W. F. KIESEL, Jr.

CAR BRAKE.

APPLICATION FILED JULY 2, 1914.

1,166,694.

Patented Jan. 4, 1916.

4 SHEETS—SHEET 1.

Fig. 1.

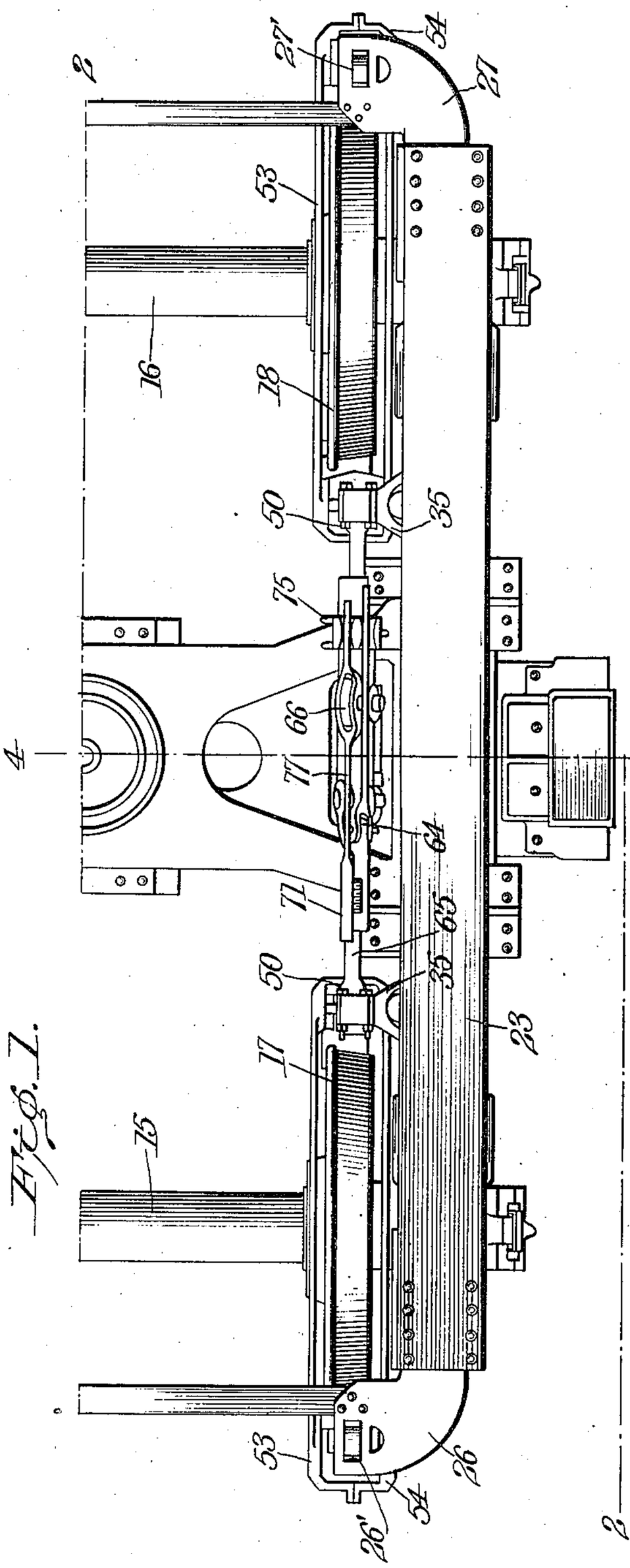
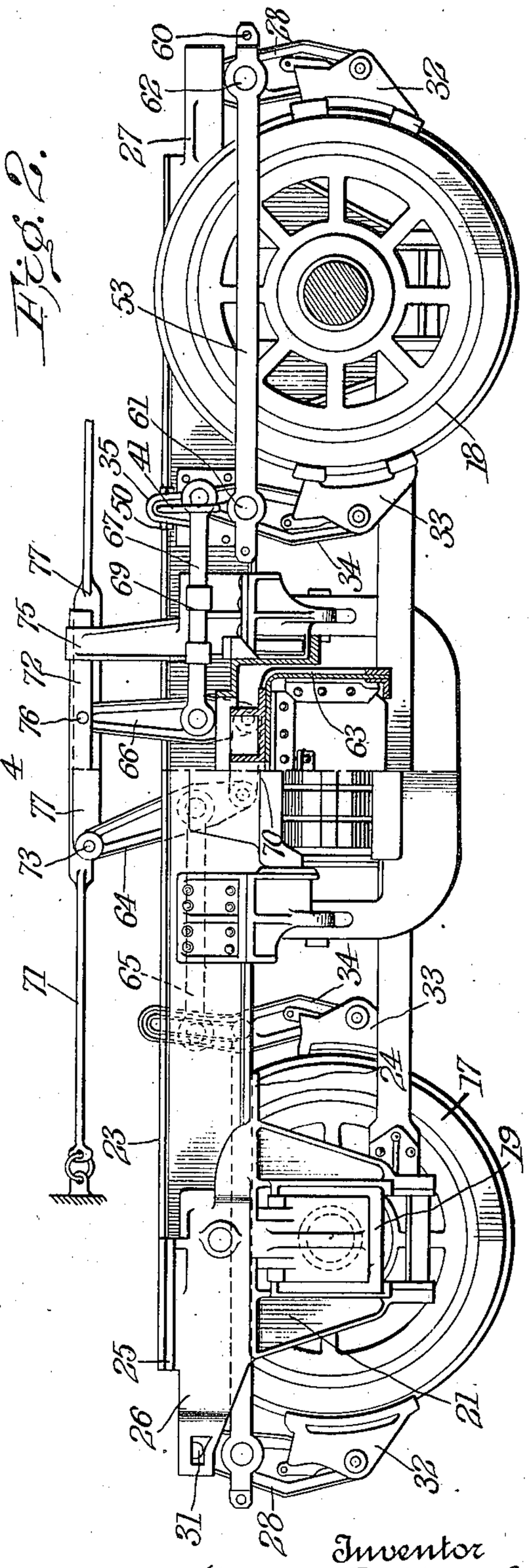


Fig. 2.



Witnesses

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4 SHEETS—SHEET 2.

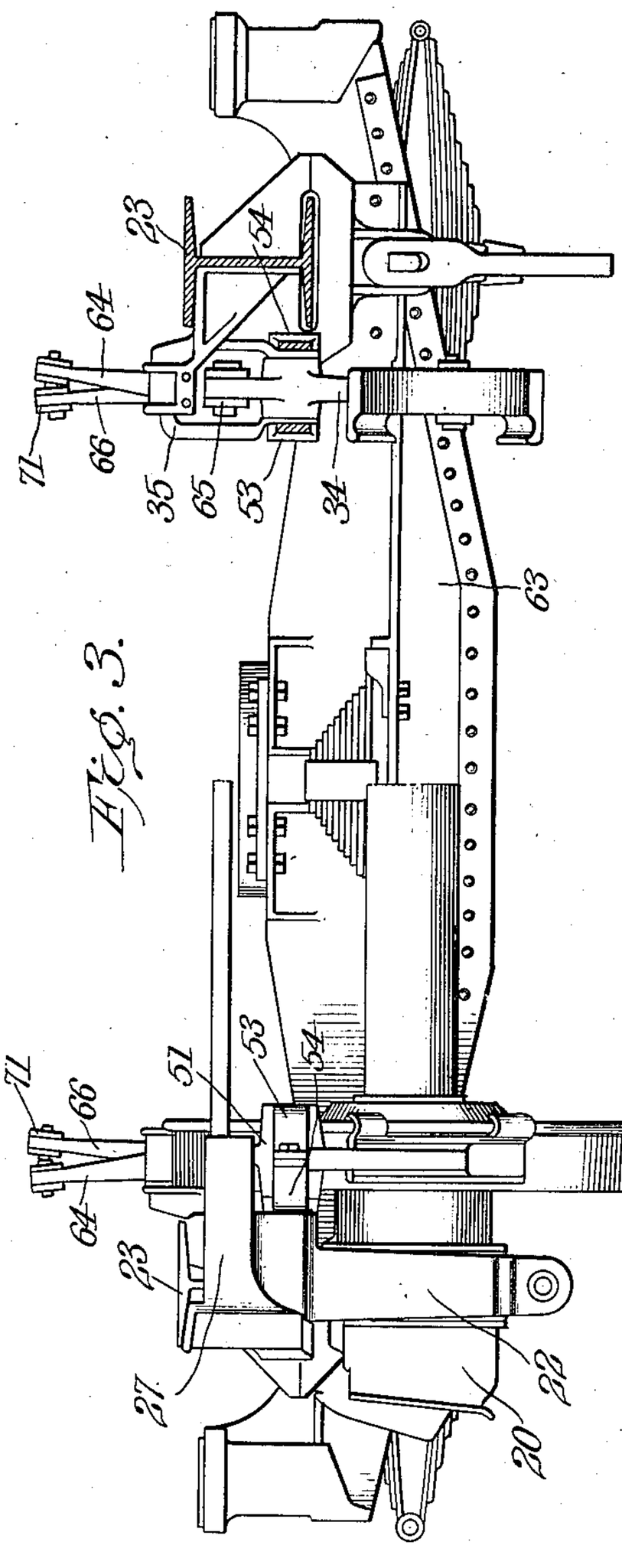

Fig. 2.

Fig. 3.

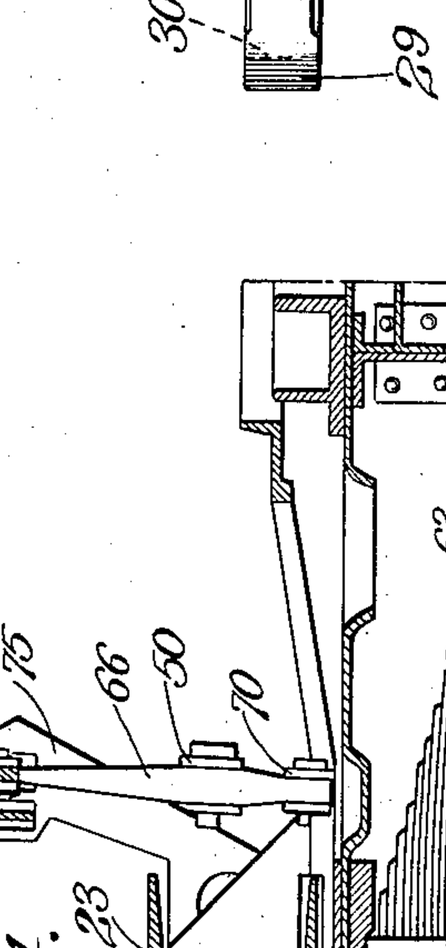

Fig. 1.

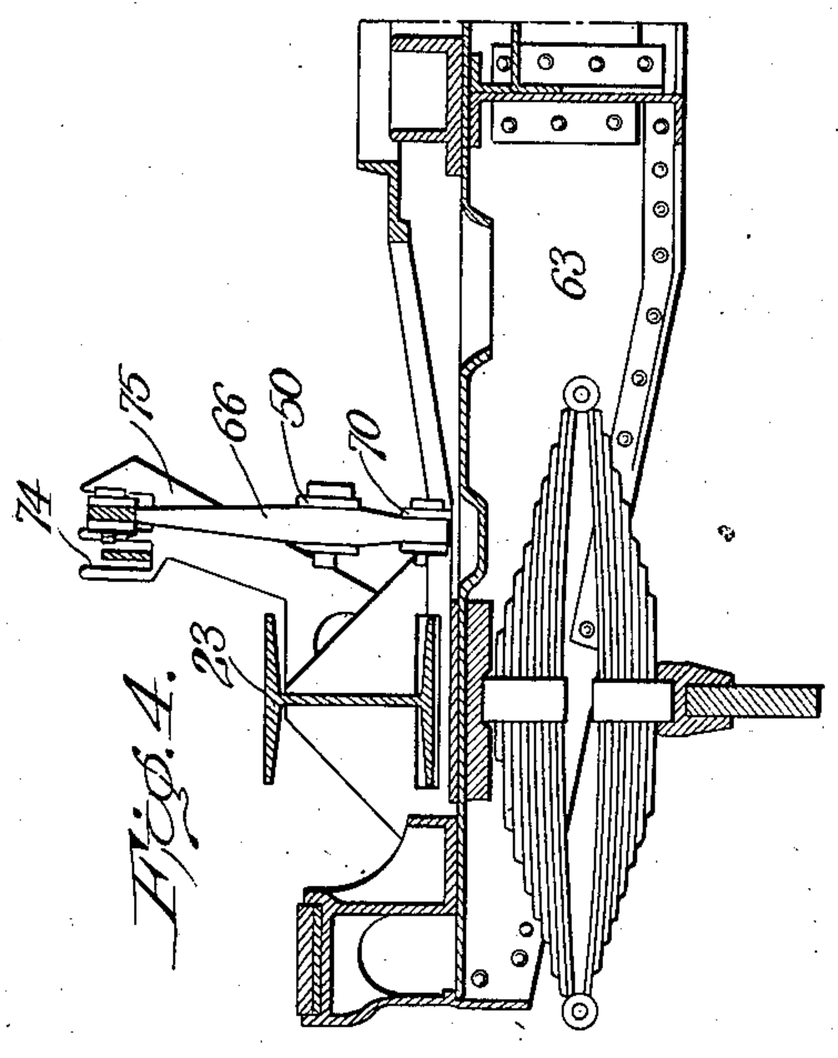

Fig. 4.

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4 SHEETS—SHEET 3.

Fig. 5.

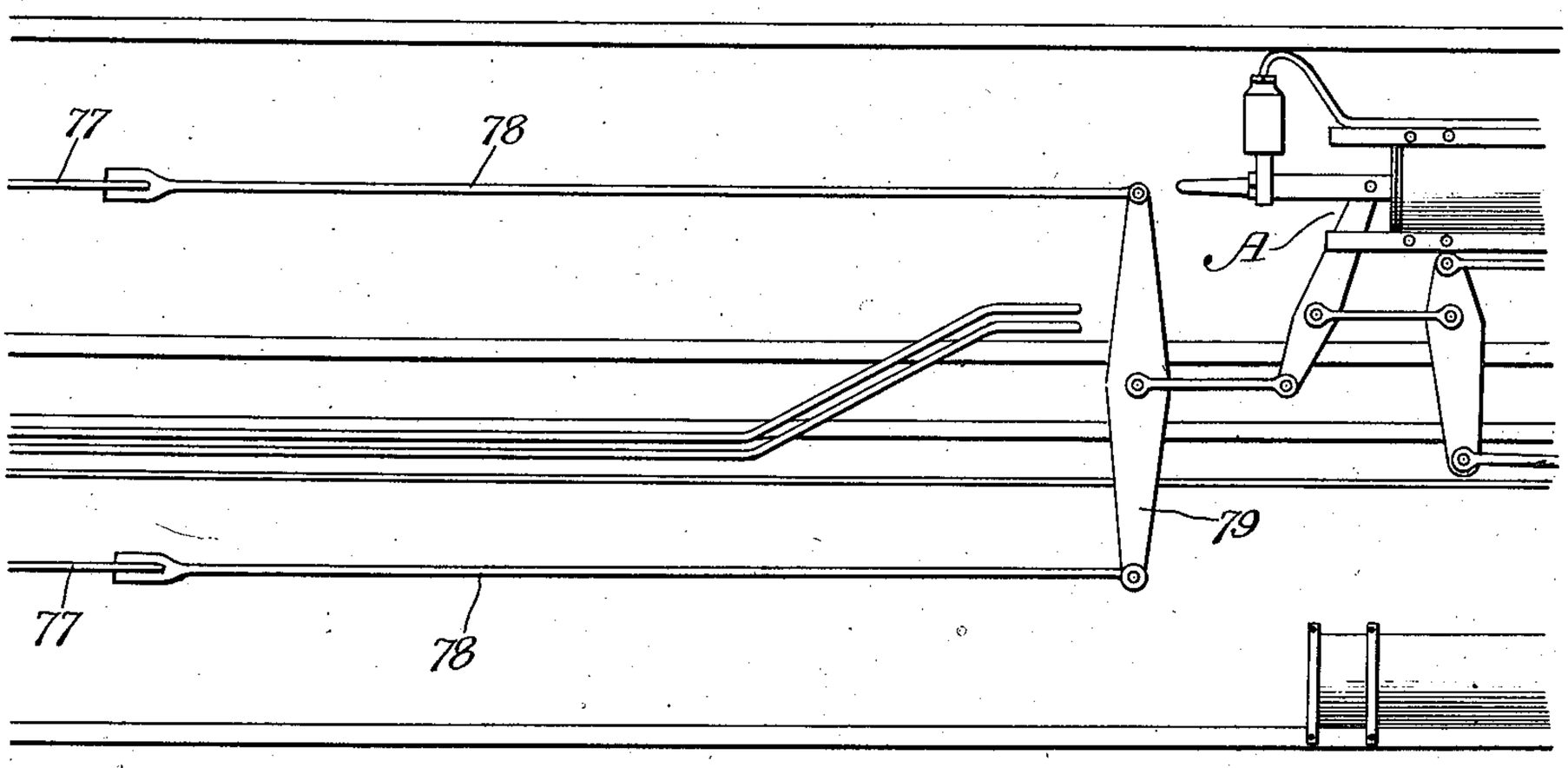
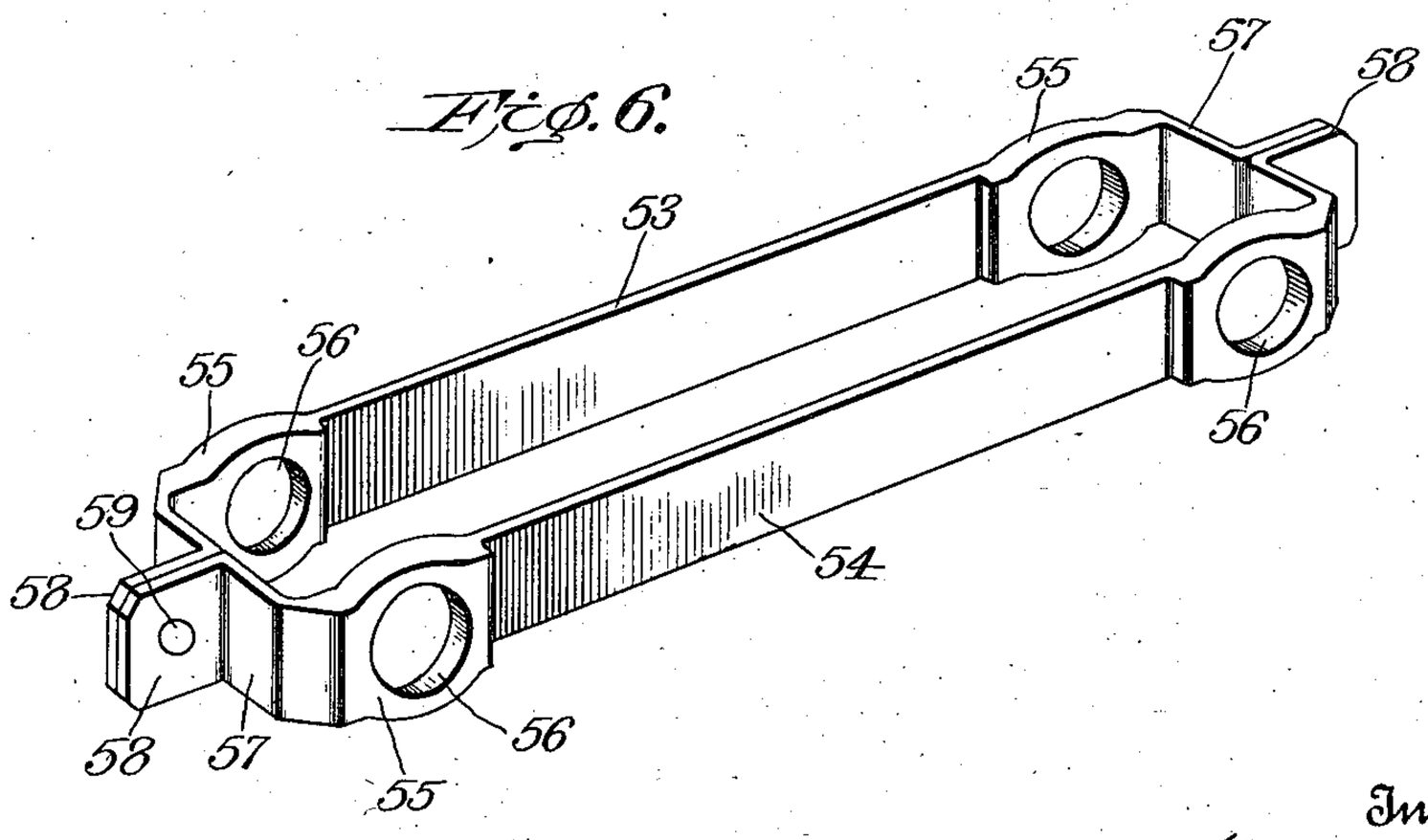


Fig. 6.



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4 SHEETS—SHEET 4.

Fig. 8.

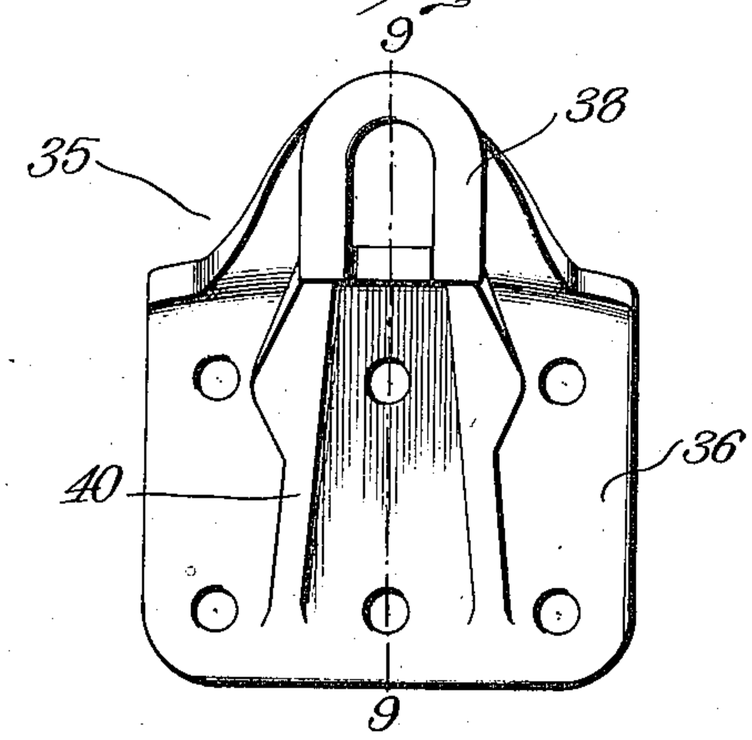


Fig. 9.

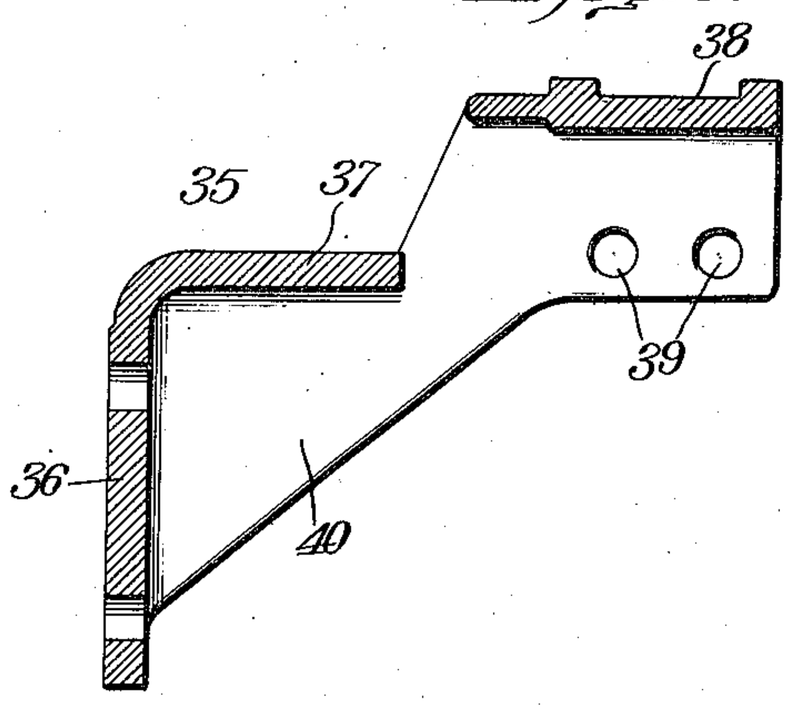


Fig. 10.

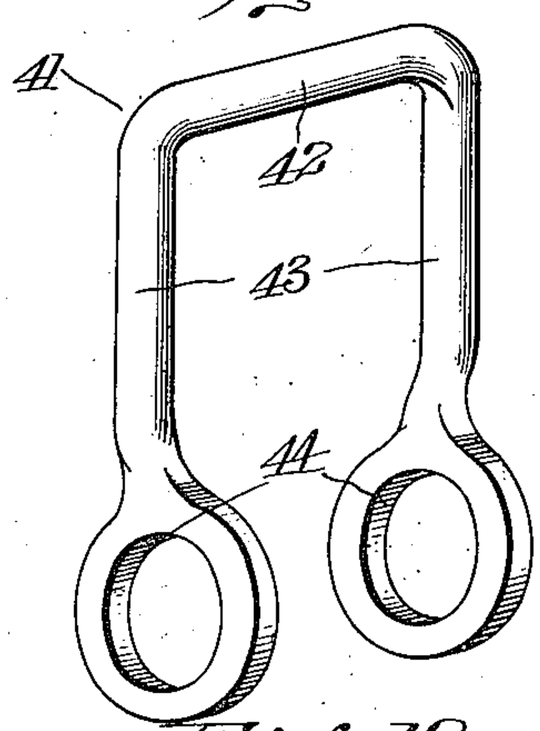


Fig. 11.

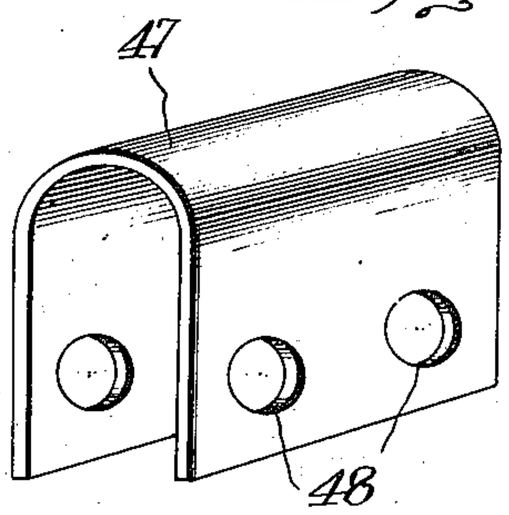


Fig. 12.

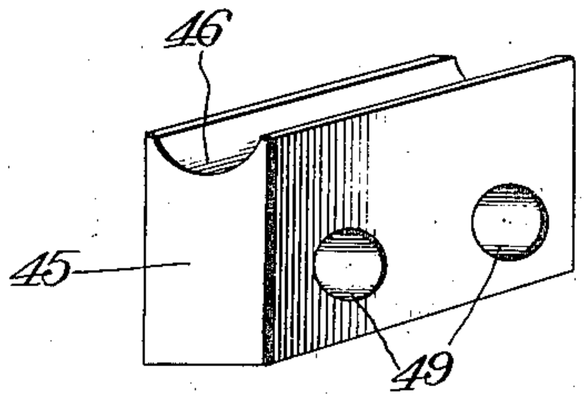
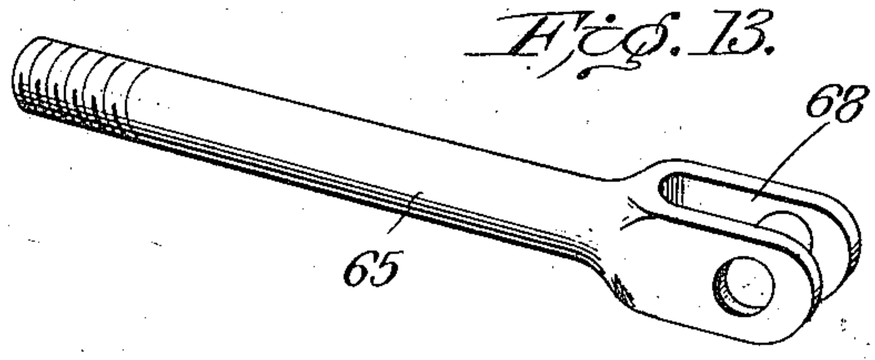


Fig. 13.



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UNITED STATES PATENT OFFICE.

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CAR-BRAKE.

1,166,694. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed July 2, 1914. Serial No. 848,614.

To all whom it may concern:

Be it known that I, WILLIAM F. KIESEL, Jr., a citizen of the United States, and resident of Altoona, county of Blair, State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

My invention relates to car brakes and more particularly to a brake in which the brake levers are arranged in line with the wheels on the truck.

The invention has for one of its objects to provide an improved tension device for connecting the pairs of brake hangers together.

Another object is to position the live and dead levers of the brake so that they will be located substantially on the transverse center line of the truck through the center plate.

Another object comprises the novel manner of suspending the brake hangers from the side frame members and in line with the wheels.

The above and other objects and the novel features of the invention will be apparent from the following description taken in connection with the drawings in which,

Figure 1 is a top plan view of one half of a truck embodying my invention; Fig. 2 is a side view partly in elevation and partly in section taken along the line 2—2 of Fig. 1; Fig. 3 is an end view of the truck partly in elevation and partly in section; Fig. 4 is a transverse central section along the line 4—4 of Fig. 1; Fig. 5 is a plan view showing the brake rods and equalizing lever and part of the brake actuating apparatus to which the equalizing lever is connected; Fig. 6 is a perspective view of the tension device constructed according to my invention; Fig. 7 is a plan view of a brake hanger constructed according to my invention; Figs. 8 and 9 are respectively an end elevation and central vertical section along the line 9—9 of Fig. 8 of a bracket for supporting one end of the tension device and also an inner brake hanger; Fig. 10 is a perspective view of a U-shaped link for suspending an inner brake hanger and the inner end of a tension device; Fig. 11 is a perspective view of a liner plate fitting between the link shown in Fig. 10 and the bracket shown in Figs. 8 and 9; Fig. 12 is a perspective view of a block which holds the link shown in Fig. 10 in place in the bracket; Fig. 13 is a perspective view of a rod for connecting an inner brake hanger to a brake lever.

Referring to the drawings, 15 and 16 designate the axles to which the wheels 17 and 18 are respectively fixed. On the outer sides of the wheels 17 and 18 and supported by the journal boxes 19 and 20 are pedestals 21 and 22, the jaws of which are constructed to support an H-beam 23 between them, the lower flanges of the H-beam resting on brackets 24 of the pedestals and the top flanges of the H-beam resting on and secured to surfaces 25 on the top of the pedestal.

The pedestals 21 and 22 have projecting portions 26 and 27 extending beyond the end of the H-beam or side frame member 23. The ends 26, 27, of the pedestals are turned inwardly toward the longitudinal center line of the truck and near their ends are provided with openings 26′ and 27′ to receive the upper ends of the outer brake hangers 28. As shown in Fig. 7 the upper end of each brake hanger is provided with a narrow part 29 which has a transverse pivot opening 30 through which the pivot pin 31 extends. The pivot pin rests on parts of the inturned ends 26, 27, and pivotally supports the upper end of the outer brake hanger from the side frame members. At their lower ends the brake hangers 28 pivotally support the brake heads 32 which carry the usual brake shoes to engage the tread of the wheels 17 and 18. The inturned ends of the pedestals 26 and 27 have the openings 26′ and 27′ thereof located substantially in line with the tread of the wheel, whereby the hangers 28 will depend in line with the wheel and support the brake heads and brake shoes in proper relation to the wheels.

Brake heads 33 are pivoted to the lower ends of brake hangers 34 disposed between the wheels and the brake heads 33 carry shoes which are capable of engaging the tread of the wheels 17 and 18 on the inner side and on the opposite side of the axles 15 and 16 respectively from the brake heads 32. The brake hangers 34, 34, are similar in construction to the brake hangers 28 shown in Fig. 7 and depend from the side frame members in line with the wheels 17 and 18.

Brackets 35 such as are shown in Figs. 8 and 9 have portions 36 thereof fitting the web of the H-beams 23 on the inner side thereof and are riveted to the said webs. Each bracket has an angular extension 37

which extends inwardly toward the center line of the truck and is provided with a U-shaped enlargement 38 open at the bottom and having holes 39 therein. Suitable stiffening ribs 40 are provided between members 36 and 37 of the bracket to reinforce the same, the bracket being cast of steel in one piece.

The enlargement 38 of the bracket is constructed to receive a portion of the U-shaped hanger link 41 shown in Fig. 10, the portion 42 of the link corresponding to the bend of the U fitting into the interior of the enlarged part 38 through the bottom thereof while the limbs 43 depend downwardly and have the eyes 44 formed in their lower ends. A supporting block 45, such as is shown in Fig. 11, has its top part concave as at 46 to receive the lower portion of the part 42 of the U-shaped link shown in Fig. 10. A U-shaped liner plate 47, such as shown in Fig. 11 fits around the link shown in Fig. 10 and block shown in Fig. 11 and separates the said link and block from the interior surface of the enlargement 38 of the bracket and prevents the wear of the latter. The plate 47 has holes 48 and the block 45 has holes 49, which holes will register with the holes 39 of the bracket when the parts are assembled to receive the fastening bolts 50 which extend through all three elements and hold the block, plate and link in place on the bracket.

Intermediate its ends each of the brake hangers 28 and 34 has an enlarged boss 51 with a longitudinal opening 52. The outer and inner brake hangers 28 and 34 associated with each wheel of the truck are connected together by a frame such as shown in Fig. 6 composed of two flat tension bars 53 and 54. A short distance from their ends each of the tension bars 53 and 54 is thickened as at 55 and the thickened portion is provided with an eye 56, the eyes 56 of oppositely disposed ends of the bars 53 and 54 having their centers in line. Beyond the thickened parts 55 of the bars 53 and 54 are right angle bends 57 and beyond the right angled bends 57 are other right angled bends 58. The bends 57 extend toward each other when the bars are fitted together and the bends 58 are so positioned, that they will lie flat against each other and each of the bends 58 is provided with an aperture 59 to receive a bolt 60, whereby the bars 53 and 54 are rigidly secured together and thus form a frame which completely surrounds the bearing of brake hangers associated with each wheel. The bends 57, 57, at each end of the frame thus formed extend across the rear edges of the brake hangers.

When assembled the eyes 56 of the bars 53 and 54 register with the opening 52 of the brake hangers and with the eyes 44 of the link 41 and a single bolt or pin 61 passes through the registering holes in the before-mentioned parts. The boss 51 of the brake hanger is considerably longer than the ordinary boss so as to eliminate bending action in the tension device or rods. The holes 56 in the outer end of the tension device register with the holes in the boss of the hangers 28 and the tension device and brake hanger are pivoted together by the bolts or pins 62. It will be seen that the inner end of the tension device or the end nearest the bolster 63 is flexibly suspended from the side frame member and pivotally connected to the brake hanger 34 while the outer end is pivotally connected to the brake hanger 28. The tension device thus comprises a frame surrounding the brake hangers and the upper end of the wheel with which a pair of brake hangers is associated. The tension device thus also keeps the brake hangers in line with the tread of the wheel.

At its upper end each inner brake hanger 34 is connected to an actuating lever. The live brake lever 64 has a rod 65 pivoted thereto intermediate the ends of the lever and the opposite end of the rod 65 is pivoted to the upper end of one of the brake hangers 34 while the dead lever 66 is connected by the rod 67, which rod 67 is pivoted to the upper end of the other brake hanger 34 on the same side of the truck. The ends of the rods 65 and 67 are shown in perspective in Fig. 13 and are bifurcated as at 68 to fit on opposite sides of the upper end of the brake hanger. Each rod is also provided with a turn buckle 69 or other suitable device to take up wear. The lower end of the live lever 64 is pivotally connected to the lower end of the dead lever 66 by a link 70. The upper end of the dead lever 66 is pivotally connected to an anchor rod 71 which may be suitably connected to a part of the truck or a part of the car. The anchor rod 71 has a rearwardly extending portion 72 extending beyond the pivot 76. The rearwardly extending portion 72 rests in a recess 74 at the upper end of a bracket 75 which is fastened to the inner side of the web of the H-beam or side member 23.

The links 77 of the live levers 64 are guided in recesses at the upper ends of the brackets 75.

Referring to Figs. 2 and 5, the links 77 of the live levers 64 are swiveled in the ends of brake rods 78 which extend along the underside of the car body and are pivoted at the end of a transversely extending equalizing lever 79 connected to and located near the brake actuating devices A. As before stated, the anchorage of the dead lever is as near as possible or substantially on the transverse center line of the car through the center plate and similarly the live lever at its pivotal connection 73 to the tension rod is also as near as possible, or substan-

tially on the same transverse center line. However, instead of using a lever passing through the center sills between the live levers, each live lever is connected by the link 77 and rod 78 to the end of the transverse equalizing lever 79 located at any convenient point, it being immaterial whether the equalizing lever 79 is on or near the transverse center line of the truck through its pivot.

The operation of the devices will be apparent from the foregoing description and while I have described the truck in detail I do not wish to be limited to the devices shown and described as it is obvious that numerous changes may be made without departing from the spirit of the invention.

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

1. In a car brake, the combination of a pair of brake hangers and a tension device connecting said hangers, said device comprising a pair of bars, one on each side of said pair of hangers, said bars being secured to said hangers intermediate their ends.

2. In a car brake, the combination of a pair of brake hangers and a tension device connecting said hangers, said device comprising a pair of bars, one on each side of said pair of hangers, said bars being pivoted to said hangers, and having extensions which are connected together outside the pivotal connections of said bars with the hangers.

3. In a car truck, the combination of axles, wheels fixed on the axles, side frame members carried by the axles, brake heads having shoes capable of engaging the treads of said wheels on opposite sides of the centers thereof, hangers for said heads suspended from said frame members and in line with said wheels, and tension bars located above the axles and connecting in pairs the brake hangers associated with the brake heads on opposite sides of each wheel.

4. In a car truck, the combination of axles, wheels fixed on the axles, side frame members carried by the axles, brake heads having shoes capable of engaging the treads of said wheels on opposite sides of the centers thereof, hangers for said heads suspended from said frame members and in line with said wheels, and tension bars connecting in pairs the brake hangers associated with the brake heads on opposite sides of each wheel, said tension bars having pivotal connection with their respective hangers and having their ends beyond the pivotal connections secured together.

5. In a car truck, the combination of axles, wheels fixed on the axles, a brake head having a shoe adapted to engage the tread on each side of each wheel, a hanger for each brake head, and means for connecting the hangers of each pair of brake heads, said means comprising bars pivotally secured to said brake hangers and forming frames which surround the brake hangers in pairs.

6. In a brake for a car truck, the combination of a car axle, a wheel fixed thereon, brake heads having shoes capable of engaging said wheel on opposite sides of the axle, hangers for said brake heads, a side frame member supported by said axle and from which the brake hangers are suspended in line with the wheel, and a tension device connecting said hangers and surrounding the hangers and the wheel above the axle.

7. In a car brake, the combination of a pair of axles, wheels fixed on said axles and located on the same side of the truck, a side frame member mounted on said axles and having ends extending inwardly toward the longitudinal center line of the truck, outer brake hangers depending from said inwardly extending parts of the side frame, brake heads connected to said outer brake hangers, inner brake hangers depending from said side frame member, brake heads carried by said inner hangers, a live and a dead lever connected together and to the brake hangers, and tension devices between the outer and inner brake hangers associated with each wheel comprising bars pivoted to each hanger and having bent ends secured together on the outer sides of the hangers.

8. In a car truck, the combination of axles, wheels fixed on the axles and located on the same side of the truck, a side frame member mounted on said axles, brake devices located in line with said wheels and supported by said frame member, a live and a dead brake lever connected to actuate said brake devices and located substantially on the transverse center line of the truck through its center plate, an operating member connected with said live lever and a bracket on the interior side of the side frame member for guiding and supporting said operating member.

9. In a car truck, the combination of axles, wheels fixed on the axles and located on the same side of the truck, a side frame member supported by said axles outside said wheels, devices connected to said frame member and extending inwardly in line with the wheels, brake hangers depending from said devices, a tension frame surrounding the brake hangers associated with each wheel, a live and a dead brake lever linked together and located adjacent the transverse center line through the truck pivot, means for suitably anchoring the dead brake lever adjacent the transverse center line of the truck, an equalizing lever and rods for connecting the live lever to one end of the equalizing lever.

10. In mechanism of the class described, the combination with brake actuating means, of an equalizing lever connected therewith, a truck, live brake levers on opposite sides of and adjacent the transverse center line of said truck, and means connecting the opposite ends of said equalizing lever to the brake levers.

11. In a car, the combination with a truck, of brake actuating means located at a distance from said truck, an equalizing lever connected with the brake actuating means and located adjacent the same, live brake levers on opposite sides of and adjacent the transverse center line of said truck, rods connecting the opposite ends of said equalizing lever to said live brake levers, and dead brake levers on opposite sides of and adjacent the transverse center line of said truck, said dead brake levers being connected to said live brake levers and anchored to a part of the car.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM F. KIESEL, JR.

Witnesses:

J. C. STORM,

H. A. HOKE.