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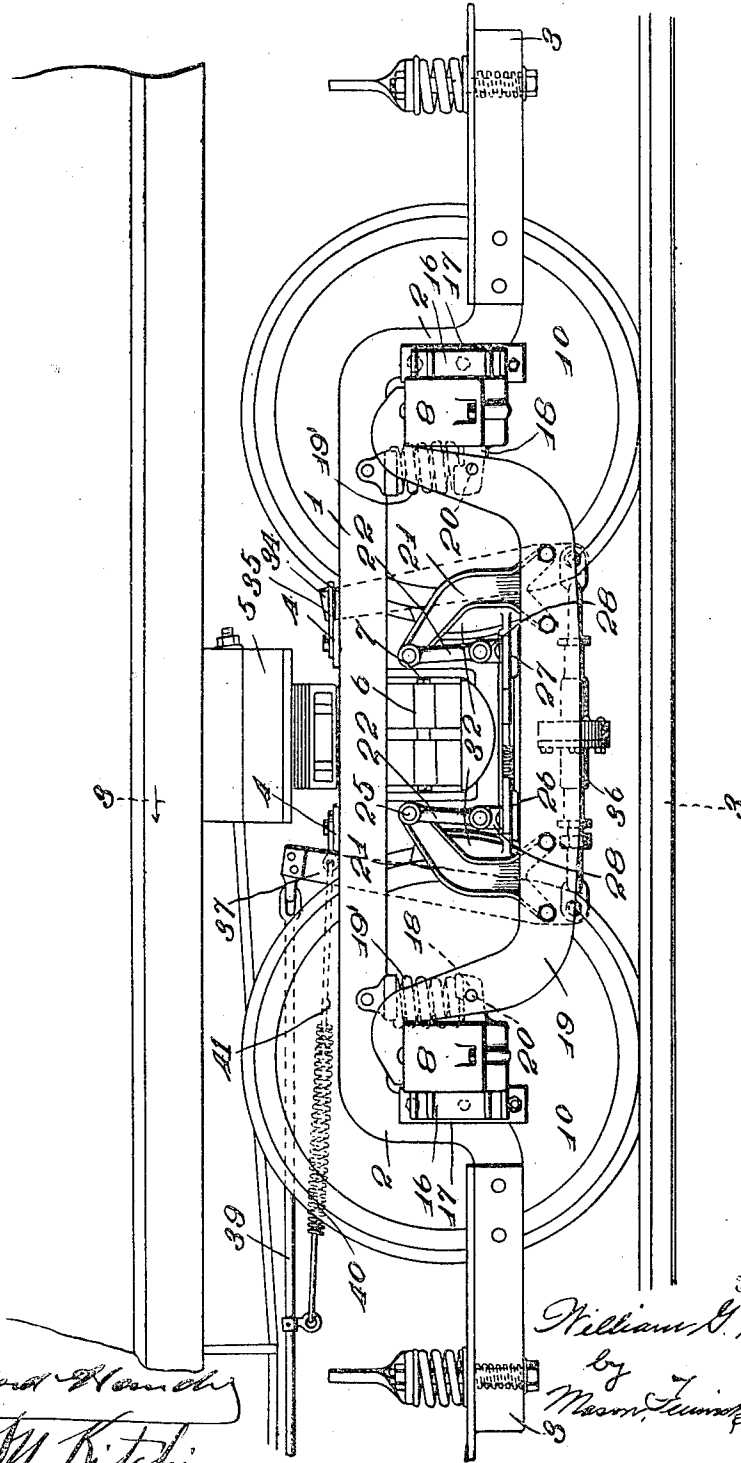
W. G. PRICE.
BRAKE.

PATENTED APR. 24, 1906.

APPLICATION FILED DEC. 23, 1903.

5 SHEETS—SHEET 1

Fig. 1.



Witnesses
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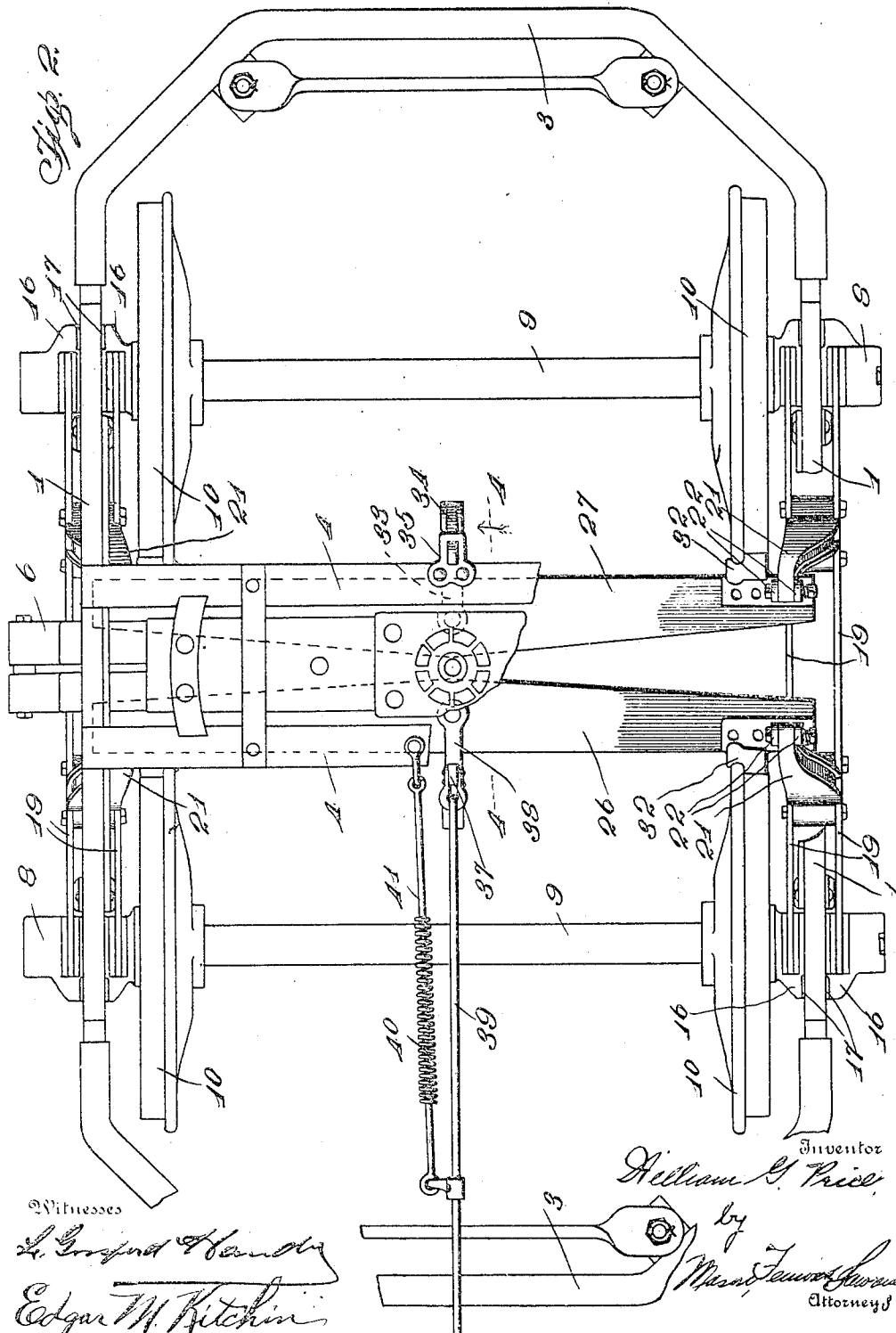
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5 SHEETS—SHEET 2.



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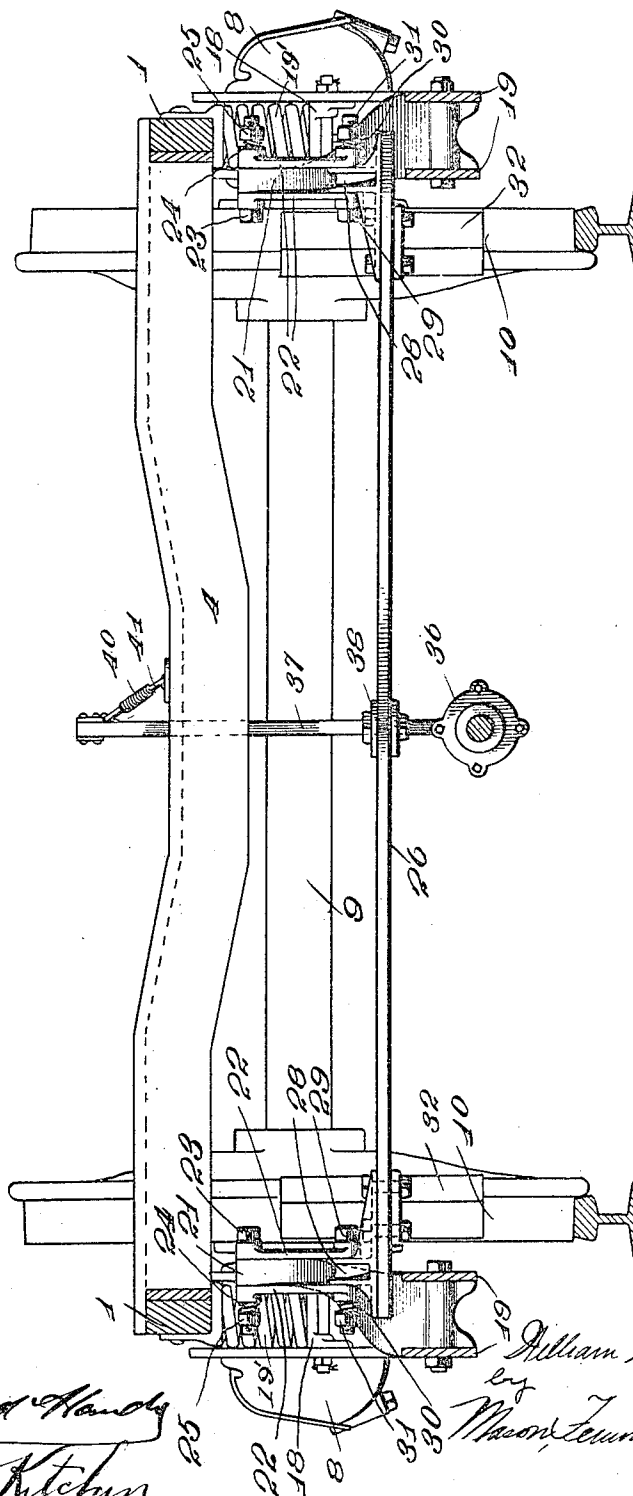
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5 SHEETS—SHEET 3.

Fig. 3.



Witnesses

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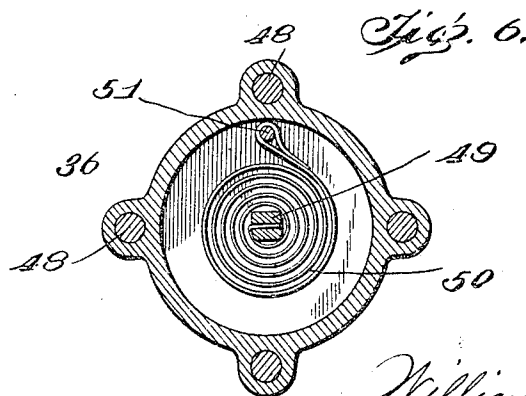
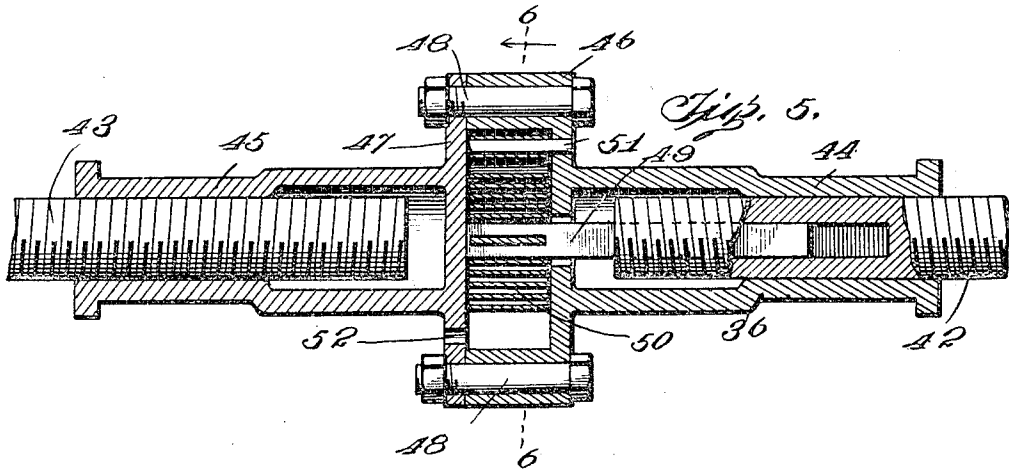
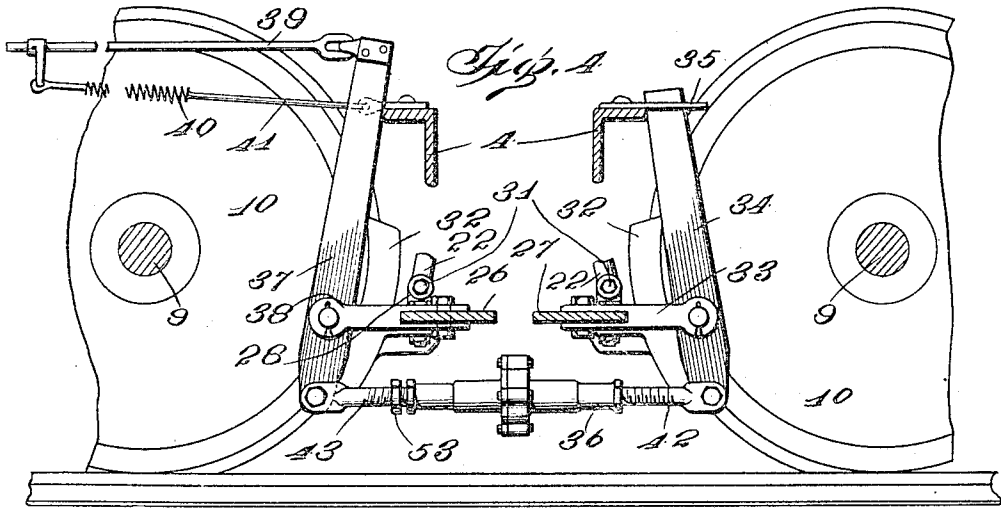
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5 SHEETS—SHEET 4.



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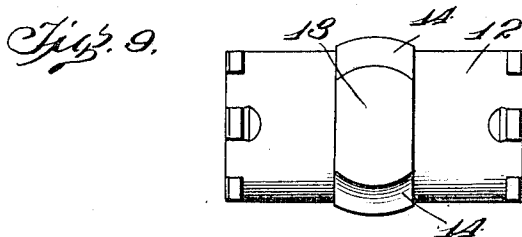
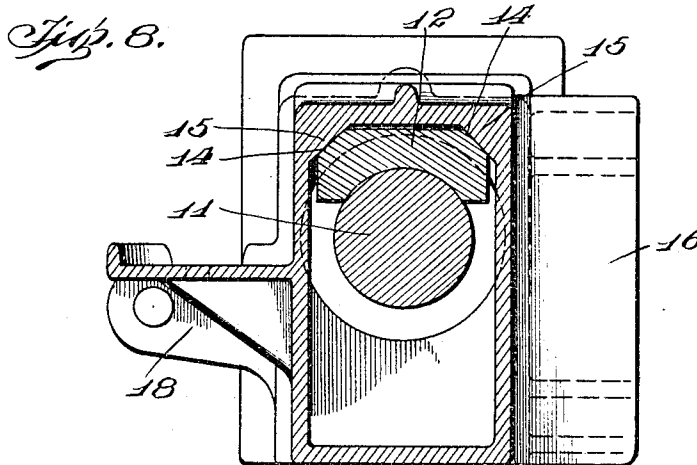
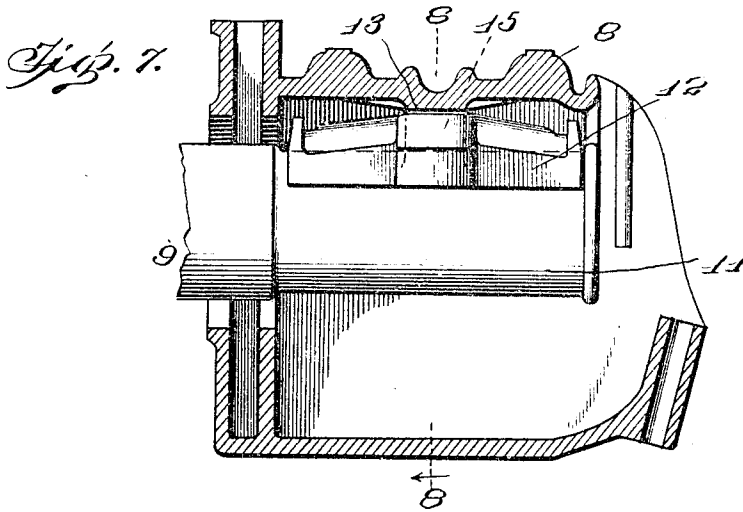
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5 SHEETS—SHEET 5.



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM G. PRICE, OF KINGSTON, NEW YORK.

BRAKE.

No. 818,639.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed December 23, 1903. Serial No. 186,399.

To all whom it may concern:

Be it known that I, WILLIAM G. PRICE, a citizen of the United States, residing at Kingston, in the county of Ulster and State of New York, have invented certain new and useful Improvements in Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in car-trucks, and particularly to brake-rigging therefor.

The object of the invention is the provision of means for reducing to a minimum the amount of movement necessary for applying the brake-shoes to the wheels.

With this and further objects in view the invention consists, in combination with a truck-frame and wheels supporting the same, of brake-shoes for said wheels and means for normally retaining said shoes in contact with the said wheels.

It further comprises a car-truck, wheels supporting the same, brake-shoes for said wheels, and a cushion retaining said shoes normally in contact with said wheel.

It further consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a view in side elevation of a car-truck and brake-rigging embodying the features of the present invention. Fig. 2 represents a top plan view of the same. Fig. 3 represents a transverse vertical section taken on the plane of line 3 3 of Fig. 1. Fig. 4 represents an enlarged detail vertical section taken on the plane of line 4 4 of Fig. 2 looking in the direction of the arrow. Fig. 5 represents an enlarged detail view of the turnbuckle illustrated in longitudinal central section. Fig. 6 represents a transverse vertical section taken on the plane of line 6 6 of Fig. 5 and looking in the direction of the arrow. Fig. 7 represents an enlarged detail central section taken through one of the journal-boxes. Fig. 8 represents a transverse vertical section taken on the plane of line 8 8 of Fig. 7 and looking in the direction of the arrow. Fig. 9 represents an enlarged detail top plane view of one of the wearing-plates removed.

It is well known to those familiar with the

present art that when it is desired to apply brake-shoes to the wheels of a car the winding-drum of the brake-draft mechanism must be rotated sufficiently for compensating for all looseness of parts, and in addition for taking up the distance which the wheels may move independently of their journal-boxes after the application of the brakes due to such application, and I contemplate reducing such lost motion to a minimum by the present improved structure, which, as seen in the accompanying drawings, comprises a turnbuckle, means for automatically rotating said buckle, and brakes actuated by said buckle in combination with a truck-frame, wheels carried thereby, and means for preventing movement of said wheels independently of each other and independently of their journal-boxes.

Referring to the drawings, which illustrate one specific embodiment of the above-mentioned elements, 1 1 indicate side frames, each formed of a single piece of material bent into yoke shape, producing a pedestal 2 at each end. End frames 3 connect the ends of the side frames 1. Said side frames are also connected intermediate their length by transversely-arranged transoms 4 4, between which transoms is supported a bolster 5 of any preferred type, said bolster resting upon elliptic or other suitable springs 6, carried by depending yoke-bars 7, connected to the transoms 4. The opposite ends of each side frame 1 partially inclose a journal-box 8, carried by one end of an axle 9, said axles 9 being provided with the usual supporting-wheels 10 10. Each journal-box 8, as best seen in Figs. 7, 8, and 9, incloses the journal 11 of axle 9, a bearing-block 12 being carried by said box and resting upon the journal 11, said block being formed concaved on its under surface for conforming to the convexity of the journal 11. A rib 13 extends transversely across the central portion of the block 12 and at its ends terminating in segmental form, as at 14 14, extending beyond the longitudinal edges of said block for adapting said rib to fit between the corner-webs 15 15, carried by the walls of box 8. The distance between the upper ends of the webs 15 is slightly less than the distance between the inner edges of the segmental portions 14, whereby when the block 12 is positioned as indicated in Fig. 8 a space will be left between the same and the upper wall or roof of the box 8. This positioning of the block has

the effect of causing said block to assume its normal position after removal therefrom through jarring or constant movement of the parts. It will be seen that if the journal 11 should be caused to assume a slanting position relative to the box 8 the block 12 will be free to turn upon the segmental portions 14, so as to maintain its perfect bearing on said journal without altering the position of the box 8, and this is very essential in the operation of the improved elements hereinafter set forth, as will later more fully appear.

Each box 8 carries on its outer side a pair of vertical flanges 16, between which flanges are arranged wearing-plates 17 17, engaging the respective pedestal 2 of the given side frame 1. The side of each box 8 opposite that carrying the flanges 16 is provided with a laterally-projecting lug 18, forming the seat of a cushioning-spring 19', supporting the respective end of the given side frame 1. An equalizer-bar 19 connects each pair of boxes 8 at one side of the car-truck, each equalizer-bar 19 consisting of parallel plates spaced apart with their ends resting upon the upper surface of the connected boxes 8, said plates being bent downwardly just inside the boxes 8 to a plane below such boxes and extending horizontally for a greater portion of the distance between the boxes. The downwardly-extending portions of said plates inclose the lugs 18 and are secured thereto by suitable bolts 20, said plates being positioned outside the vertical plane of the given frame 1 for permitting vertical movement of the same between the ends of the plates. Each bar 19 carries near each end thereof a bracket 21, secured between the plates of said bar and inclined inwardly from the bar. Depending from the upper free end of each bracket 21 is a link 22, pivotally connected to said bracket by means of a bolt 23, extending through the bracket and through said link, said bolt being surrounded by a coiled spring 24, disposed between the link 22 and the nut 25 of said bolt. The nut 25 may be adjusted against the spring 24 to any desired degree for producing sufficient frictional contact between the link 22 and the bar 21 for retaining the said link in a given adjusted position. A brake-beam 26 connects the link 22, carried by the bracket 21, at one end of one equalizer-bar 19 with the corresponding link carried by the bracket 21 of the corresponding end of the opposite equalizer-bar, and a similar brake-beam 27 connects the other pair of links, the connection between each of said links and the given bar consisting of an ear 28, carried by the bar and penetrated by a bolt 29, passing through the respective link and being provided with a coiled spring 30, interposed between the link and the nut 31 of the bolt 29, whereby sufficient friction may be maintained between the link and the ear 28 for retaining the link and ear in any given

adjusted position. Each bar 26 and 27 is thereby supported and left free to swing laterally, and each of said bars carries at each end a brake-shoe 32, adapted to engage the respective wheel 10. Carried preferably centrally of the bar 27 is a link 33, extending horizontally from said bar and pivotally engaging a dead lever 34, connected by a suitable yoke 35 to one of the transoms 4. The lower end of the lever 34 is pivotally engaged by one end of a turnbuckle, referred to generally by the numeral 36 and more specifically hereinafter mentioned. The opposite end of the turnbuckle 36 pivotally engages the lower end of a live lever 37, pivotally connected to a link 38, carried by bar 26. The upper end of the lever 27 is engaged by any suitable draft-rod 39 or other operating means. A spring 40 is connected by a rod or other suitable means 41 with one of the transoms 4 and at the other end connected to the draft-rod 39 for effecting a release of the operating elements (which may be of the common and well-known type) engaging the free end of lever 39.

As best seen in Figs. 5 and 6, the turnbuckle 36 consists of the threaded bars 42 and 43, having their outer ends connected to the lower ends of the levers 34 and 37, respectively. A sleeve 44 is threaded onto the inner end of bar 42, and a similar sleeve 45 is threaded onto the end of bar 43. The sleeve 44 carries at its inner end a housing 46, completed by a disk 47, carried by sleeve 45, suitable bolts 48 48 being passed through said housing 46 and disk 47 for securing the same together. A rod 49 extends into the bar 42 and is fixed therein against rotation, but left free to move longitudinally independently of the bar 42 and projects from said bar into the housing 46. Rotation of bar 42 feeds the same into sleeve 44, and such longitudinal movement of said bar is independent of said rod 49. A spring 50 is fixed at one end of said bar 49 and is coiled about the same, and at its outer end is connected with a pin 51, fixed transversely within the housing 46, whereby the housing 46 is subjected to a constant rotary pressure designed to unscrew the sleeves 44 and 45, which action of the springs 50 insures the spreading apart of the lower ends of levers 37 and 34, whereby the shoes 32 will necessarily be retained constantly in contact with the wheels 10. An aperture 52 is preferably formed at any suitable point for admitting a lubricant into the housing 46 for insuring effectual action of the spring 50. The turnbuckle may thus be automatically elongated and will be locked in any given position against compression by the threaded connection between the sleeves 44 and 45 and the bars 42 and 43, whereby the brake-bars and shoes may be spread apart and locked in said spread condition. A nut 53 is preferably threaded onto one of the bars 42 or 43

outside of the sleeve thereof and is designed for jamming the sleeve for preventing rotation thereof when the spring 50 becomes broken or otherwise inoperative.

5 In operation the shoes 32 are retained in contact with the wheels 10, but not with sufficient pressure for materially retarding the movement of such wheels, and the position of said shoes obviates the necessity for any
10 great movement of the brake-beams 26 and 27 for the application of the brake-shoes, the wheels being prevented from giving under the pressure of the applied shoes by reason of the bearings employed, as illustrated, and described with reference particularly to Figs. 7,
15 8, and 9. After the shoes have been applied and it is desired to release the brake mechanism the release of the operating means connected with the rod 39 will permit the spring
20 40 to act; but said spring only affects those elements connected with said rod 39, employed for actuating the same, (not illustrated,) the said spring, of course, being incapable of materially affecting the levers 34
25 and 37 beyond throwing the latter back against the transom 4, which acts as a stop.

Although I have disclosed in the drawings and described in detail the structure and operation of my present improved turnbuckle,
30 I wish it decidedly understood that I consider my invention more comprehensive than the mere employment of the novel form of turnbuckle, which is only one embodiment of device capable of accomplishing the function
35 which the present improved structure is designed to attain. The novelty and breadth of my invention will be appreciated when it is understood that any means which serves to retain the brake-shoes spread apart after
40 such shoes have been thus spread and preventing the shoes from approaching each other or leaving the wheels is comprehended within the scope and spirit of my conception.

The prime object of the invention is the retention of the brake-shoes against the wheels
45 by the provision of means for taking up the wear on said shoes and retaining the shoes against the wheels after the same have been applied by the operation of the brake-applying means.
50

For a more comprehensive understanding of the invention the operation of the structure disclosed should be fully understood and the functions of the springs 24 and 30 appreciated. The springs 24 and 30 produce such
55 frictional engagement between the parts as to sustain the shoes and beams in their given positions for application thereof at least for a sufficient period for permitting even a very
60 weak spring 50 to actuate the parts of the turnbuckle for spreading the same sufficiently for taking up any wear upon the brake-shoes, thus assuring the constant application of the shoes to the wheels, as each
65 time said shoes are applied for stopping the

rotation of the wheels the friction occasioned by the springs 24 and 30 will be sufficient to give the turnbuckle an opportunity for actuation; further, it is of importance that the
70 brake-beams should be suspended from the equalizer-bars for the reason that by thus sustaining said beams vertical movement of the brake-shoes with reference to the wheels is obviated. In the ordinary construction,
75 where the shoes are supported from the truck-frame, the springs under the frame allow vertical movement of the shoes, which prevents a constant close fit between the shoes and wheels. The elimination of all lost motion
80 between the axle-journals 11 and the equalizer-bars 19 and the supporting of the brake-shoes directly by the equalizer-bars prevents movement of the shoes with respect to the
85 wheels, so that when said shoes have been applied to the wheels by operation of the brake mechanism any automatically-adjusting means, such as the turnbuckle, might be provided for taking up the slack due to wearing away of the shoes.

The action of the parts is as follows: The
90 shoes are first forced apart against the wheels by longitudinal forward movement of the rod 39, and when the brake is released the spring 40 forces the live lever against the transom, the friction of springs 24 and 30 preventing
95 movement of the shoes 32 toward each other, (or brake-beams 26 and 27 toward each other,) the movement of the live lever permitting the turnbuckle to lengthen itself for automatically taking up the slack between
100 the shoes and the wheels resulting from wear.

While I have disclosed in the drawings and specifically described an improved form of truck involving equalizer-springs arranged between divided equalizer-bars and have also
105 disclosed improved journal-bearings, I make no claim to the same in this application, but hereby expressly reserve my right to these inventions and propose to embody the same in the form of divisional applications.
110

The feature of the equalizer-springs arranged between divided equalizer-bars is covered by claims in my divisional application, Serial No. 223,992, filed September 10, 1904.

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

1. In a mechanism of the class described, the combination with brake mechanism, of a turnbuckle controlling such mechanism, and
120 a spring within the turnbuckle for actuating the same.

2. In a mechanism of the class described, the combination with brake mechanism, of a turnbuckle engaging the same, and a spring
125 pressing said turnbuckle in a direction for causing the same to automatically take up the slack of said brake mechanism.

3. In a mechanism of the class described, the combination with a pair of brake-shoes,
130

of a turnbuckle interposed between said shoes, and a spring carried by said turnbuckle for actuating the same for maintaining said shoes in an applied condition.

5 4. In a mechanism of the class described, the combination with a brake-shoe and a lever for actuating the same, of a turnbuckle engaging said lever and means arranged within said turnbuckle for automatically expanding
10 the same for actuating said lever.

5. In a mechanism of the class described, the combination with brake-applying means, of a turnbuckle connecting the same, and means within said turnbuckle for effecting a
15 normal tendency of expansion to said turnbuckle.

6. In a mechanism of the class described, the combination with brake-applying means, of a turnbuckle connecting the same, and
20 means carried by the turnbuckle for imparting a normal tendency of expansion to said turnbuckle.

7. A turnbuckle for brake mechanism comprising a bar, a sleeve threaded thereon, a
25 spring engaging said sleeve for rotating the same, and a support for said spring.

8. A turnbuckle for brake mechanism comprising a pair of sleeves, bars threaded into the same, and a spring carried by said sleeves
30 for rotating the same.

9. A turnbuckle for brake mechanism comprising a sleeve, a bar threaded into the same, and a spring carried within said sleeve for rotating the same.

35 10. In a mechanism of the class described, the combination with brake-applying means, of a turnbuckle connecting the same, and means for effecting a normal tendency of expansion to said turnbuckle.

40 11. A turnbuckle for a brake mechanism comprising bars spaced apart, sleeves threaded thereon, and means carried by one of said bars for rotating said sleeves.

12. A turnbuckle for brake mechanism
45 comprising a bar, a sleeve threaded thereon, a second bar, and means carried thereby for rotating said sleeve.

13. A turnbuckle for brake mechanism comprising a bar, a sleeve threaded thereon,
50 a housing connected with said sleeve, a second bar, and means carried by said second bar within said housing for rotating said sleeve.

14. A turnbuckle for brake mechanism
55 comprising a bar, a sleeve threaded thereon, a housing connected to said sleeve, means within said housing for rotating said sleeve, and means carrying said rotating means.

15. A turnbuckle for brake mechanism
60 comprising a sleeve a bar threaded into the same, a spring engaging said sleeve for actuating the same, and a support for said spring movable longitudinally of said bar.

16. A turnbuckle for brake mechanism
65 comprising a sleeve, a bar threaded into the

same, and a coiled spring engaging said sleeve for imparting a normal tendency to said sleeve to rotate.

17. A turnbuckle for brake mechanism comprising a sleeve, a bar threaded therein
70 formed with a longitudinal aperture, a rod extending into said aperture and movable longitudinally therein, and a spring connected with said rod engaging said sleeve for rotating the same.

18. A turnbuckle for brake mechanism comprising a bar, a sleeve threaded thereon, a coiled spring engaging said sleeve, and a support for said coiled spring.

19. A turnbuckle for brake mechanism
80 comprising a plurality of bars, sleeves threaded thereon, a rod projecting from one of said bars, and means carried by said rod for rotating said sleeves.

20. A turnbuckle for brake mechanism
85 comprising a plurality of bars, sleeves threaded thereon, a housing carried by said sleeves, a coiled spring within said housing engaging the same at one end, and a rod projecting from one of said bars engaging the other end
90 of said spring.

21. A turnbuckle for brake mechanism comprising a sleeve, a bar threaded into the same, a polysided aperture formed in said bar, a rod fitting in said aperture and movable longitudinally therein, and a spring
95 fixed at one end to said rod and coiled about the same, and connected, at its opposite end, to said sleeve.

22. A turnbuckle for brake mechanism
100 comprising a sleeve, a rod threaded into the same, a housing at one end of said sleeve, and a coiled spring inclosed by said housing and engaging said sleeve for imparting a normal tendency of rotation thereto.

23. In a mechanism of the class described, the combination with brake-beams, brake devices actuated thereby, means for spreading said beams apart, means for frictionally temporarily maintaining said beams spread
110 apart, and means for locking said means in their spread condition.

24. In a mechanism of the class described, the combination of brake-beams, brake devices actuated thereby, a turnbuckle interposed between said beams, and means within the turnbuckle for elongating the same, said turnbuckle being incapable of elongation or compression independently of said elongating means.

25. In a mechanism of the class described, the combination of brake-beams, brake devices actuated thereby, a turnbuckle interposed between said beams, and means carried within said turnbuckle for elongating the
125 same for spreading said beams apart.

26. In a mechanism of the class described, the combination with brake-shoes and means for actuating the same, of friction devices retarding movement of said brake-shoes, and
13

means for maintaining said shoes contiguous to the points of application.

27. In a mechanism of the class described, the combination with brake-shoes and means for actuating the same, of cushion-controlled friction means retarding movement of said shoes, and means for taking up the slack of said shoes.

28. A turnbuckle for brake mechanism comprising bars spaced apart, sleeves threaded thereon, and a spring interposed between said bars and sleeves.

29. A turnbuckle for brake mechanism comprising a bar, a sleeve threaded thereon, and a coiled spring carried by said bar and connected with said sleeve.

30. In a mechanism of the class described, the combination with a truck-frame provided with equalizer-bars and wheels, of brake-shoes supported by said bars, and means for retaining the same normally in contact with said wheels.

31. In a mechanism of the class described, the combination with supporting-wheels and a truck carried thereby having equalizer-bars, of brake-shoes carried by said equalizer-bars, means for applying said shoes to said wheels, and means for retaining said shoes in contact with the wheels after such application.

32. In a mechanism of the class described, the combination with supporting-wheels and a truck carried thereby having equalizer-bars, of brake-shoes, a link pivoted to each of said shoes and pivotally supported by one of said bars, means for producing frictional contact of the parts at the points of the pivots of said links, means for applying said shoes to said wheels, and automatically-expanding means retaining said shoes in contact with said wheels after such application.

33. In a mechanism of the class described, the combination with carrying-wheels and a truck carried thereby having equalizer-bars, of a bracket carried by each of said bars, a link pivoted to each of said brackets, a brake-shoe pivotally carried by each of said links, a spring engaging each of said links at each pivot for producing friction between the parts, means for applying said shoes to said wheels, and means for retaining said shoes in contact with the wheels.

34. In a mechanism of the class described, the combination with a truck-frame, supporting-wheels therefor, and equalizer-bars connecting said wheels, of brake-beams supported by said bars, brake-shoes actuated by said beams, means for moving said beams in position for applying said shoes, and means for retaining the shoes in contact with said wheels after such application.

35. In a mechanism of the class described, the combination with a truck-frame, supporting-wheels therefor, and equalizer-bars connecting said wheels, of brake-shoes supported

by said equalizer-bars between the wheels, brake appliances controlled by said beams, means for spreading said beams apart, and automatically-expanding means for retaining said brake-beams in such spread condition.

36. In a mechanism of the class described, the combination with pivotally-supported brake-shoes and means for actuating the same, of cushions engaging the pivots of said shoes for producing friction, and means for taking up the slack of said shoes.

37. In a mechanism of the class described, the combination with car-truck-supporting wheels, of brake-beams disposed between the same, brake mechanism actuated by said beams, means for spreading said beams apart, and means carried by said beams for retaining the same in such spread condition.

38. In a mechanism of the class described, the combination with brake-shoes, of pivotally-mounted links carrying the same, springs engaging said links for producing friction at the pivots thereof, and means for taking up the slack of said shoes.

39. In a mechanism of the class described, the combination with a brake-shoe, of a pivotally-mounted link pivotally supporting said shoe, means for producing friction at each of the pivots on said link, and means for taking up the slack of said shoe.

40. In a mechanism of the class described, the combination with a truck and equalizer-bar, of brackets carried by said equalizer-bar, links pivotally depending from said brackets, brake-shoes pivotally carried by said links, means for producing friction at the pivot-points of said links, and means for taking up the slack of said shoes.

41. In a mechanism of the class described, the combination with a brake-shoe and a support, of a link, a bolt carried by said support and engaging said link for pivotally supporting the same, a spring surrounding said bolt, a nut threaded on said bolt engaging said spring for pressing the same against said link for causing the link to frictionally engage said support, connections between said link and shoe, and means for taking up the slack of the shoe.

42. In a mechanism of the class described, the combination with a truck having equalizer-bars, of brake-shoes, levers for actuating the same carried by said equalizer-bars, and a cushion interposed between and normally tending to spread said bars.

43. In a mechanism of the class described, the combination with axles, wheels carried thereby, and journal-boxes for said axles, of equalizer-bars carried by said boxes, brake-beams supported by said equalizer-bars, brake devices controlled by said beams, means connecting said beams and preventing movement of the same toward each other, and means for automatically spreading said beams apart.

44. In a mechanism of the class described, the combination with brake-shoes and levers for actuating the same, of friction devices retarding movement of the brake-shoes toward each other, and automatically-expanding means preventing approach of said levers toward each other.

45. In a mechanism of the class described, the combination with brake-shoes and levers for actuating the same, of friction devices resisting by friction the movement of said shoes toward each other, and means for automatically-taking up slack due to wear of the brake-shoes.

46. In a mechanism of the class described, the combination with brake-shoes and levers for actuating the same, of friction devices resisting by friction movement of the brake-shoes away from the point of application, and automatically-expanding means for retaining said shoes in the given positions with respect to each other after the same have been spread apart.

47. In a mechanism of the class described, the combination with brake-shoes, of friction devices resisting by friction movement thereof, means for moving said shoes, and automatically-acting means for retaining the shoes in their given positions after such movement.

48. In a mechanism of the class described, the combination with a brake-shoe and support, of a link, a bolt pivotally connecting said link with said support, a nut on said bolt, a spring engaged by said nut for producing frictional contact between the link and support when the nut is tightened, connections between the link and brake-shoe, and means for taking up the slack of the brake-shoe.

49. In a mechanism of the class described, the combination with a pivotally-supported brake-shoe and means for actuating the same, of means for producing variable friction of the pivotal mounting of said shoe, and means for taking up the slack of the shoe.

50. In a mechanism of the class described, the combination with a pivotally-supported brake-shoe and means for actuating the same, of means engaging the pivot of said shoe for producing friction, said means being

susceptible of adjustment for increasing or decreasing the friction, and means for taking up the slack of the shoe.

51. In a mechanism of the class described, the combination with a support, a brake-shoe pivotally carried thereby, and means for actuating the brake-shoe, of a nut movable longitudinally of the pivot supporting said brake-shoe, and means for taking up the slack of the shoe.

52. In a mechanism of the class described, the combination with brake devices adapted to be adjusted during the braking operation, means for temporarily frictionally retaining said brake devices in their adjusted positions, and means interposed between said brake devices for permanently maintaining the same in their adjusted position.

53. In a mechanism of the class described, the combination with brake devices adapted to be spread apart during the braking operation, means for frictionally temporarily maintaining said brake devices in such spread condition, and means for permanently maintaining said brake devices in such spread condition.

54. In a mechanism of the class described, the combination with brake devices adapted to be adjusted during the braking operation, means for frictionally temporarily maintaining the same in such adjusted position at the conclusion of a braking operation, and means released by such temporary maintenance for permanently maintaining said brake devices in such adjusted position.

55. In a mechanism of the class described, the combination of brake-shoes, brake-hangers supporting the same, brake-beams connected to said shoes, friction devices engaging said hangers for resisting movement of said brake-shoes, and means connecting said brake-levers for automatically adjusting said shoes.

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

WILLIAM G. PRICE.

Witnesses:

J. H. HARRISON,

AMELIA M. KONSTANZER.