

(No Model.)

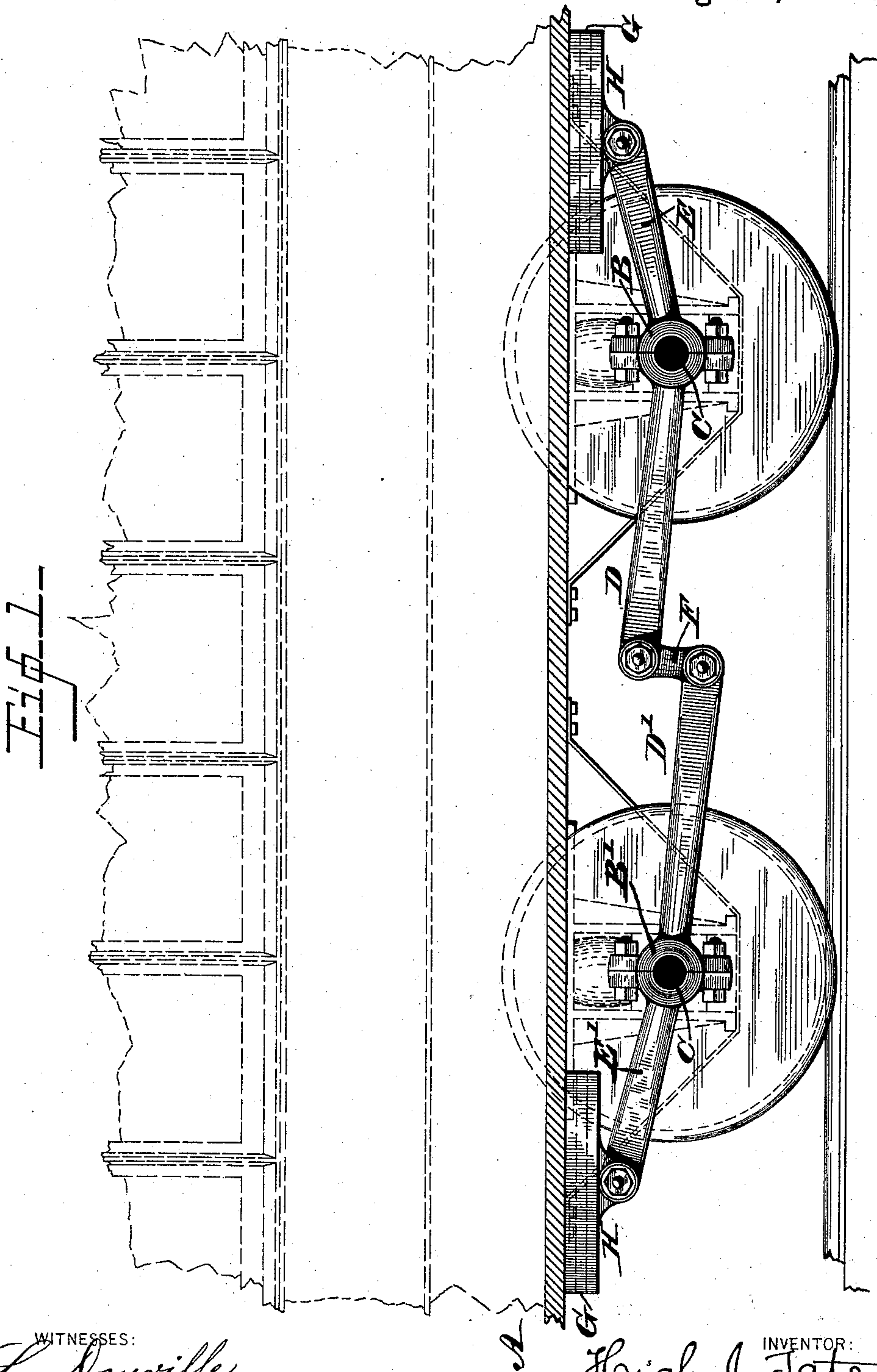
2 Sheets—Sheet 1.

H. J. TATE.

EQUALIZING DEVICE FOR CARS.

No. 387,827.

Patented Aug. 14, 1888.



WITNESSES:

*L. Douville*  
*James F. Kelly*

INVENTOR:

*Hugh J. Tate*  
BY *Wiedersheim & Kuntner*

ATTORNEYS.

(No Model.)

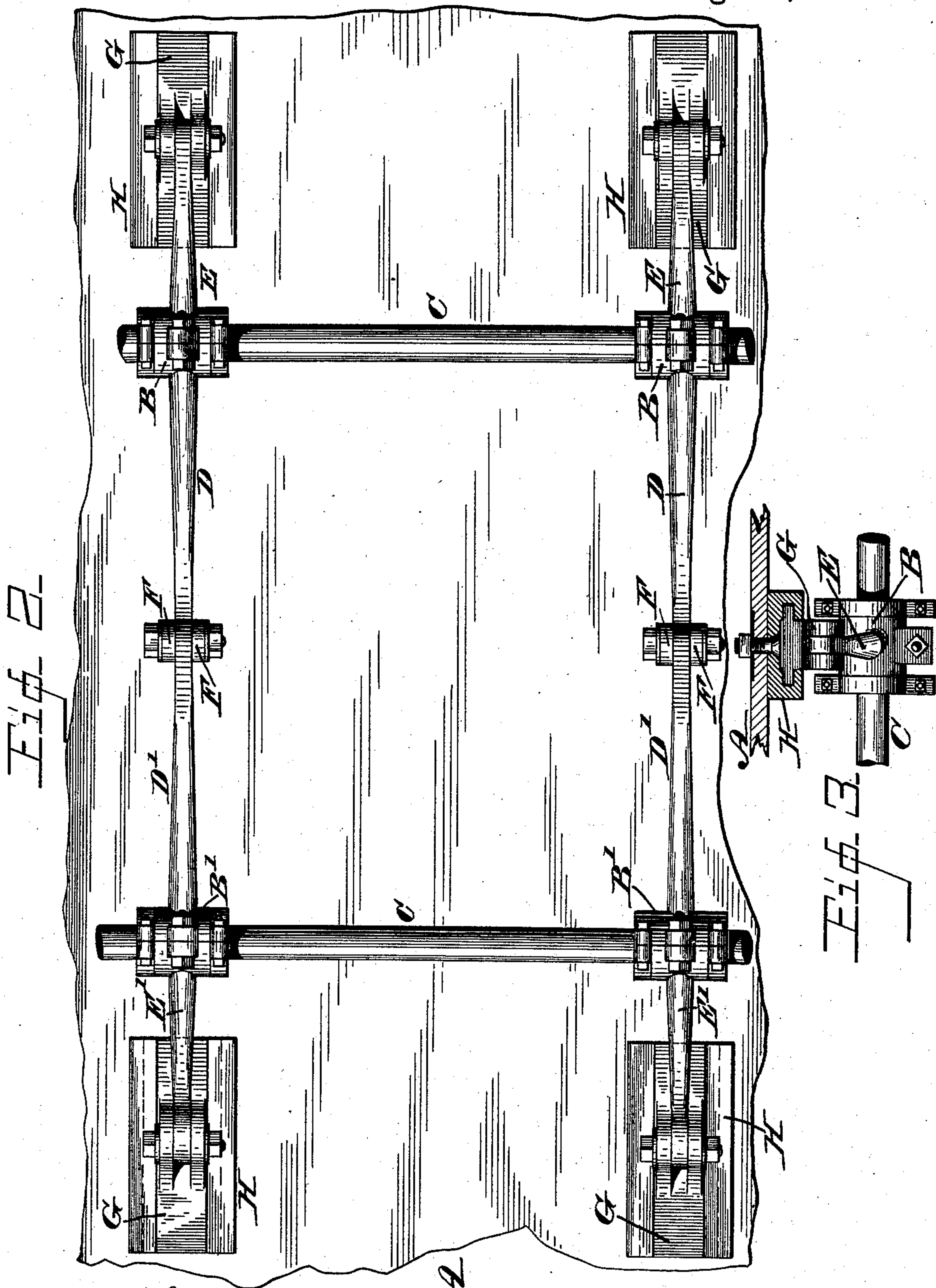
2 Sheets—Sheet 2.

H. J. TATE.

# EQUALIZING DEVICE FOR CARS.

No. 387,827.

Patented Aug. 14, 1888.



7343

WITNESSES

L. Nowville  
James F. Kelly.

INVENTOR:

INVENTOR:  
Hugh J. Tate.  
BY Wiederhoefer & Kuehner

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

HUGH J. TATE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOSIAH K. PROCTOR, OF SAME PLACE.

## EQUALIZING DEVICE FOR CARS.

SPECIFICATION forming part of Letters Patent No. 387,827, dated August 14, 1888.

Application filed May 3, 1888. Serial No. 272,678. (No model.)

*To all whom it may concern:*

Be it known that I, HUGH J. TATE, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Devices for Balancing or Equalizing Cars, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists of a device attachable to the running-gear of a car, whereby in the event of one end of the car becoming loaded to a greater extent than the other end the action on the body of the car is equalized, thus balancing the same and preserving the level of the floor thereof.

Figure 1 represents a side elevation of a device for equalizing a car embodying my invention. Fig. 2 represents a bottom plan view thereof. Fig. 3 represents a partial front view and partial vertical section of a detached portion thereof.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents the body of a car of usual construction.

B B' represent sleeves, which are loosely mounted on the axles C of the car-wheels, or separate axles.

Secured to or cast with each sleeve are radial arms or levers D D' E E', which occupy somewhat horizontal positions. The arms D D' project inwardly, or toward each other, and are connected by links F. The arms E E' project outwardly, or toward the ends of the car, and are pivoted to the slides G, which are fitted in hangers or guides H, secured to the under side of the floor of the car, near the ends thereof, or to the platforms thereof.

In order to connect the slides with the hangers, said parts are tongued and grooved, as will be most plainly seen in Fig. 3.

The operation is as follows: When weight is superimposed upon either end of the car—say in the present case the right-hand end—the slides G beneath the same are depressed by the hangers, which are connected with the floor of the car, as has been stated. Downward motion is thus imparted to the arms E, thereby rotating the sleeves B, and consequently raising the arms D D'. This rotates the sleeves B' in such manner that the arms E' are depressed, whereby the connected slides G follow the motions of said arms E', and, ow-

ing to the engagement of the hangers with said slides, the adjacent end of the floor of the car—in the present case the left-hand end—is drawn downwardly to an extent equal to that of the depression of the right-hand end of the car, and thus the car is balanced; or, in other words, when the car is loaded at one end to a greater extent than the opposite end, the weight or load is distributed, thus equalizing the same and preventing the inclination of the body of the car. While the slides rise and fall with the hangers, they readily move forward and backward in the same, and thus accommodate themselves to the radial motions of the arms E E'.

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

1. A device for equalizing weight superimposed upon a car when superior at either end, consisting of radial arms freely connected with the ends of the car and with each other by means of rotatable sleeves and axles on which said sleeves are mounted, whereby both ends of the car are uniformly depressed, substantially as described.

2. The combination, with a car, of a series of radial arms which are connected with each other by means of sleeves mounted on the axles thereof, and with the ends of the floor of the car by means of slides which are fitted in guides connected with said floor, substantially as described.

3. In a car-equalizing device, substantially as described, the guides H, secured to the floor of the car, in combination with slides fitted in and connected with said guides and pivoted to the radial arms of the device, as stated.

4. A car-equalizing device consisting of sleeves mounted on suitable bearings, each sleeve having two arms, one of which projects inwardly, the other outwardly, guides adapted to be secured to the under side of the car, slides pivotally secured to the outwardly-projecting arms and adapted to work in said guides, and links pivotally connected to the ends of the inwardly-projecting arms, said parts being combined substantially as described.

HUGH J. TATE.

Witnesses:

JOHN A. WIEDERSHEIM,  
THEO. C. WARNER.