(No Model.)

T. H. ALLEN.

CAR BRAKE.

No. 520,384. Patented May 22, 1894.

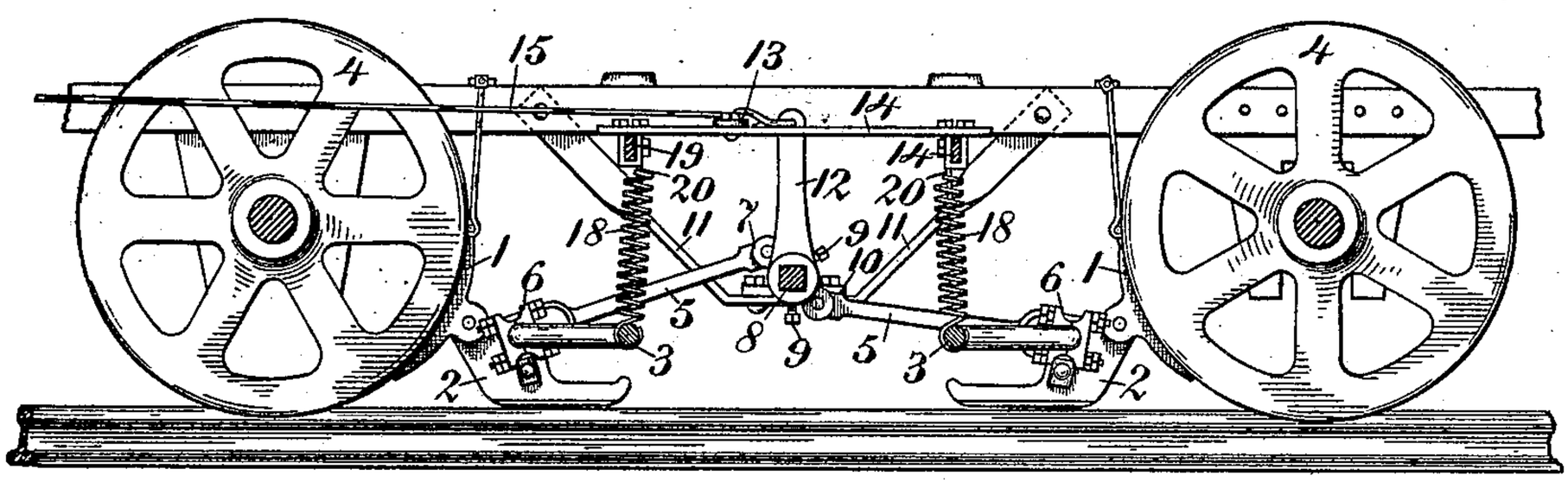

Fig. 1.

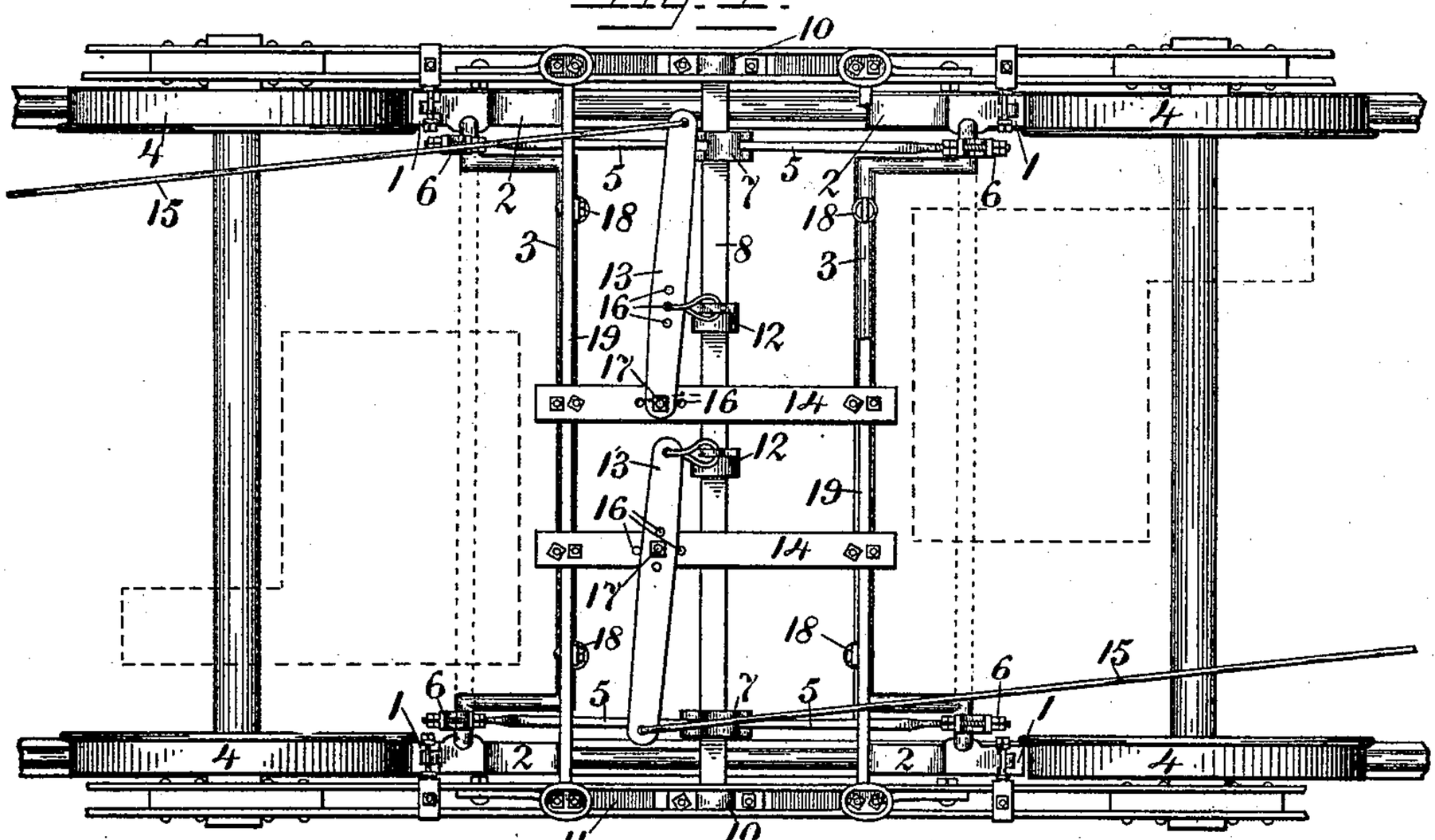

Fig. 2.

Fig. 3.

WITNESSES

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CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 520,384, dated May 22, 1894.

Application filed September 19, 1893. Serial No. 485,800. (No model.)

To all whom it may concern:

Be it known that I, THOMAS HENRY ALLEN, of the city of Toronto, in the county of York and Province of Ontario, Canada, have invented certain new and useful Improvements in Railway-Brakes, of which the following is a specification.

My invention relates to certain improvements on my previous application for a patent filed January 11, 1893, as Serial No. 458,071, and have for their objects the following: First, to provide a means for connecting the opposite rail brakes together in pairs so as to prevent the outer ends from swinging out of the alignment of the rails. In this improvement I am enabled to utilize this brake bar for connecting the strut bars to operate the brakes. Secondly, to provide for adjustment of the uniform contact of the rail brakes on the rails at same time, by means of a divided or bifurcated end on each of the strut bars connected to rail brakes, instead of connecting said strut bars at center and using turnbuckles. Thirdly, I provide a rocker shaft to operate the strut bars and insure more certain and direct action of said strut bars than in my former means, and fourthly, I provide means for increasing the leverage or decreasing the same as necessary to operate the brakes against the wheels and the rails.

I accomplish the foregoing objects by means of the mechanism illustrated in the accompanying drawings, in which similar numbers of reference refer to similar parts throughout.

Figure 1—represents a central longitudinal section through a truck provided with my invention. Fig. 2—represents a plan of a truck equipped with said invention, and Fig. 3—represents a detail of the means of supporting and adjusting the springs to release the brakes.

I employ the same combined wheel and rail brakes 1 and 2 respectively, jointed together as in my former improvements but I couple each pair, on the same pair of wheels, together by a coupling bar 3 bent as shown to pass the motors of electric cars where such are placed between the wheels 4 of the truck, but where no motors are in the way the said bars 3 may pass directly between the rail brakes 2 as shown by dotted lines in Fig. 2. The coupling bar 3 is turned downward at each end and bolted to each rail brake 2, and to this bar 3 I connect the strut bars 5 which are divided at their outer ends and have each a split journal bearing 6 secured therein which engages the bar 3. At the inner or opposite ends of the bars 5 they are jointed to a double crank 7 carried on a rocker shaft 8. The cranks 7 are merely rings secured in position by set screws 9 on the preferably square rocker shaft 8 and having lugs on a diametrical line from one another, and at about forty-five degrees from the vertical and horizontal planes, normally, but when operated these lugs move toward the horizontal plane and force the bars 3 outward and thereby apply the wheel and rail brakes 1 and 2 respectively, on the wheels 4, and the rails of the road. The rocker-shaft 8 is journaled at its ends in bearings or journals 10 secured to and carried by a hanger 11 supported by the frame of the truck. On the rocker-shaft 8 and toward the center of it are secured two arms 12, by means of set screws 9 similar to those securing the cranks 7. To the upper ends of these arms 12 are connected the levers 13 of the first and second classes respectively, and are supported by longitudinal bars 14 carried by the truck frame. To the opposite ends of these levers 13 the ordinary brake rods 15 are attached. In the levers 13 and the bars 14 carrying said levers are additional holes 16 to those occupied by the bolts 17, on which said levers 13 are fulcrumed to provide for varying the power of the levers 13 and to adjust them on the bars 14 to stand across the truck as desired and thereby adjust the length of the brake rods 15 when required.

To release the brakes 1 and 2 from the wheels 4 and the rails of the road, when not in use, I employ strong spiral springs 18 attached by their lower ends to the coupling bar 3 and at their upper ends supported by the usual cross bars 19 of the truck or in the absence of said cross bars 19 suitable support may be provided to carry the springs 18. The ends of the springs 18 are wound spirally into holes in metal bars 20 and can be screwed in or out of the same and provide means of adjustment along with that of support, as shown in Fig. 3, in detail.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the wheel brake having means on its rear side whereby a rail brake is jointed thereto, the rail brake jointed to the wheel brake, the coupling bar secured by each end to a rail brake to couple the same in pairs and provide a means by which said rail brakes are secured a constant distance apart and parallel and the strut bars connected as specified to the coupling bar near its ends and providing means whereby the said wheel and rail brakes are operated and coupled.

2. The combination of the wheel brake having means whereby a rail brake is jointed thereto, the rail brake jointed to said wheel brake, the coupling bar secured by its ends to the opposite rail brakes of each pair of wheels, the strut bars connected as specified to the coupling bar near its ends, and the rocker shaft having the opposite ends of the strut bars connected thereto so as to operate the said strut bars reciprocally.

3. In combination, the wheel brakes having means to secure a rail brake to each, the rail brakes jointed to the wheel brakes as specified, coupling bars to secure the rail brakes in pairs transverse of the truck, strut bars having an adjustable bearing carried by each and secured on the coupling bars, adjustable spiral springs to support said coupling bars normally, a rocker shaft having the opposite ends of the strut bars jointed diametrically on opposite sides thereof, and arms secured on said rocker-shaft whereby it is operated.

4. In combination, the wheel brakes and the rail brakes jointed together as specified, coupling bars securing the rail brakes on opposite ends thereof and in pairs transverse of the truck, strut bars divided at one end and having bearings carried adjustably therein and secured on said coupling bars, and at their opposite ends jointed to a rocker-shaft, the rocker-shaft to reciprocate said strut bars, arms on the rocker shaft by which it is operated and levers connected to said arms on the rocker-shaft and having additional adjustment of their power, as provided.

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Witnesses:
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