

No. 760,134.

PATENTED MAY 17, 1904.

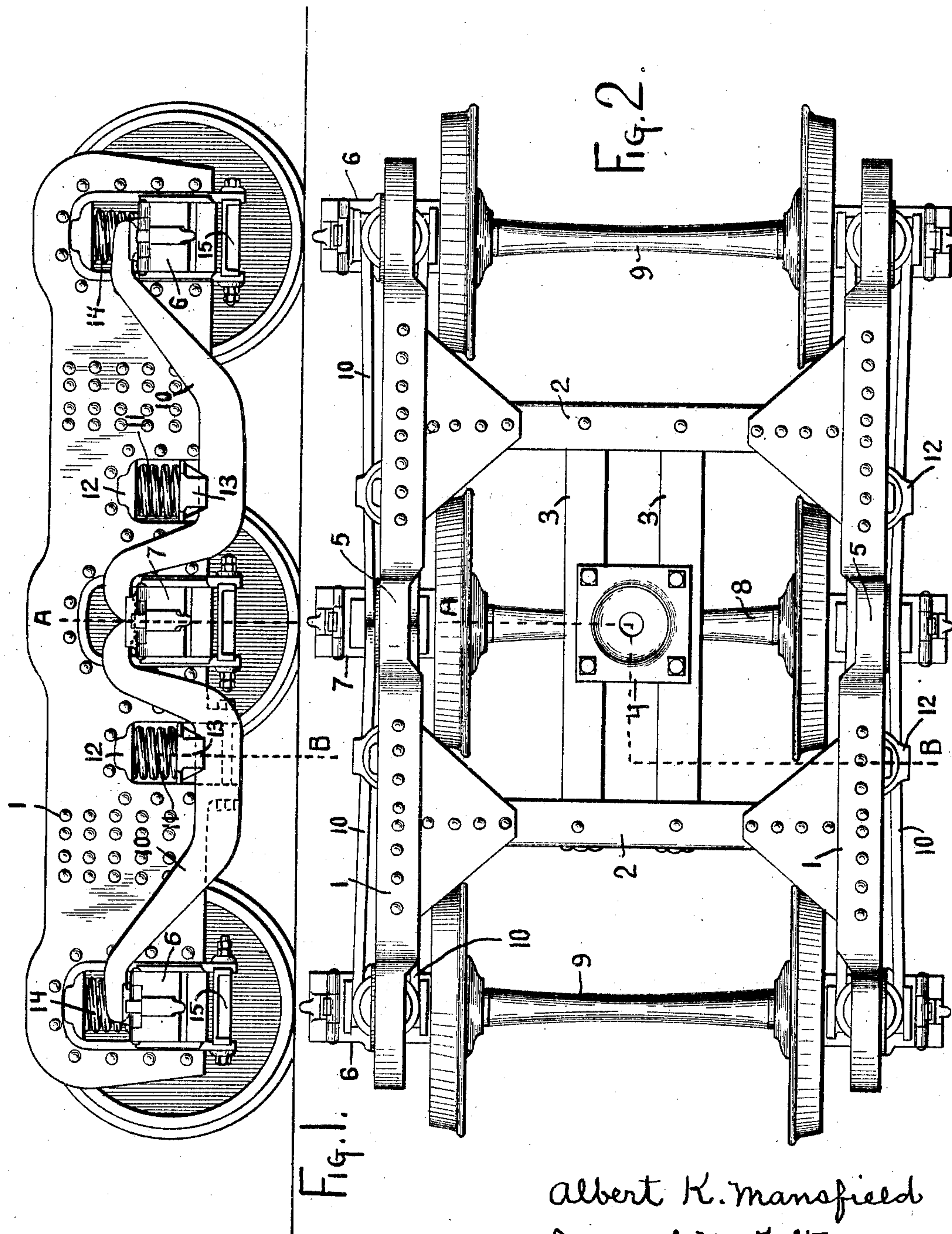
A. K. MANSFIELD & S. M. FELTON.

TRUCK FOR RAILWAY CARS.

APPLICATION FILED JAN. 28, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:  
Elmer R. Shipley.  
M. S. Belden.

Albert K. Mansfield  
Samuel M. Felton  
Inventors  
by James W. See  
Attorney

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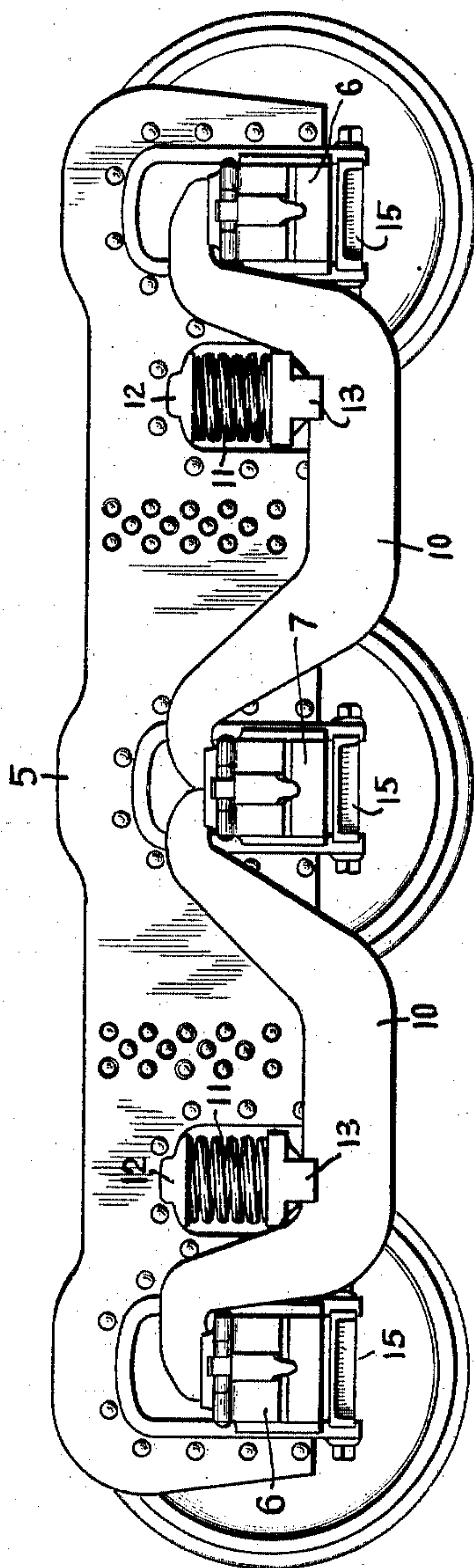
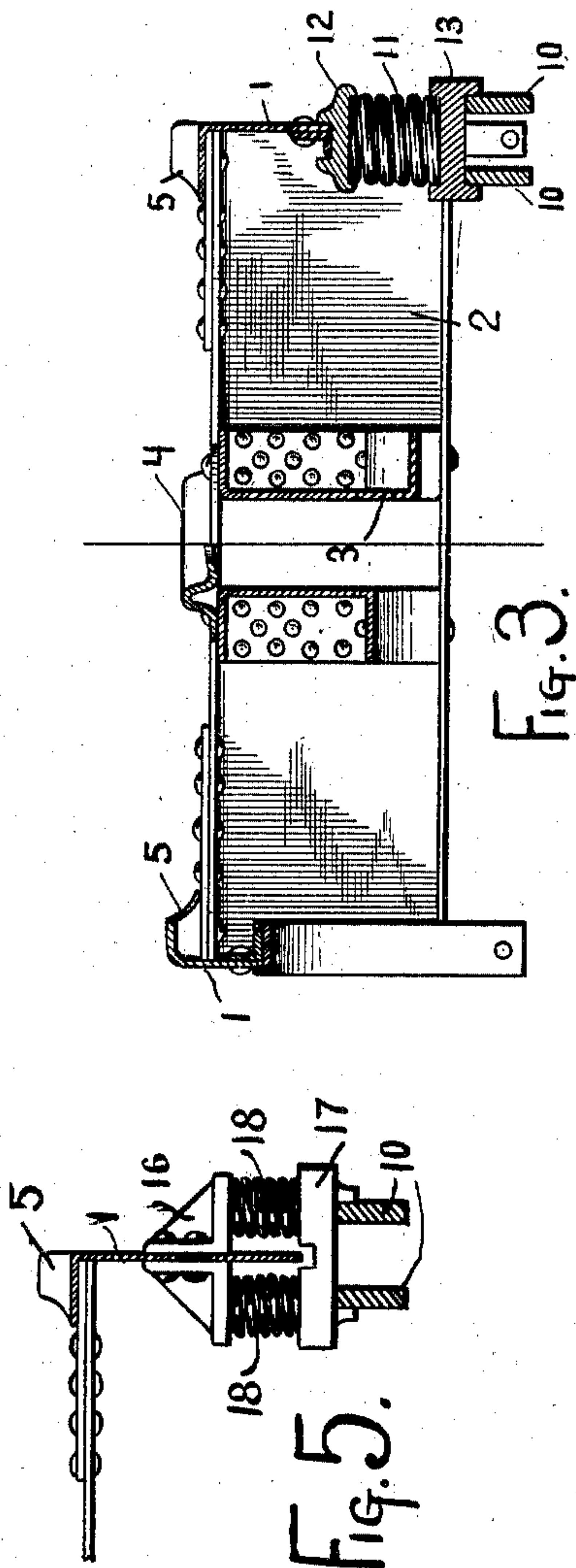
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by James W. See  
Attorney



# UNITED STATES PATENT OFFICE.

ALBERT K. MANSFIELD, OF SALEM, OHIO, AND SAMUEL M. FELTON, OF CHICAGO, ILLINOIS.

## TRUCK FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 760,134, dated May 17, 1904.

Application filed January 28, 1904. Serial No. 190,940. (No model.)

*To all whom it may concern:*

Be it known that we, ALBERT K. MANSFIELD, residing in Salem, Columbiana county, Ohio, (post-office address, No. 125 Lincoln avenue, 5 Salem, Ohio,) and SAMUEL M. FELTON, residing in Chicago, Cook county, Illinois, (post-office address, Grand Central Station, Chicago, Illinois,) citizens of the United States, have invented certain new and useful Improvements 10 in Trucks for Railway-Cars, of which the following is a specification.

This invention pertaining to improvements in trucks for railway-cars, intended particularly for freight-cars for carrying extra heavy 15 loads, will be readily understood from the following description, taken in connection with the accompanying drawings, in which—

Figure 1 is a side elevation of a truck embodying our improvement; Fig. 2, a plan of the 20 same; Fig. 3, a vertical transverse section of the same in the planes of lines A and B; Fig. 4, a side elevation illustrating a somewhat-modified construction; and Fig. 5, a vertical 25 transverse section in the plane of line B, but illustrating a somewhat-modified construction.

In the drawings, ignoring Fig. 5 for the present, 1 indicates the wheel-bars in the form of substantial built-up steel yokes containing downwardly - open pedestal - notches for the 30 journal - boxes and in some cases similar notches for equalizer - springs, these wheel-bars coming exterior to the wheels; 2, transoms extending from one wheel-bar to the other and rigidly united to them and with 35 them forming a rigid truck-frame, these transoms being disposed substantially midway between the center and end axles of the truck; 3, subtransoms disposed parallel with each other and extending fore and aft of the truck- 40 frame between the transoms, one at each side of the longitudinal center line of the truck, these subtransoms being rigidly secured at their ends to the transoms; 4, the truck center plate rigidly secured to the subtransoms; 45 5, the seats for the truck side bearings (not shown) carried by the central upper portions of the wheel-bars; 6, the journal-boxes for the end axles, the same sliding vertically in the pedestal-notches of the wheel-bars; 7, the jour-

nal-boxes for the center axle similarly mounted in the wheel-bars; 8, the center axle; 9, the end axles, the three axles having the usual car-wheels fast upon them; 10, the equalizer-bars, consisting, in the examples, of four pairs, two 50 pairs at each wheel-bar, the two equalizer-bars of a given pair being disposed one on each side of the wheel-bar, both the equalizer-bars resting their inner ends on the journal-box of the central axle and resting their outer 60 ends on the journal-box of the appropriate outer axle; 11, equalizer-bar springs seated in the downwardly-open notches in the wheel-bars, there being one spring over the intermediate portion of each pair of equalizer-bars, the equalizer-bars being depressed at their in- 65 termediate portions, so as to make room for the springs and their fittings between the equalizer-bars and the roofs of the notches provided for the springs in the wheel-bars; 12, the equalizer-spring caps engaging the 70 tops of the equalizer-bar springs and having lugs straddling the wheel-bars at the roofs of the notches for the equalizer-bar springs; 13, the equalizer-bar-spring seats, the lower ends of the springs 11 resting on these seats and 75 lugs projecting downwardly from the seats straddling the pair of equalizer-bars to which the springs respectively pertain; 14, journal-box springs disposed over the journal-boxes of the end axles between the same and the 80 roofs of the pedestal-notches in the wheel-bars, and 15 notch tie-bars rigidly secured in the bases of the pedestal-notches and spring-notches in the wheel-bars, whereby the equalizer-bar springs and the journal-boxes and 85 their springs become seated virtually in mortises in the wheel-bars.

The construction set forth in Fig. 1 assumes that the several springs are of equal capacity, and an analysis of the drawings will show that 90 the construction results in a rigid six-wheeled truck perfectly equalized as to load-pressures upon the journals. If instead of the several springs being of equal capacity the capacity of the journal-box springs differs from that 95 of the equalizer-bar springs, then the position of the equalizer-bar springs along the equalizer-bars will be varied accordingly in an ob-



vious manner. It is to be observed that the construction permits of the application of inside brakes to all the wheels.

In Fig. 1, as well as in Fig. 4, the equalizer-bar springs are shown as disposed in notches formed in the wheel-bars, the notch tie-bars 15 reinforcing the wheel-bars at the notches. It is not essential that the wheel-bars be thus notched for the equalizer-bar springs, for, if preferred, each equalizer-bar spring may find a substitute in a pair of springs straddling the wheel-bar, as illustrated in Fig. 5, in which 16 indicates brackets rigidly secured upon the inner and outer faces of the wheel-bar; 17, a double spring-seat disposed below the lower edge of the wheel-bar and resting on both equalizers of the pair, and 18 a pair of equalizer-bar springs engaging between the brackets 16 and spring-seat 17, one on each side of the wheel-bar, these two springs cooperating in performing the duty performed by a single equalizer-bar spring in the examples previously considered. The individual springs composing the pair may obviously be of but half the capacity of a single spring performing the duty of the pair and located at the same point along the equalizer-bar. If the individual springs composing the pair are of the same capacity as the individual journal-box springs, then manifestly the location of the equalizer-bar springs becomes correspondingly altered.

The journal-box springs 14 are necessary only in case it is desirable to lighten the load upon the individual springs. In the modification illustrated in Fig. 4 these journal-box springs are omitted, and the entire load is carried on the equalizer-bar springs 11, which it will be observed are in this case disposed closer to the end axles than to the center axle, the perfect equalization for inequalities of track being still maintained. The double spring system of Fig. 5 is of course applicable to the arrangement shown in Fig. 4 as well as to that shown in Fig. 1.

We claim as our invention—

1. In a railway-car truck, the combination, substantially as set forth, of a pair of wheel-bars each having three notches or yokes for journal-boxes, a journal-box mounted for vertical movement in each of said yokes, a pair of separated transoms arranged parallel with each other and rigidly uniting the two wheel-bars, a truck center-bearing seat and truck side-bearing seats directly carried by the rigid

truck-frame, and means for equalizing the pressure exerted by the load upon said journal-boxes through the rigid truck-frame.

2. In a railway-car truck, the combination, substantially as set forth, of a pair of wheel-bars each having three notches or yokes for journal-boxes, a journal-box mounted for vertical movement in each of said yokes, a pair of separated transoms arranged parallel with each other and rigidly uniting the two wheel-bars, a truck center-bearing seat and truck side-bearing seats directly carried by the rigid truck-frame, equalizer-bars engaging said journal-boxes, and equalizer-bar springs acting between said equalizer-bars and the rigid truck-frame.

3. In a railway-car truck, the combination, substantially as set forth, of a pair of wheel-bars each having three notches or yokes for journal-boxes, a journal-box mounted for vertical movement in each of said yokes, a pair of separated transoms arranged parallel with each other and rigidly uniting the two wheel-bars, a truck center-bearing seat and truck side-bearing seats directly carried by the rigid truck-frame, equalizer-bars engaging said journal-boxes, equalizer-bar springs acting between said equalizer-bars and the rigid truck-frame, and springs interposed between the truck-frame and the journal-boxes of the end axles, all of the springs being so arranged as to equalize the pressure of load upon the several journal-boxes.

4. In a railway-car truck, the combination, substantially as set forth, of a pair of wheel-bars each having three notches or yokes for journal-boxes, a journal-box mounted for vertical movement in each of said yokes, a pair of separated transoms arranged parallel with each other and rigidly uniting the two wheel-bars, a truck center-bearing seat and truck side-bearing seats directly carried by the rigid truck-frame, equalizer-bars arranged in pairs straddling the wheel-bars and engaging the journal-boxes, and equalizer-bar springs engaging between the equalizer-bars and the rigid truck-frame.

ALBERT K. MANSFIELD.

SAMUEL M. FELTON.

Witnesses as to Mansfield:

ATTILIO PIATTI,

PAUL JEAN FURNOR.

Witnesses as to Felton:

W. G. LERCH,

E. C. DEHNE.