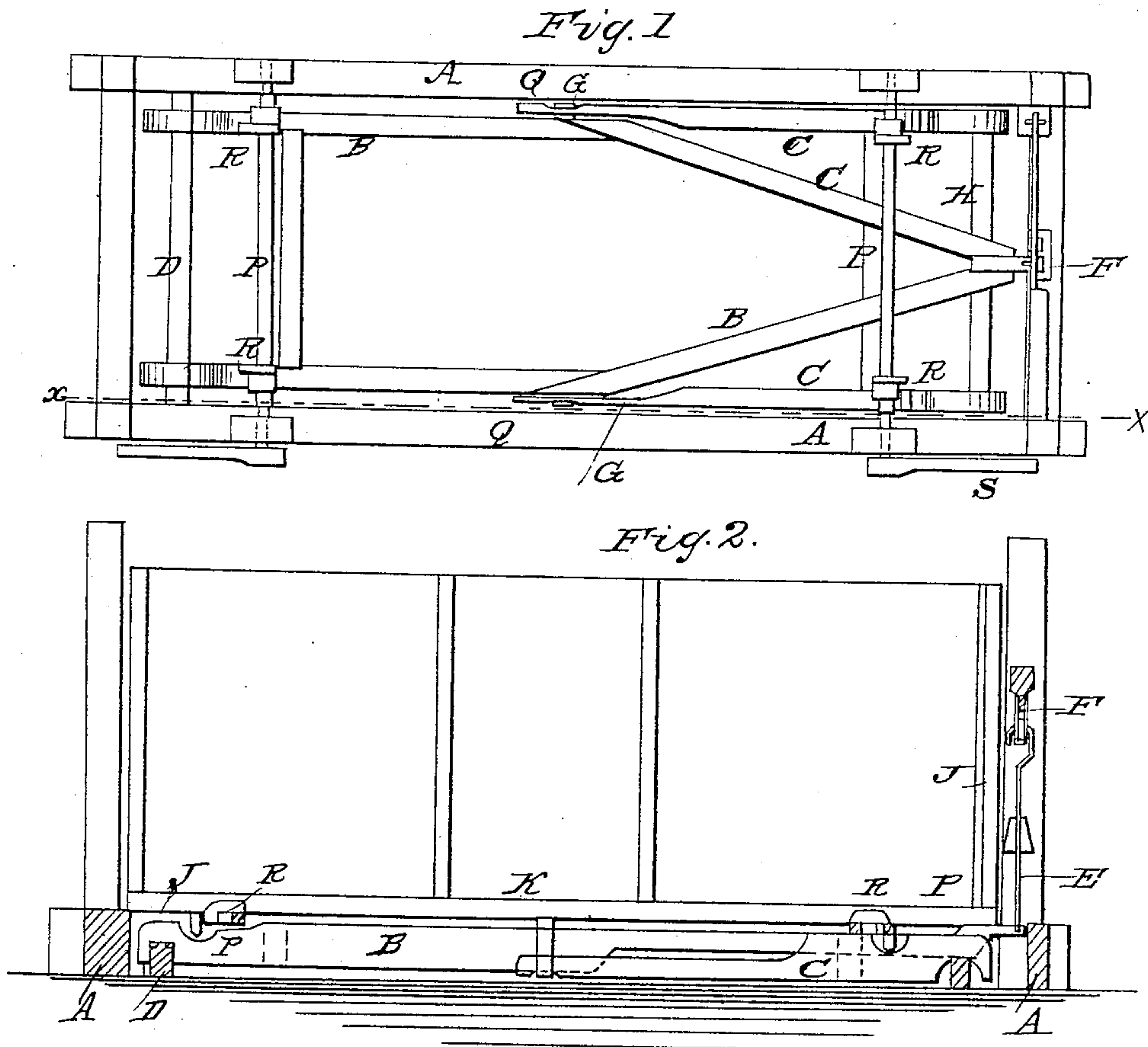


J. H. ZINN.  
Weighing Car.

No. 55,946.

Patented June 26, 1866.



WITNESSES  
J. W. Blount  
Jas A. Service

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# UNITED STATES PATENT OFFICE.

JOSHUA H. ZINN, OF KINGSTON, TENNESSEE.

## IMPROVEMENT IN WEIGHING CARS.

Specification forming part of Letters Patent No. 55,946, dated June 26, 1866.

*To all whom it may concern:*

Be it known that I, JOSHUA H. ZINN, of Kingston, in the county of Roane and State of Tennessee, have invented a new and useful Improvement in Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

This invention consists in so arranging the bottom of freight or other cars as to rest upon the lever-frames of weighing-scales, arranged and constructed in any suitable manner to allow the contents or load of the car to be weighed, the frame of the car being constructed in any of the ordinary modes and sustained or supported upon trucks and wheels as usual with brakes arranged in the usual manner.

In accompanying plate of drawings my improvement in cars is illustrated, Figure 1 being a plan or top view of the weighing levers or frames, arranged in connection with the frame of the car, and Fig. 2 a vertical section taken in the plane of the line *x x*, Fig. 1, and in the direction of the length of the car.

Similar letters of reference indicate like parts.

A in the drawings represents the frame of a car, in the bottom of which, but above the plane of the trucks or running-gear of the car, I have arranged a system of levers or frames, B and C, such as are used in the ordinary platform-scales. One of these frames, B, extends the whole length of the bottom of the car-frame A, or nearly so, turning at one end upon the upper-side edge of the cross bar or brace D of the same, but connected at its other, through the vertical rod or bar E, with one end of the graduated lever or weighing-beam F, hung at or near one end of the car-frame at such height and in such a position as to be most convenient for inspection when weighing, &c. This index or graduated bar or beam may be either arranged upon the outside or inside of the car and inclosed within a suitable box or casing provided with a door for opening or closing the same, so that the said beam can be examined when so desired.

The other lever-frame, C, extends from the center of the car-frame bottom, or nearly so, (where it is pivoted at the ends of each of its

arms G,) to the end of the car-frame at which the lever or weighing-beam is arranged, as above explained, where it rests and turns in a similar manner to the other frame, B, upon the upper edge of a cross bar or brace, H, of the car-frame.

J is a frame or box loosely fitting upon the inside of the ordinary box or frame of the car and resting by its bottom K upon the lever-frames B and C. In this inside box or frame, the bottom of which corresponds to the platform of ordinary weighing-scales, the freight or load is placed. It is intended that when this box or frame is empty it will exactly balance the weighing-pan of the scales at the first notch of the index lever or beam, so that, if the car is then loaded either more or less, as the box J, in which the freight is placed, rests upon the lever-frames B and C, connected to such index-bar as explained, it is obvious that the amount of such load or freight can be weighed with the utmost readiness and accuracy, the same as with ordinary weighing-scales.

To raise the weight from the weighing levers or frames B and C as the car is moving over the rails, so as to prevent all possibility of injury or damage occurring to the weighing devices, I have arranged at each end of the car, and below the bottom of the loose inside box, a transverse shaft, P, having near each of its ends, upon the inside of the car-frame beams Q Q, a cam-shaped plate or disk, R, which disks, by turning such shafts in the proper direction through their handles S S, come to a bearing against the under side of the bottom of the inside box, and, raising it from the lever weighing-frames, remove its weight therefrom, transferring it to the main portion of the car-frame, these disks being held in such position by means of any suitable catch or other device which will keep their respective shafts from turning until disengaged when so desired.

Among the many advantages secured by my weighing attachment to cars, above explained, may be here mentioned as the most important that, first, the weighing can be accomplished with the greatest readiness, dispatch, and accuracy; second, that much expense in the weighing of freight is thus saved and the



convenience of performing it much increased; third, that for the weighing of coal, petroleum, and many commodities or merchandise, my improvement is of the utmost importance and advantage, for by applying my arrangement or any other suitable arrangement of weighing devices to a car especially constructed for the carrying of petroleum, its weight in bulk can be ascertained in a moment.

Although I have herein particularly described one mode of arranging a system of weighing levers in connection with a car so that the freight or load carried by the same can be weighed with accuracy, it is obvious that the arrangement of levers can be varied in many respects; and therefore I do not intend to limit myself to any one particular mode, the present invention consisting in so arranging a system of levers or frames in connection with the bottom of a car that the load or freight upon it can be weighed, either in part or whole, with the utmost accuracy.

I claim as new and desire to secure by Letters Patent—

1. The arrangement of the levers or frames B and C within the bottom portion of the frame of a car, and connected together and with any suitable weighing lever or beam, in combination with the inside box or casing resting at each end upon such frames B and C, substantially as described, and for the purpose specified.

2. The shaft P, having cam-shaped disks R, so arranged as to lift the inside box from the weighing levers or frames, for the purpose set forth.

The above specification of my invention signed by me this 23d day of December, 1865.

J. H. ZINN.

Witnesses:

O. STEINWEHR,  
W. B. LOVE.