

(No Model.)

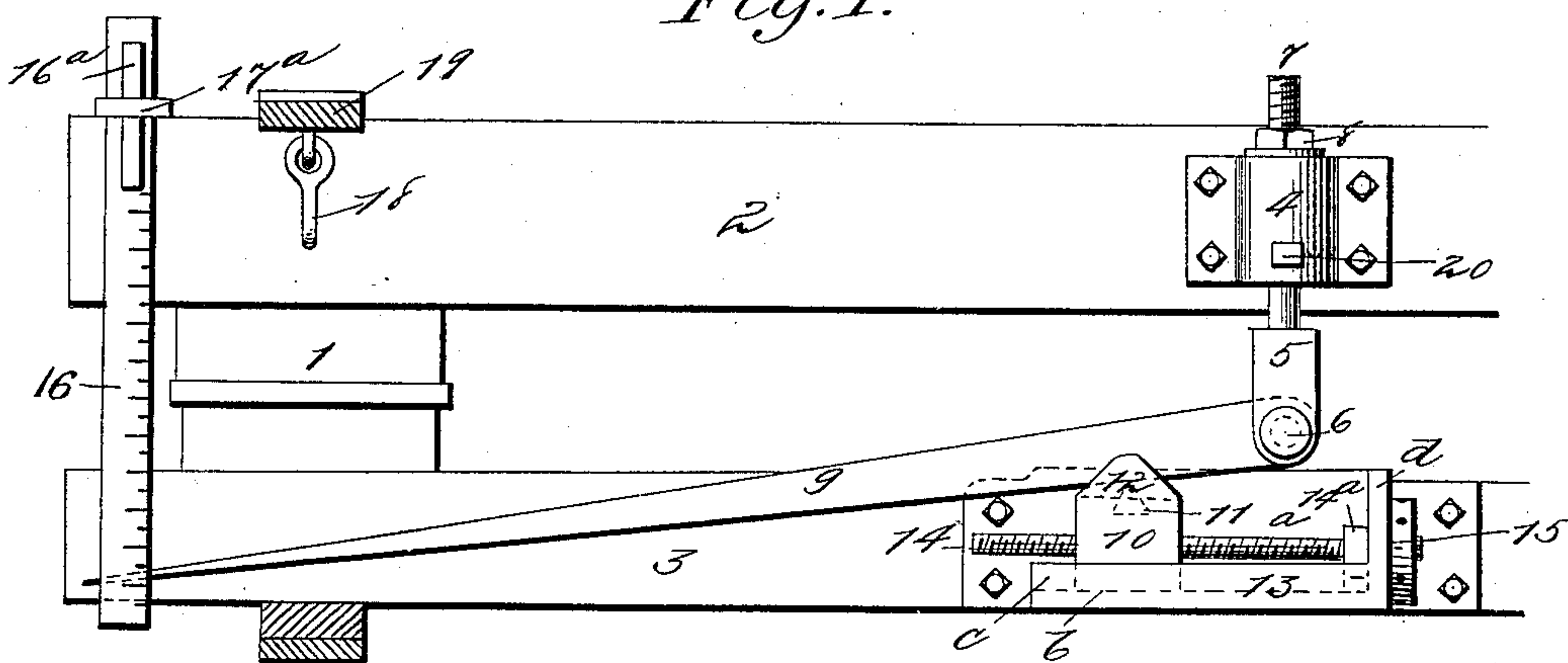
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# LOAD INDICATOR FOR RAILWAY CARS.

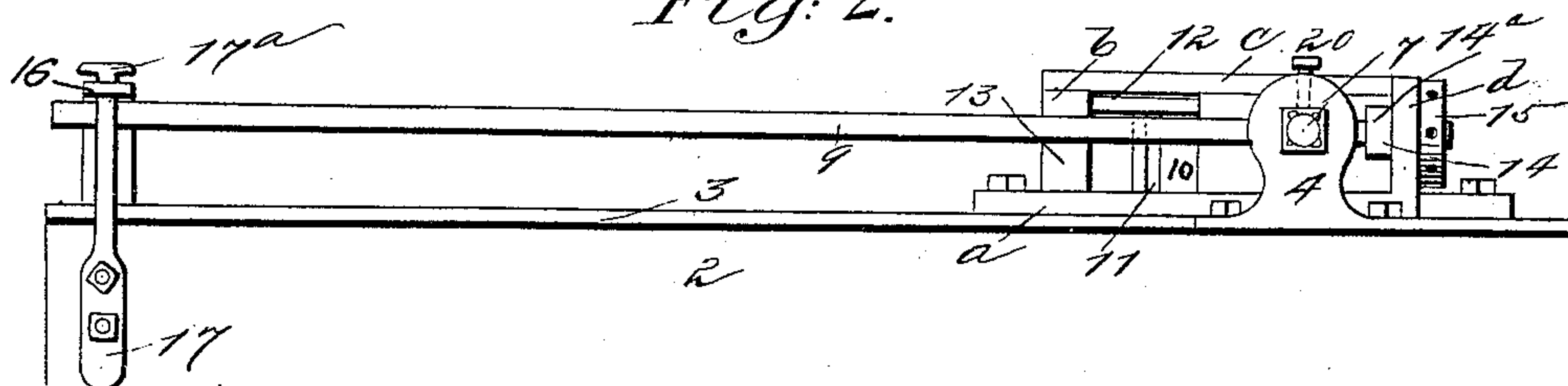
No. 565,271.

Patented Aug. 4, 1896.

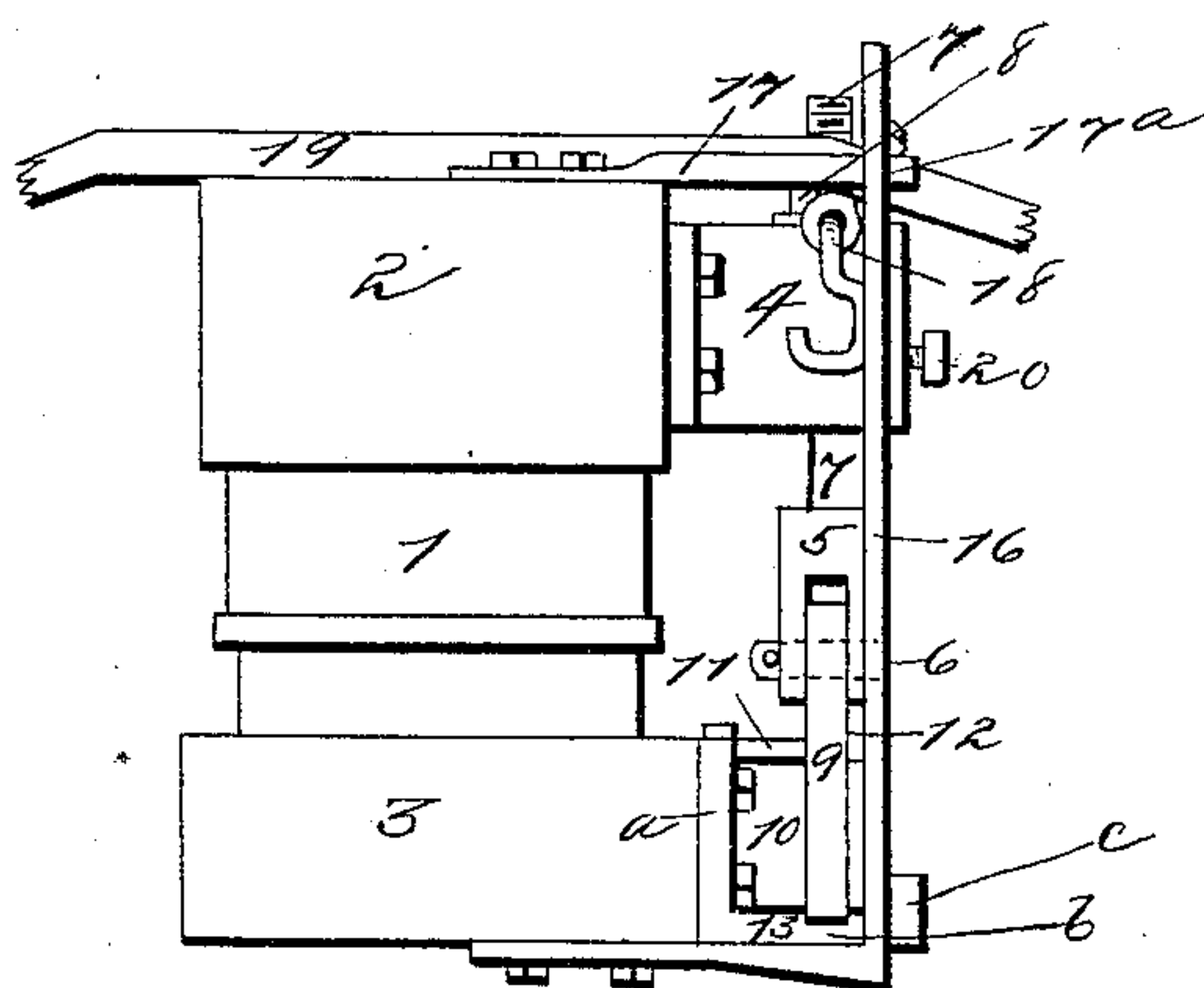
*Fig:1.*



*Fig: 2.*



*Fig: 3.*



WITNESSES:

WITNESSES:

John A. Rennie.

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# UNITED STATES PATENT OFFICE.

CARL HENRICH, OF WEBB CITY, MISSOURI.

## LOAD-INDICATOR FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 565,271, dated August 4, 1896.

Application filed June 27, 1895. Serial No. 554,239. (No model.)

*To all whom it may concern:*

Be it known that I, CARL HENRICH, of Webb City, in the county of Jasper and State of Missouri, have invented a new and Improved Load-Indicator for Railway-Cars, of which the following is a full, clear, and exact description.

This invention relates to an improvement in that class of load-indicators for railway-cars which consists in an indicating-beam made to move by the vertical movement of the car-body under the influence of its load, and coöperating with a graduated bar by which the amount of the load is determined; and the object of this invention is principally to improve the construction of the fulcrum and pivot of the indicating-lever so that each may be more readily and effectively adjusted, thereby making it possible to attain more accurate results than heretofore.

A further object is to improve the general construction and arrangement of the apparatus, to the end that it may be more durable and simple than others in its class.

These ends I attain by the mechanism illustrated in the accompanying drawings, all of which will be fully described hereinafter, and finally embodied in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 represents a side elevation of portions of a railway-car, showing my improvements applied thereto. Fig. 2 is a plan view of the improvements, and Fig. 3 is an end elevation thereof.

The reference-numeral 2 indicates the body-bolster of an ordinary freight-car, which bolster is arranged, as usual, on the truck of a freight-car, and on which bolster the car-body rests, and to which bolster the car-body is connected by the usual king-pin arrangement, and the bolster is supported on the truck-bolster 3 by means of the springs 1, said springs being arranged at each end of the bolster 2, all of which is understood.

In carrying out my invention I provide a lever 9, the same being, preferably, tapering toward its free end and pivoted to the block 5 by means of a transverse pivot-pin 6, the inner end of the lever 9 being received be-

tween the bifurcated lower end of the block 5. The block 5 has formed integral therewith the rod 7, the same being threaded and projected through a bearing 4, said bearing being rigidly secured to the side of the body-bolster 2 and at a point exactly midway between the springs 1. The rod 7 is provided with a nut 8, which operates on the screw-threads thereof and which rests upon the upper side of the bearing 4, whereby the rod and its attached block are held in place.

The bearing 4 is provided with a set-screw 20, which is passed transversely through it and made capable of engagement with the rod 7. By means of this screw the rod is made rigid on the bearing and prevented from any loose movement therein which it would possibly have when the car is in motion.

Secured to the truck-bolster 3 and at a point below the bearing 4 is a plate 13, which comprises a vertical portion *a*, lying snugly against the side of the bolster, and a horizontal or outrunning portion *b*, the same having at its outer end an upwardly-projecting flange *c* and having at its inner side a wall *d*, the same being of a height equal to that of the part *a*. The horizontal or outrunning portion *b* of the plate 13 has seated therein a block 10, which is capable of sliding throughout the length of said outrunning portion and which has a threaded shaft 14 passed through it, the said shaft being revolubly seated in the head *d* of the plate 13 and having a collar 14<sup>a</sup> on the left-hand side of the head and lying snugly against the same. The right-hand extremity of the shaft 14 is provided with a disk 15, which lies snugly against the adjacent side of the head *d* and which has peripheral recesses therein provided to permit the insertion of a tool for rotating the shaft 14, and by means of this rotation the block 10 may be moved along the portion *b* of the plate 13 in either direction, according to that in which the shaft 14 is rotated.

The block 10 is provided on its outer side and adjacent to the flange *c* with an upwardly-projecting flange 12 and has at the inner side of the flange and on the upper side of the block a knife-edge 11. Upon this knife-edge the lower side of the lever 9 is adapted to rest, and the said knife-edge forms a fulcrum for the lever.



19 indicates the usual brace for the body-bolster 2, and this brace has secured to it and depending therefrom the hook 18, which is located directly over the free end of the lever 9, and which is provided to receive and support said lever when the apparatus is not being used, the purpose of such device being to prevent useless play of the lever under the influence of the jolting movement of the bolster 2, which will result in the dulling of the knife-edge 11 and in the cutting of the lever 9.

Rigidly secured to the upper side of the bolster 2 and projecting transversely from the same is a bar 17, which has its outer end formed with a transversely-elongated head 17<sup>a</sup>, the same being passed through a slot 16<sup>a</sup>, formed in the bar 16, and this bar 16 extends vertically and perpendicularly to the plane of the bolsters 2 and 3 and has its lower extremity bent horizontally and inwardly to the under side of the truck-bolster 3, to which part it is attached by bolts, as best shown in Fig. 3. This bar 16 is provided with graduations and scale-marks indicating tons or thousands of pounds, as may be preferable, and by the operation of the lever 9 the weight placed upon the car-body may be ascertained.

It is essential to my invention that the block 5 be located at a point exactly midway the distance between the springs 1, and the fulcrum 11 of the lever 9 may be adjusted by means of the plate 13 and shaft 14, so as to arrange the parts in their proper relation, which relation is such as will register "0" when the body of the car has no weight applied thereto, or, in other words, when the car is empty. When a car is equipped with my improvement, the weight of the load will compress the springs 1 and cause the body-bolster 2 to move downwardly, whereupon the inner end of the lever 9 will be caused to move similarly and the outer end of the lever will be moved upwardly along the bar 16, and it will be quite obvious that this outer end of the lever 9 will indicate on the bar 16 the amount of weight which is applied to the car, all that is essential to the operation being the adjustment of the parts after the manner in which they are adjusted in all scales, and to make this adjustment easy is the purpose of the peculiar construction of the block 5 and its attendant parts and the fulcrum 11 and plate 13.

It will be observed that my invention is applicable to all styles of bolsters, whether they be constructed of wood or other material, and it will also be seen that the character of the springs 1 does not affect the application and operation of the invention. In the drawings but one-half of the bolsters 2 and 3 are shown, and consequently but one set of springs. It will be understood, however, that two sets of springs are always employed, and hence the foregoing reference to a plurality of springs.

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

1. The combination of a body-bolster, a truck-bolster, a fulcrum on the truck-bolster, a lever, a bearing on the body-bolster, and a rod movable vertically in the bearing and pivotally connected to the lever, substantially as described.

2. The combination with a railway-car, of a lever, a fulcrum supported by the truck, a bearing on the car-body, and a rod movable vertically in the bearing and connected to the lever, substantially as described.

3. The combination of a body-bolster, a truck-bolster, a spring for supporting the body-bolster on the truck-bolster, a bar fixed to the truck-bolster and projecting upwardly therefrom, a second bar fixed to the body-bolster and having a slidable connection with the upper end of the first bar, and a lever fulcrumed on the truck-bolster and connected to the body-bolster, substantially as described.

4. The combination of two members, a lever fulcrumed on one and connected to the remaining member, a scale-bar having a bent lower end extended horizontally and secured to the under side of the member which has the fulcrum of the lever, the remaining portion of the scale-bar being extended vertically and having a slot in its free end, and a second bar projecting outwardly from the member which is adjacent to the free end of the scale-bar and having a headed end which engages with the slot of the scale-bar, substantially as described.

CARL HENRICH.

Witnesses:

JULIUS C. FINKE,  
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