoke *n'*, having a cup-shaped head *n²*. A cup-plate *n³* is located on the end bar of each frame C and adapted to enter the perforations in the plates E. Located between the cup-shaped heads *n'* and the cup-plates *n³* are springs *o*, adapted to normally force the yokes *n'* to the upper extremity of their throws. The yokes *n'* are limited in their upward movement by means of arms *p*, which project laterally from their upper ends and engage the under faces of the hollow bosses *m*.

Secured to the side bars 1 of the main frame A are brackets F, which project over the tops of the yokes *n* and in proximity to the same.

It may be here stated that to prevent the bar B from disengagement from the central cross-bar 3 the ends of said bar are provided with flanges *q*, which engage plates *q'* on the bars 3 3.

By constructing a truck, as above described, the usual equalizing-springs which sustain the weight of the car at the longitudinal edges of the truck are dispensed with, and the equalizing-springs for the non-swiveled trucks are so arranged that they are not made to sustain the weight of the car, and in consequence of this construction the main frame of the truck and the car which it supports are maintained at all times perfectly horizontal or parallel with the road-bed, while at the same time the wheels and axles will accommodate themselves to the unevenness of the track. Again, by my improved construction the twisting or straining of the car is avoided and at least

thirty per cent. of the weight of the car is relieved from the wheels and axles when the car is at rest, and would show many times more than that when running at a high rate of speed on an uneven track.

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

1. The combination, with a swiveling truck-frame, of non-swiveling truck-frames carried thereby and yielding bearings for said non-swiveling truck-frames, said yielding bearings being arranged in such manner that they will normally be free from the weight of the car, substantially as set forth.

2. The combination, with a truck-frame adapted to be swiveled to a car-body, of frames carried by the first-mentioned frame and adapted to have a vibratory movement when the car is in motion and yielding bearings at the ends of said last-mentioned frames, substantially as set forth.

3. The combination, with a main truck-frame adapted to be swiveled to a car, of non-swiveling truck-frames carried by said main frame and having a rocking connection with the main frame, yielding devices carried at the ends of the non-swiveling frames, and brackets carried by the main frame and adapted to be engaged by said yielding devices, substantially as set forth.

4. The combination, with a main truck-frame, a bar loosely mounted in said main frame and adapted to be swiveled to a car, and springs beneath said bar supported by the main frame, of non-swiveling frames carried by said main frame, yielding devices carried by the non-swiveling devices, and brackets carried by the main frame and adapted to be engaged by said yielding devices, substantially as set forth.

5. The combination, with a main truck-frame, of smaller truck-frames carried by the main frame, a plate having a curved face secured to each non-swiveling frame, a lug projecting from said plates, plates having curved faces secured to the main frame and bearing on the plates on the non-swiveling frames, a device for preventing the separation of said plates, yielding devices carried by the non-swiveling frames, and brackets carried by the main frame and adapted to be engaged by said yielding devices, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

SIDNEY D. KING.

Witnesses:

C. C. KING,
WM. SCUREMAN.