

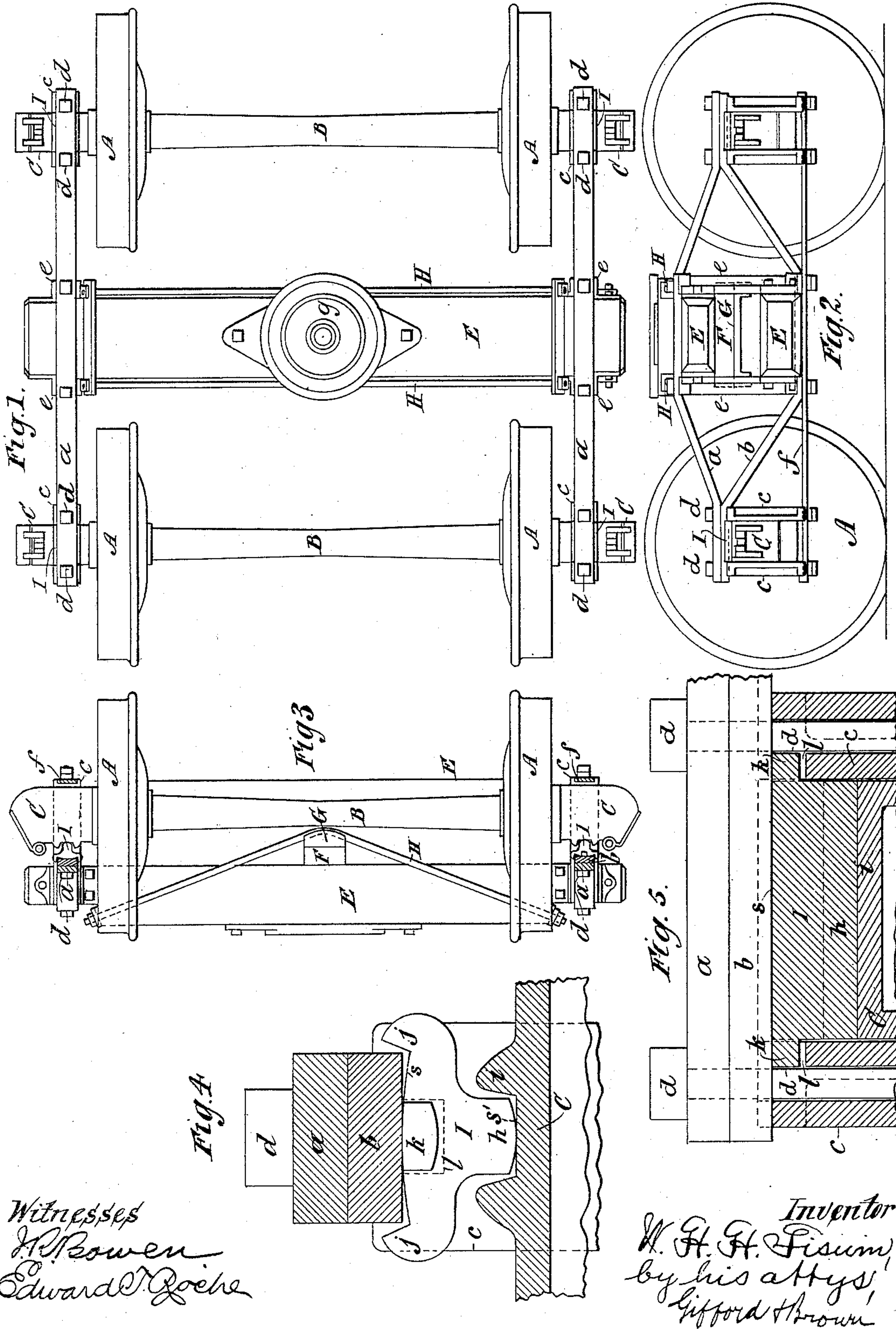
(No Model.)

W. H. H. SISUM.

CAR TRUCK.

No. 338,368.

Patented Mar. 23, 1886.



Witnesses
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CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 338,368, dated March 23, 1886.

Application filed June 29, 1885. Serial No. 170,099. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. H. SISUM, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in the Running-Gears of Cars, of which the following is a specification.

The object of my improvement is to lessen the side motion of car-bodies and to obviate thrusts of the car-wheel flanges against the rails occasioned by the swinging of the car-bodies.

I will describe the running-gear of a car embodying my improvement, and then point out the novel features in a claim.

In the accompanying drawings, Figure 1 is a plan or top view of a car-truck embodying my improvement. Fig. 2 is a side view of the same. Fig. 3 is an end view thereof. Fig. 4 is a view of certain parts seen from one end of the car-truck. Fig. 5 is a section of certain parts taken lengthwise of the car-truck.

Similar letters of reference designate corresponding parts.

A designates wheels secured in the usual manner to axles B. The ends of the axles B fit in journal-boxes C, which are arranged in slideways in the truck-frame, the slideways being so constructed that the journal-boxes and axles may move therein in the direction of the length of the axle.

The truck-frame consists of two side pieces, D, and transoms E. The side pieces, D, severally consist of an arch-bar, *a*, and an inverted arch-bar, *b*, fastened together at the ends and to columns *c* by bolts *d*, and extending one above and the other below columns *c*. The columns *c* form the slideways for the journal-boxes C. A tie-rod, *f*, also forms part of each side piece, D, and extends from the lower part of the columns *c* under the columns *e*. It is secured to the columns *c* by bolts, preferably the same bolts which secure the arch-bars *a* *b* to said columns. All the parts of the side pieces, D, may be made of metal.

The transoms E severally consist of two bars extending between the columns *c* of the side pieces, D, one bar being arranged near the lower ends and the other bar being arranged near the upper ends of the said columns. The bars are secured to the columns by bolts

passing transversely through them and through flanges on the columns.

Under the upper transom-bar, E, is a bar, F, below which is an angle-piece, G. Truss-rods H pass under the angle-piece G, and are secured by nuts engaging with screw-threads to shoulders on the upper transom-bar, E. On the top of the upper transom-bar is a bearing, *g*, for a center pin. The transom-bars E and the bar F may be made of wood.

The features which I have just described form no part of my present invention.

I designate rockers, which are interposed between the journal-boxes C and the parts on the side pieces, D, of the truck-frame, by which the weight of the truck-frame and car-body is transmitted to the journal-boxes. In the present instance these rockers are interposed between the journal-boxes and the inverted arch-bars *b*. They may be made of iron, steel, or other suitable material. Each of these rockers I has on the under side a fulcrum-piece, *h*, which has parallel sides and a curved or arc-shaped bottom, the curve of the bottom being eccentric to the center, upon which the rocker is capable of oscillating or rocking. Indeed, the curve of the bottom of the fulcrum-piece is a very flat curve struck or described from a radius very much longer than the distance between the center of the bottom and the point of oscillation or rocking. The fulcrum-piece fits in a seat, *i*, which is flat at the bottom, or approximately so, and whose sides are preferably made slightly flaring to admit of the movements of the rocker. The seat *i* is formed in the top of the journal-boxes. The upper surface, *s*, of each rocker is curved or arc-shaped where the adjacent inverted rod or bar *b* rests upon it, and at the ends of this arc-shaped surface lugs or upwardly-extending portions *j* are provided, so as to extend upward on opposite sides of the said inverted arch-bar *b*. The surfaces of the lugs *j* which are adjacent to the inverted arch-bar *b* are slightly farther apart than the width of the inverted arch-bar *b*, and, preferably, they diverge or flare toward the outer end to facilitate the oscillation or rocking of the rockers. The curved surfaces *s'* at the bottoms of the fulcrum-pieces of the rockers, and the curved surfaces *s* are of such eccentricity to the point

of oscillation of the rockers that in order for the rockers to oscillate to one side out of their normal positions they will be obliged to raise the side pieces, D, and consequently the car-body. Consequently, when the disturbing force ceases or is expended, the gravity of the car-body and the side pieces, D, will cause the rockers to assume their normal position again. The resistance which the weight of the car-body and side pieces, D, offers to the movement of the rockers tends to prevent oscillation of the rockers. As force tending to oscillate the rockers will be expended in elevating the car-body, the latter will not be subject to the swinging motion which ordinarily occurs during the travel of a car. On the sides of the rockers are lugs *k*, which fit in recesses *l* in the columns *c*. These lugs are not quite so wide as the recesses in which they fit, and they are preferably arc-shaped, so that they will not interfere with the oscillation of the rockers.

By overcoming much of the lateral or swinging movement which ordinarily occurs in a car-body and in its truck-frames I obviate thrusts of the wheel-flanges against the rails, and therefore increase very materially the durability of the wheel.

It is not essential that the fulcrum-pieces should be made exactly as shown and described. Instead of having straight sides they may have upwardly-converging sides, and then the sides of the seats may be parallel, instead of flaring. The fulcrum-pieces may be as wide as the upper portions of the rockers, but they will always have arc-shaped or approximately

arc-shaped bottoms. Merely the middle portions of the top and bottom surfaces may be arc-shaped, and the end portions can be tangential thereto.

My improvement may be used in conjunction with frames attached directly to a car-body, instead of frames on a truck.

I am aware that it is old to construct a rocker for the purpose specified having an approximately semicircular fulcrum-piece upon its lower side fulcrumed in an approximately semicircular recess in the top of the journal-box, and I do not herein lay claim to such form of construction.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with axles, of journal-boxes inclosing bearings operating in conjunction with the axles, so as to move with the latter in the direction of their length, frames provided with slideways in which the journal-boxes and axles may move in the direction of the lengths of the axles, and rockers arranged upon the tops of the journal-boxes and supporting the said frames, said rockers having arc-shaped or approximately arc-shaped upper and lower surfaces, and seats for the rockers located upon the tops of the journal-boxes, and having flat bottoms, substantially as specified, whereby, when the axles and journal-boxes are moved laterally with relation to the said frames, the said frames will be raised.

WM. H. H. SISUM.

Witnesses:

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