

UNITED STATES PATENT OFFICE.

DAVID H. WARREN, OF MONTREAL, QUEBEC, CANADA, ASSIGNOR OF ONE-HALF TO JAMES BAYLIS, OF SAME PLACE.

APPARATUS FOR INDICATING THE LOAD ON RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 336,457, dated February 16, 1886.

Application filed October 17, 1885. Serial No. 180,140. (No model.)

To all whom it may concern:

Be it known that I, DAVID HIBBARD WARREN, of the city of Montreal, District of Montreal, Province of Quebec, Canada, have invented new and useful Improvements in Apparatus for Indicating the Load Placed on Railway-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same.

10 This invention has reference to the construction and arrangement of an apparatus to be applied to a railway-car provided with a truck at each end, which said trucks turn or partially rotate on the "king-pins" of the
15 car at each time the car is drawn over rails that are curved, to provide such an arrangement of parts that no obstruction is given to such turning of the trucks; and, further, that the working or moving part of such apparatus
20 may be removed when the car is in motion, and is thereby protected from being distorted or otherwise damaged by wear, so that the weight of the load by the compression of the springs may be indicated with sufficient
25 accuracy and in a convenient manner, so that the railway employes can without difficulty reckon the amount of weight which has been placed on the car, and make their charges for freight accordingly.

30 In the drawings hereunto annexed similar letters of reference indicate like parts, and Figure 1 is a diagram of the body of a car and frame of a truck, showing my invention in connection therewith. Fig. 2 is a side sectional elevation of parts shown in Fig. 1, the
35 section being taken on line *x*, Fig. 1, one of the car-springs being shown in connection therewith, the parts being in the position when the car is unloaded. Fig. 3 is a similar
40 sectional elevation to that shown in Fig. 2, but having the parts in the position and springs compressed, as in the case of the car when fully loaded. Fig. 4 is a side elevation of the indicator-lever, bracket, and graduated
45 scale. Fig. 5 is a plan of the parts shown in Fig. 4. Fig. 6 is an elevation of the rear end of the parts shown in Figs. 4 and 5.

Letter A is the body of an ordinary freight-car. B is the center; C, the truck-frame; D, the
50 truck-bolster, which is supported on the springs

E in the ordinary way, so that by the weight of the car and load pressing down the bolster D the springs E are compressed.

On the truck-frame C is secured a bracket, F, forming the fulcrum to a needle bar or lever, G, arranged so that the short end H of
55 the lever G will be acted upon by the body of the car A, and depressed, as clearly indicated in Fig. 4, from the position shown in dotted lines to the position shown in solid
60 lines, or from the positions shown in solid lines in Fig. 1 to that shown in solid lines in Fig. 4.

It will be observed that besides the point of the needle bar or lever G a graduated scale, I, is shown attached on the truck-frame C.
65 This scale is graduated in the following manner: When the car is unloaded, the lower position, or that shown in dotted lines in Fig. 4, is marked on the scale. The car is then loaded
70 to its full capacity, and the position of the needle bar or lever G, being approximately to the position shown by solid lines in Fig. 4, is again marked. The distance between the
75 two marks, obtained as above described, may be divided into any number of equal parts which will approximately and with sufficient accuracy for all practical purposes for freight-charges indicate the weight of the freight on
80 one end of the car. Both trucks or ends of the car will, however, be provided with the above-described needle bar or lever G, and by adding the amount indicated by the two
85 needle bars or levers G together the approximate weight of the whole load of the car will be reckoned.

It will be observed that the bracket F is so constructed and arranged that the needle bar or lever G may be readily put in place in the
90 bracket and removed therefrom, so that in the framing of the car a suitable boxing or receptacle may be made for keeping the needle bar or lever G in when not required to indicate the weight of the load—that is to say,
95 when the car is being moved about—thus preventing the violent action and consequent danger of damage or wear that the lever or needle-bar G would be subjected to if left in place.

I am aware that somewhat similar contriv- 100

ances have been made for indicating the load on vehicles; but this removal of the said lever G is an important point in my invention, as well as that no obstruction is given to the free
5 turning of the trucks upon their respective king-pins.

What I claim, and wish to secure by Letters Patent, is as follows:

The combination of the body of the car A,

truck-frame C, bolster D, springs E, bracket 10 F, removable needle bar or lever G, and graduated scale I, the whole constructed and arranged substantially as and for the purposes set forth.

D. H. WARREN.

Witnesses:

CHARLES G. C. SIMPSON,
A. A. SIMPSON.