W. S. ADAMS.

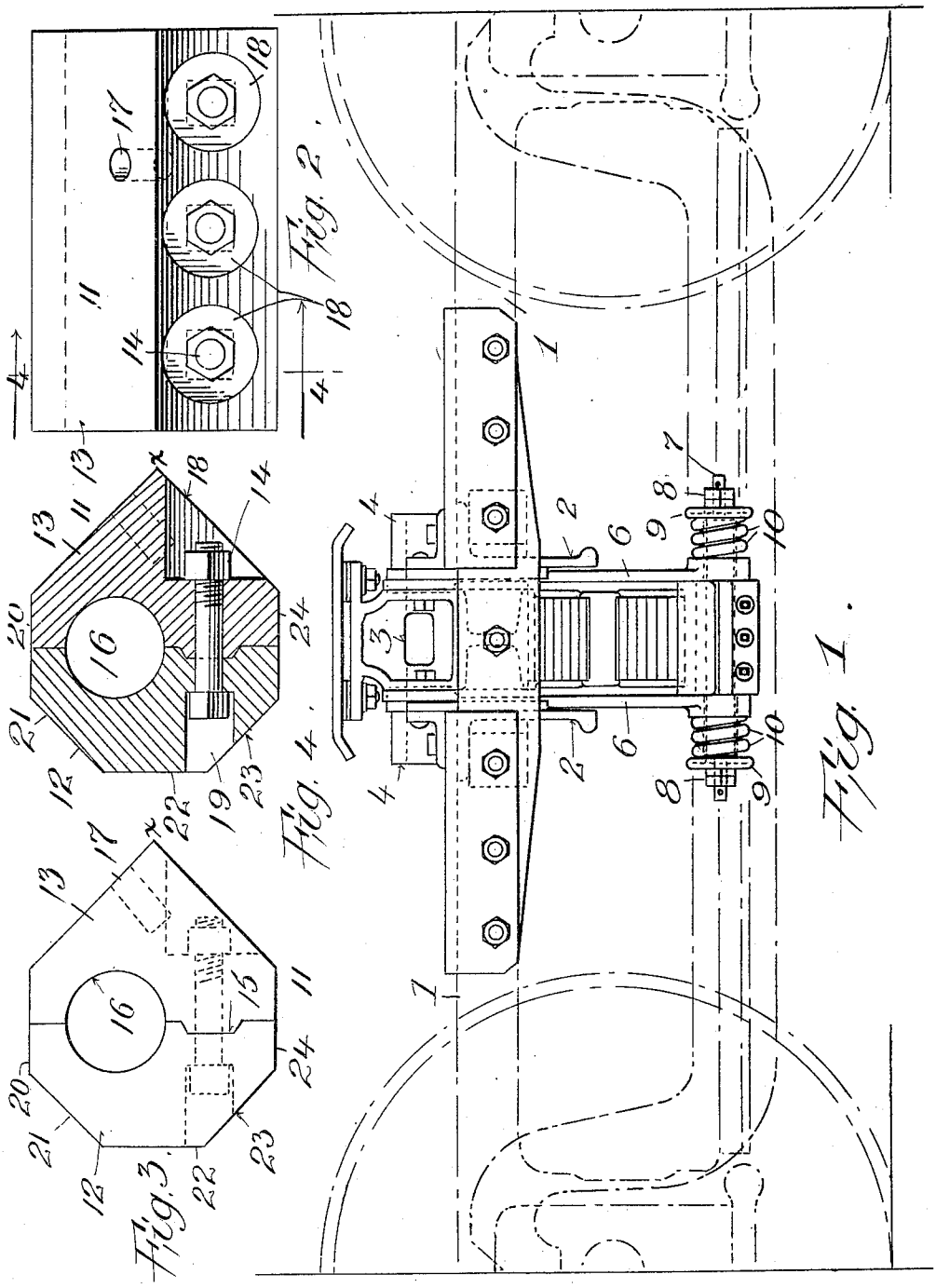
CAR TRUCK.

APPLICATION FILED JULY 8, 1913.

1,108,874.

Patented Sept. 1, 1914.

2 SHEETS—SHEET 1.



Witnesses:
W. W. Benjamin
B. J. Arnold

Inventor
Walter S. Adams.
By His Attorney
Joseph L. Levy

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

W. S. ADAMS.

CAR TRUCK.

APPLICATION FILED JULY 8, 1913.

1,108,874.

Patented Sept. 1, 1914.

2 SHEETS—SHEET 2.

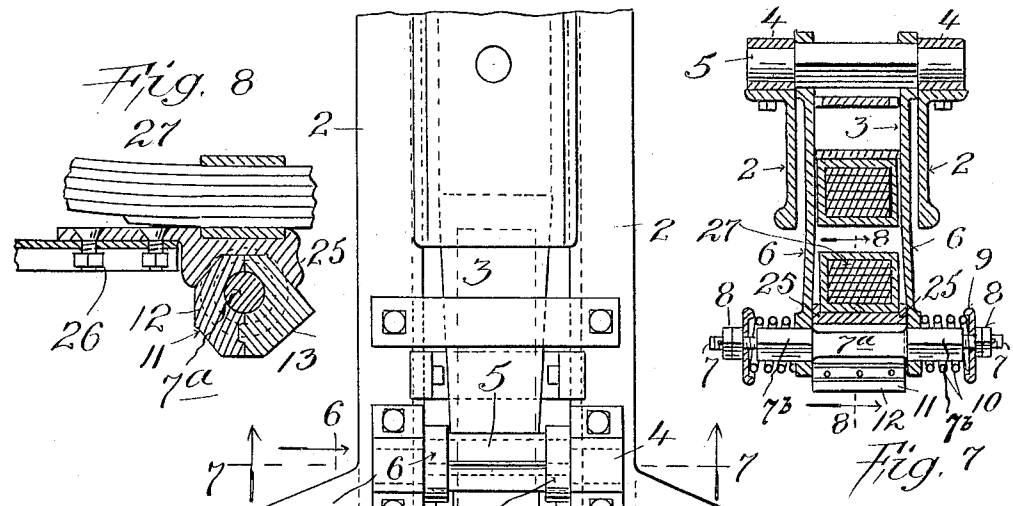
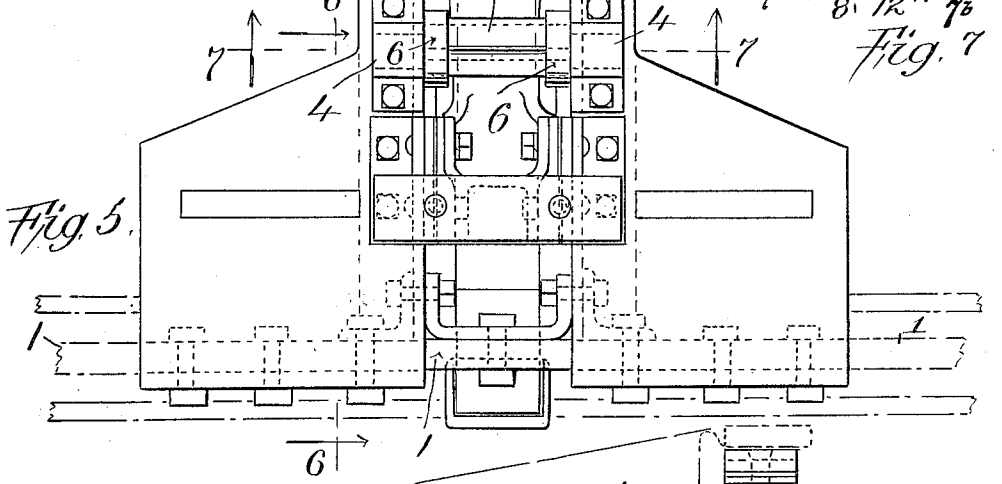


Fig. 7



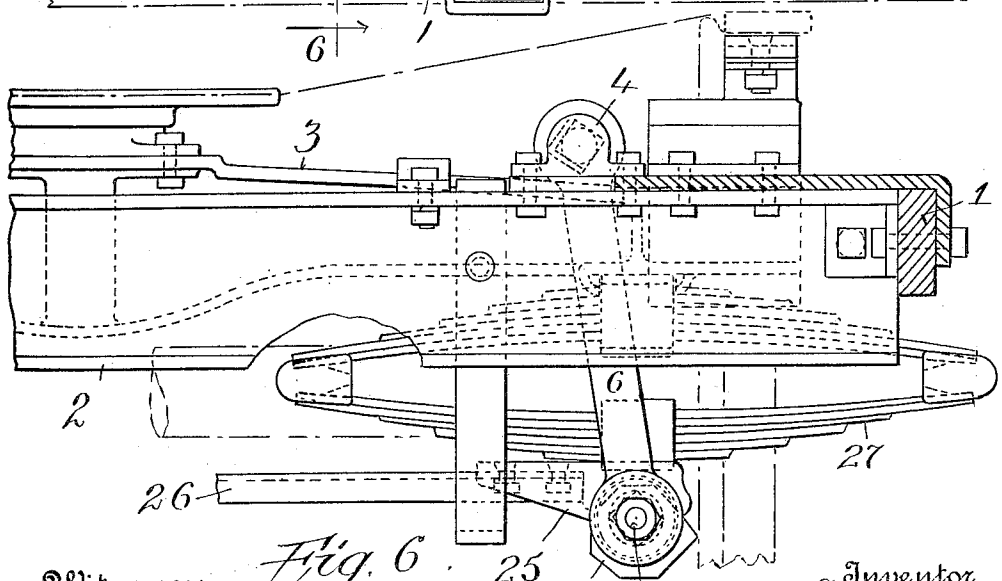


Fig. 6.

Witnesses:
C. W. Benjamin
G. D. Armour

Inventor
Walter S. Adams.
By his Attorney
Joseph L. Lewis

UNITED STATES PATENT OFFICE.

WALTER S. ADAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE J. G. BRILL CO., OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CAR-TRUCK.

1,108,874. Specification of Letters Patent. Patented Sept. 1, 1914.

Application filed July 8, 1913. Serial No. 777,801.

To all whom it may concern:

Be it known that I, WALTER S. ADAMS, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have made a new and useful Improvement in Car-Trucks, of which the following is a specification.

The object of my invention is to provide a car truck which may be adjusted so as to carry the car in an upright and proper manner although the springs sag on one side more than on the other.

Heretofore, when heavy cars have been carried on springs embodied in the car trucks and the springs on one side have sagged, the car has been canted over so as to be out of true and the floor out of level when the trucks of the car are on a level stretch of track. Or the car may have been lowered below the designed height by irregularities in the springs. Further, in the use of car trucks, it has been found that a change of level of the car floor or in its designed height has occurred through the reduction in diameter of the truck wheels due to peripheral wear. By my invention these difficulties are overcome, as the irregularities of the springs or the even or uneven settling of the car may be compensated for from time to time as such irregularities occur, without interfering with the operation of the car for more than a few minutes, and without withdrawing it from service.

My invention further has for its object to provide means for restraining the excessive lateral swing of the bolster.

My invention further allows for altering the splay of the swing links supporting the bolster and thereby adjusting its freedom for lateral motion.

For a more particular description of my invention, reference is to be had to the accompanying drawings, forming a part hereof, in which—

Figure 1 is an end view of my improvement, portions of the car truck being indicated by dotted lines so as to more clearly reveal the structure to which my improvement is applied; Fig. 2 is a side elevation of a portion of the adjusting mechanism; Fig. 3 is an end elevation of the structure shown in Fig. 2; Fig. 4 is a sectional view, taken on the line 4—4 of Fig. 2, looking in the direction of the arrows; Fig. 5 is a plan view of the structure shown in Fig. 1; Fig. 6 is a side elevation of the same, partially in section, the section being taken on the line 6—6 of Fig. 5, looking in the direction of the arrows; Fig. 7 is a sectional view, taken on the line 7—7 of Fig. 5, looking in the direction of the arrows; and Fig. 8 is a sectional view, taken on the line 8—8 of Fig. 7, looking in the direction of the arrows.

Throughout the various views of the drawings, similar reference characters designate similar parts.

While my improved truck adjuster is particularly adapted to a truck with a spring plank, this adjuster may be applied to any suitable form of truck, as desired. Trucks of this character are provided with the usual frame 1 which includes transoms 2 in which is mounted a bolster 3 provided with center bearings and side bearings, all of the conventional type. The bolster 3 is supported from the transom 2 by means of suitable brackets or pedestals 4 carrying a pivot 5 from which are suspended hangers 6 of the conventional type. The lower ends of these hangers 6 are preferably perforated with square holes which fit snug on the squared ends of the swing-link pin 7. This swing-link pin 7 has a center portion 7^a which is circular in cross-section, and on each side thereof are the squared parts 7^b which extend to the screw-threaded ends, which latter are adapted to receive nuts 8, one of which at each end is preferably a lock nut, and washers 9 which rest against coiled springs 10 concentric with the axis of the pin 7 and which press the hangers 6 close against a swing link adjusting block 11, which will now be described. This adjusting block 11, which is most clearly shown in Figs. 2, 3 and 4, is composed of two parts 12 and 13 united by suitable bolts 14 and a suitable tongued and grooved connection 15. Between the parts 12 and 13 and near the top surface is a suitable cylindrical opening circular in form, as shown at 16 and this opening bears upon the pin at its central portion 7^a and turns free and true thereon without lost motion. The part 13 has a cylindrical hole 17, as shown in Fig. 2, which is adapted to receive a crowbar and other suitable holes 18 for the bolts 14. The part 12 has a suitable hole 19 for each of said bolts. The opening 16 is placed eccentric of the longitudinal axis of the swing link adjusting blocks, as shown in Figs.

3 and 4. Several of these surfaces are the same as corresponding surfaces of a prism with a base which is a regular octagon, these surfaces being numbered 20, 21, 22, 23 and 24. This block is made with seven instead of eight sides, so that the point marked X on Figs. 3 and 4 will prevent it being turned too far, only surfaces 20, 21, 22, 23 and 24 being able to be turned to the top, thus the splay of the links 6 will never be less than when the block is in its initial position, with face 20 at the top. Pin hole 17 is so located as to be accessible whether 20, 21, 22, 23 and 24 are at the top. It is also to be noted that a normal to the top surface of Fig. 3, here designated as 20, passes through the axis of this opening 16, and the next surface 21 has a normal, as indicated in dotted lines, which passes below this center, and the next surface 22 has a normal even more removed from this axis. The surface 23 which is next to surface 22 has a normal which passes through the axis of the block 11 and the normal 24 of the surface is the same as the normal from the surface 20. It is obvious that the farther a normal to a surface 21, 22, or 23 is removed from the axis of this opening 16, the more splayed the hangers 6 will be when the structure is in use. While the block 11 has seven faces, all meet with the exception of the two at the right of Fig. 3, at an angle of 135 and the opening 16 is eccentric to the axis of this block.

The block 11 is surmounted by a suitable bearing 25 which carries a spring plank 26, which has suitable leaf springs 27 which support the bolster 3 in the conventional manner.

When the above described structure is in use, and one or more of the springs sags on one side of the car, so that it is desirable to raise the same to keep the car in proper position with regard to the trucks and to compensate for the distortion of the springs, or, if for any other reason the adjusting blocks are to be called into use such as wear of wheels, or installation of wheels of smaller diameter, this is done by placing a crow-bar in the opening 17 and turning the block 11 about the axis of the opening 16. This raises the seat 25 and thereby elevates the bolster and the side bearing of the car so as to correspond, and if the shifting is from the seat 20 to the seat 21, or from the seat 21 to the seat 22, or from the seat 22 to the seat 23, the links or hangers 6 will be correspondingly splayed with an increased splay thereby tending to elevate the car on the side in question for this reason. When the springs are restored to their normal and proper condition and the set is removed, or new springs are substituted, then the block 11 may be turned in the reverse direction, and the normal and original position resumed. To restore or alter the car level as desired, both of the adjusting blocks at each end of the bolster can be manipulated.

The spiral springs 10, the tension of which may be adjusted by the nuts 8 may be used to regulate the friction between the hangers, the adjusting block, and casting 25 and thus regulate and restrain the side or lateral swing of the bolster or car.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but is broad enough to cover all structures that come within the scope of the annexed claims. For instance, I may use two adjusting blocks at the ends of the upper pin in the link 6, which blocks would rest in the bearings 4, also I might use adjusting blocks at both top and bottom when by turning both top and bottom blocks, the bolster may be raised without changing the splay of the links.

What I claim is:

1. In a device of the class described, means having a plurality of flat surfaces eccentric to the axis about which it is rotatably mounted for elevating springs at one side of a car truck to compensate for the sagging or set of said spring so that the car body may be maintained at its proper height.

2. In a device of the class described, a spring and rotatable adjustable means having a plurality of flat surfaces throughout its entire length for supporting the same so that said spring may be elevated whereby a car body may be maintained at its proper height.

3. In a device of the class described, transoms, hangers and means for pivotally mounting said hangers from said transoms, a pin uniting the lower ends of said hangers, a block mounted to turn on said pin and having flat surfaces eccentric to the axis of said pin, a spring plank with a bearing adapted to rest on said block, and a spring on said spring plank having a bearing mounted directly on said pin and directly supporting said spring.

4. In a device of the class described, transoms, hangers and means for supporting said hangers from said transoms, a pin connecting the lower ends of said hangers, an adjusting block and springs for forcing the said hangers in contact with said adjusting block.

5. In a device of the class described, a truck frame, hangers and means for supporting said hangers from said frame, a pin connecting the lower end of said hangers, an adjusting block mounted directly upon and adapted to rotate on said pin, said block having flat surfaces eccentric to the axis of said pin, so that when said block is turned the top surfaces may be varied in distance from said axis.

6. In a device of the class described, a block having two parts adapted to be en-

gaged over a swing-link pin, a cylindrical opening extending through said block with an axis eccentric thereof, and surfaces meeting at a common dihedral angle with normals varying in their nearest distance to said axis of said opening.

7. In a device of the class described, a truck frame, hangers pivotally mounted in said frame, a pin uniting the lower ends of said hangers, a block on said pin, springs on said pin and means for causing said springs to force the hangers against said block.

8. In a device of the class described, a truck frame, hangers pivotally mounted in said frame, a pin uniting the lower ends of said hangers, a block with surfaces eccentric to the axis of the pin mounted on said pin, springs on said pin and means for causing said springs to force the hangers against said block.

9. In a device of the class described, a truck frame, hangers pivotally mounted therein, a block supported from said hangers, springs supported by said hangers, and means for causing said springs to force the hangers against said block.

10. In a device of the class described, a truck frame, hangers pivotally mounted therein, a block supported from said hangers, springs supported by said hangers, and rotatable means having a plurality of flat faces for causing said springs to force the hangers against said block.

11. In a device of the class described, a truck frame, hangers pivotally mounted therein, a rotatable block with flat surfaces concentric to the axis of the block, said block being supported in the lower ends of said means, springs supported by said hangers, and means for causing said springs to force the hangers against said block.

Signed at the city of Philadelphia, county of Philadelphia, and State of Pennsylvania, this 3rd day of July, 1913.

WALTER S. ADAMS.

Witnesses:
HENRY C. ESLING,
H. F. MCKILLIP.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."