DRAFTSMAN,

No. 823,772. PATENTED JUNE 19, 1906.

T. W. FITCH, Jr.

TRACK BRAKE.

APPLICATION FILED DEC. 22, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

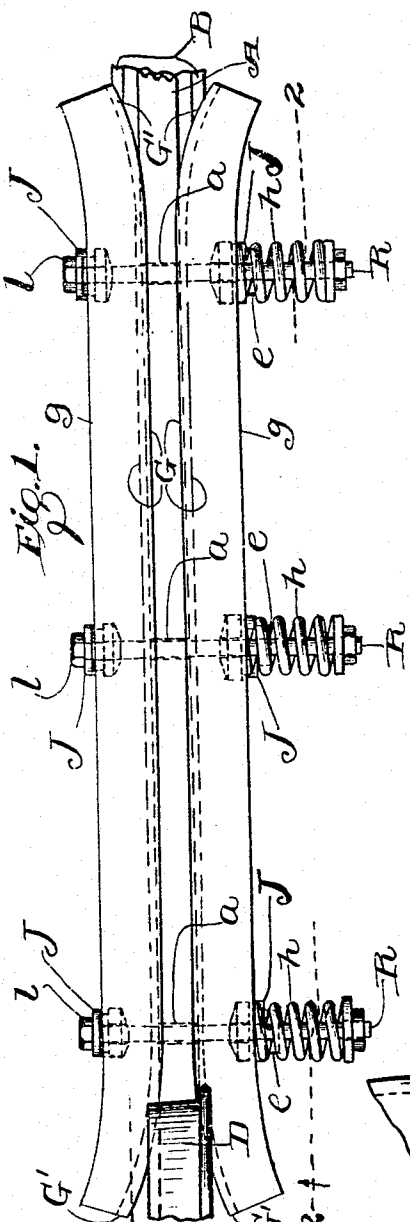

Fig. 2.

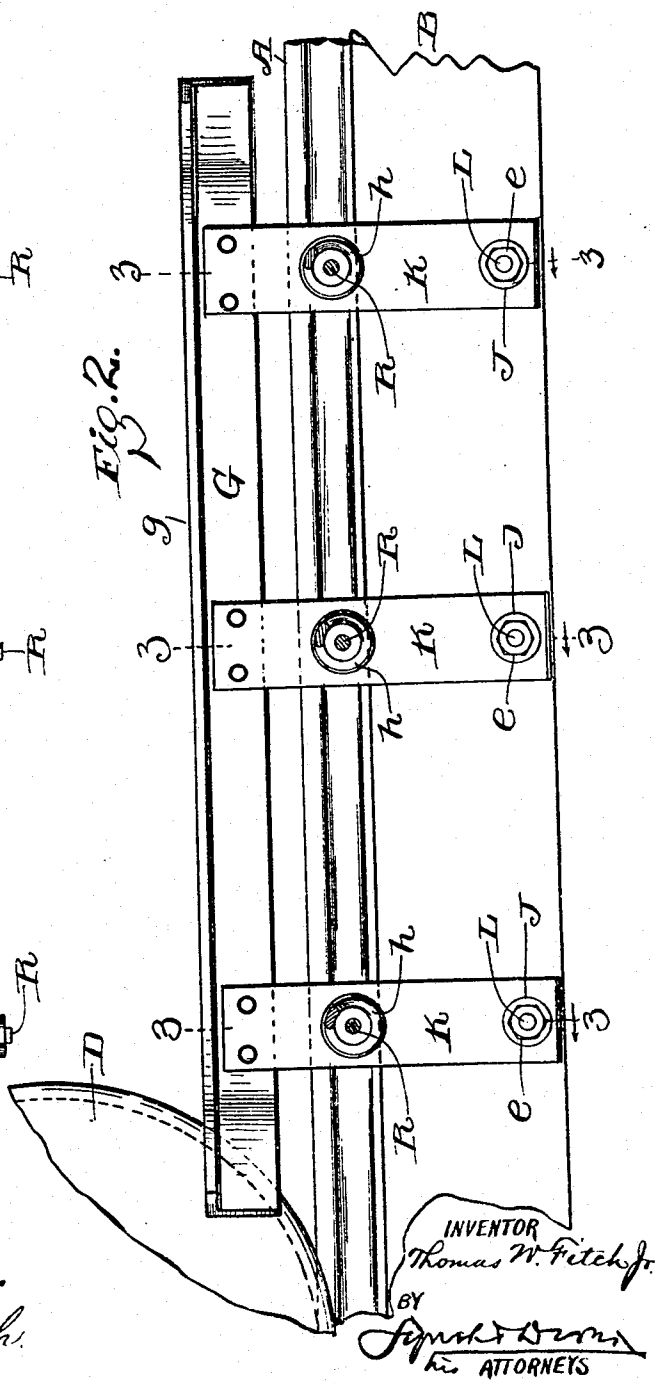

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Fig. 4.

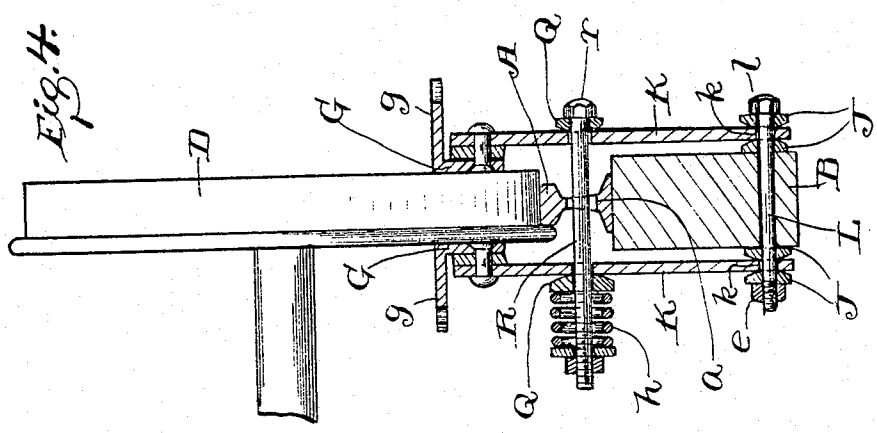
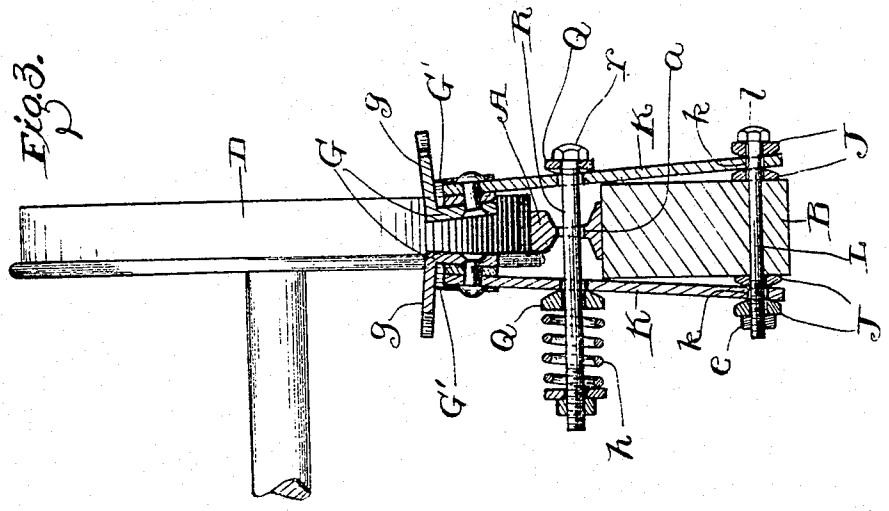


Fig. 3.



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THOMAS W. FITCH, JR., OF CLEVELAND, OHIO, ASSIGNOR TO THE INTERSTATE ENGINEERING COMPANY, OF BEDFORD, OHIO, A CORPORATION OF OHIO.

TRACK-BRAKE.

No. 823,772. Specification of Letters Patent. Patented June 19, 1906.

Application filed December 22, 1905. Serial No. 293,033.

To all whom it may concern:

Be it known that I, THOMAS W. FITCH, Jr., a citizen of the United States of America, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Track-Brakes; and I 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 pertains to make and use the same.

This invention relates to an improved track-brake which is supported and arranged adjacent to the rail of a track for the purpose of arresting a car or vehicle moving upon and along the said track by exerting pressure against both faces of, and thereby clamping the wheels which engage, the said rail.

To the end of providing a simple and effective brake of the character indicated and to realize other advantages hereinafter appearing this invention consists in certain features of construction and combinations of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan of one of the rails of a track upon and along which cars or vehicles are moved and illustrates the forward wheel of a car in position to further separate the pressure-exerting or clamping bars of my improved brake. Fig. 2 is a side elevation in section on line 2 2, Fig. 1, looking in the direction indicated by the arrow. Fig. 3 is a transverse vertical section on any one of lines 3 3, Fig. 2, looking in the direction indicated by the arrow. Fig. 4 is a transverse vertical section corresponding with Fig. 3, except that in Fig. 4 the clamping-bars are shown actuated laterally and outwardly against the action of means acting to retain the said bars in their inner and normal position.

Referring to the drawings, A represents a rail of a track, and B a sleeper instrumental in supporting the said rail and arranged next below and longitudinally of the rail.

D indicates a portion of the wheel of a car mounted on the track comprising the rail A, and G two pressure-exerting or clamping bars adapted to exert pressure against opposite faces, respectively, of the wheels at one and the same side of the car, which bars are arranged, therefore, a suitable distance above, but at opposite sides of, the rail. The bars G extend longitudinally of the rail A a suitable distance. Each bar G is provided at its upper longitudinal edge and externally with a laterally and outwardly projecting flange *g*, which extends from end to end of and reinforces the bar. The bars G are movable laterally—that is, the bars G are relatively movable to widen the space between them, because the said bars are normally spaced apart somewhat less than the thickness of the wheels which are to be clamped by and between the said bars. Means acting to retain the bars G in their inner and normal position are provided, and the said bars curve laterally and outwardly at their ends, as at G′—that is, the end portions of the bars G diverge toward the outer extremities of the said end portions to accommodate the passage between the bars of the forward wheel of the wheels at one and the same side of the car and to accommodate the movement of the said bars laterally and outwardly by the said forward wheel against the action of the means acting to retain the bars in their normal position upon the travel of the said wheel between and along the said bars. Preferably several upright lever-forming bars K are arranged at the outer side of each bar G and equidistantly longitudinally of the last-mentioned bar. Each upright lever-forming bar K is secured at its upper end in any approved manner to the adjacent clamping-bar G and extends downwardly from the said clamping member to and transversely of the adjacent side of the sleeper B and is loosely mounted at its lower end upon a bolt L, which is arranged horizontally and at a right angle to the sleeper and extends laterally through and transversely of the lower portion of the sleeper. It will be observed, therefore, that several parallel bolts L are supported from the sleeper B and arranged transversely of and equidistantly spaced longitudinally of the sleeper. The bolts L project a suitable distance beyond opposite sides of the sleeper B, and each bolt L bears a pair of lever-forming bars K, which are loosely mounted on the bolt at opposite sides, respectively, of the sleeper, and each

bar K is arranged between a pair of washers J, which are loosely mounted on the said bolt, with the inner washer of each pair of washers arranged next adjacent the adjacent side of the sleeper, with the outer washer of one of the pairs of washers J interposed between the outer side of one of the bars K and the head *l*, with which the bolt is provided, and with the outer washer of the other pair of washers J interposed between the outer side of the other of the said bars and a nut *e* mounted on the shank of the bolt. In other words, each bolt L between the washers of each pair of washers J extends loosely through holes *k*, formed in the lower ends of the bars K, mounted on the said bolt to render the said bars capable of being swung outwardly to widen the space between the clamping-bars G, and the pair of bars K, supported from the said bolt, are arranged at opposite sides, respectively, of the sleeper.

The opposing faces or sides of the washers of each pair of washers J recede from each other outwardly from the bolt upon which the said washers are mounted to the edges of the washers to render the lever-forming bars K free to swing laterally, and the sleeper B constitutes means for limiting the movement of the clamping-bars G inwardly or toward each other, and the holes *k* in the bars K on each bolt L are large enough to freely accommodate the said swinging of the said bars laterally. At any suitable point between each bolt L and the clamping-bars G is provided another bolt R, which extends loosely through the lever-forming bars K, mounted on the aforesaid bolt L. The bolts L and R are parallel, and the bolts R extend beyond the outer sides of the lever-forming bars K. The bolts R are shown extending through slots *a* in the rail A. Two washers Q are loosely mounted upon each bolt R at the outer side of the opposite bars K, respectively connected with the said bolt, and the opposing faces or sides of the said washers recede from each other from the bolt toward the edges of the washers to freely accommodate the swinging of the bars K laterally. The said bolt R is arranged with its head *r* abutting against the outer side of one of the washers Q on the said bolt, and a suitably-applied spiral spring *h* is mounted and confined on the said bolt at the outer side of the other washer Q on the bolt and acts to retain the clamping-bars G in their inner and normal position.

Obviously the forward car-wheel, which, as shown in Fig. 1, comes into engagement with the inner sides of adjacent diverging ends of the clamping-bars G, actuates the said bars during the movement of the said wheel into the space between the said bars against the action of the springs *h*, confined on the bolts R.

By the construction hereinbefore described it will be observed that the wheels at one and the same side of the car when they are in position between the two pressure-exerting or clamping bars G are effectually clamped by and between the said bars.

What I claim is—

1. The combination, with a rail; two laterally-movable pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position, and upright lever-forming bars secured at their upper ends to the clamping-bars and movable from and toward each other, of bolts extending between and loosely through the lever-forming bars, which bolts project a suitable distance beyond the outer sides of the lever-forming bars and are arranged with their heads at the outer sides of the lever-forming bar at one side of the rail; nuts on the shanks of the bolts at the outer side of the lever-forming bars at the other side of the rail; washers on the bolts between the heads of the bolts and the adjacent clamping-bar; washers on the bolts between the nuts and the adjacent clamping-bar, and spiral springs confined on the bolts between the last-mentioned bar and the last-mentioned washers and acting to retain the lever-forming bars in their inwardly-swung and normal position, and the inner faces of the washers receding from the clamping-bars toward the edges of the washers.

2. The combination, with a rail; two laterally-movable pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position, and upright lever-forming bars secured at their upper ends to the clamping-bars and movable laterally, of bolts extending horizontally through the web of the rail and loosely through the lever-forming bars, which bolts project a suitable distance beyond the outer sides of the lever-forming bars and are arranged with their heads at the outer sides of the lever-forming bar at one side of the rail; nuts on the shanks of the bolts at the outer side of the lever-forming bar at the other side of the rail; washers on the bolts between the heads of the bolts and the adjacent clamping-bar; washers on the bolts between the nuts and the adjacent clamping-bar, and spiral springs confined on the bolts between the last-mentioned bar and last-mentioned washers and acting to retain the lever-forming bars in their inwardly-swung and normal position.

3. The combination, with a rail; two laterally-movable pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position, and upright lever-forming bars secured at their upper ends to the clamping-bars and movable lat-

erally, of bolts extending between and loosely through the lever-forming bars, which bolts project a suitable distance beyond the outer sides of the lever-forming bars and are arranged with their heads at the outer sides of the lever-forming bar at one side of the rail; nuts on the shanks of the bolts at the outer side of the lever-forming bar at the other side of the rail; washers on the bolts between the heads of the bolts and the adjacent clamping-bar; washers on the bolts between the nuts and the adjacent clamping-bar, and spiral springs confined on the bolts between the last-mentioned bar and last-mentioned washers and acting to retain the lever-forming bars in their inwardly-swung and normal position.

4. The combination, with a rail, of two laterally-movable pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position; upright lever-forming bars secured at their upper ends to the clamping-bars and movable to increase the space between the clamping-bars, and springs acting to retain the clamping-bars in their inner and normal position.

5. The combination, with a rail, of two pressure-exerting or clamping bars located above and extending longitudinally of the rail at opposite sides respectively of the rail, which bars are relatively movable to increase the space between them and arranged to engage opposite faces respectively of wheels on the said rail, and lever-forming bars secured to the clamping-bars and movable to increase the space between the clamping-bars, and means acting to retain the clamping-bars in their inner and normal position.

6. The combination, with a rail, of two pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position and relatively movable to increase the space between them, said bars diverging laterally at the ends to increase the width of the space between them in the direction of the free extremity of the said ends, and means acting to retain the said bars in their inner and normal position.

7. The combination, with a rail, of two pressure-exerting or clamping bars located above and extending longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position and relatively movable to increase the space between them and arranged to engage opposite faces respectively of a wheel on the rail, and means acting to retain the bars in their inner and normal position.

8. The combination, with a rail, of two pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position and relatively movable to increase the space between them, and each bar being provided at the top and outer side with a laterally and outwardly projecting flange extending longitudinally of the bar, and means acting to retain the bars in their inner and normal position.

9. The combination, with a rail, of two laterally-movable pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are normally in their inner and pressure-exerting position, means for limiting the inward movement of the clamping-bars, and means acting to retain the bars in their inner and normal position.

10. The combination, with a rail; a sleeper arranged below and longitudinally of the rail, and two pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, of bolts extending laterally through and transversely of the sleeper, which bolts project a suitable distance beyond the outer sides of the sleeper; two pairs of washers on each bolt at opposite sides respectively of the sleeper, with the two washers of each pair of washers spaced longitudinally of the bolt, with the inner washer of each pair of washers abutting against the adjacent side of the sleeper, with the head of each bolt abutting against the outer side of the outer washer of one of the pairs of washers on the bolt and with a nut mounted on the shank of the bolt at the outer side of the outer washer of the other pair of washers on the bolt; an upright bar loosely mounted on each bolt between the washers of each pair of washers on the said bolt and extending upwardly and overlapping the outer side of and secured to the adjacent clamping-bar, and means acting to retain the clamping-bars in their inner and normal position.

11. The combination, with a rail; the rail-support arranged below and longitudinally of the rail, and two pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail, of bolts extending through and transversely of the rail-support, which bolts project a suitable distance beyond the outer sides of the rail-support; two pairs of washers on each bolt at opposite sides respectively of the sleeper, with the two washers of each pair of washers spaced longitudinally of the bolt, with the inner washer of each pair of washers abutting against the adjacent side of the sleeper, with the head of each bolt abutting against the outer side of the outer washer of one of the pairs of washers on the bolt and with a nut mounted on the shank of the bolt at the outer side of the outer washer

of the other pair of washers on the bolt; an upright bar loosely mounted on each bolt between the washers of each pair of washers on the said bolt and extending upwardly and secured to the adjacent clamping-bar, and means acting to retain the clamping-bars in their inner and normal position.

12. The combination, with a rail; the rail-support arranged below and longitudinally of the rail, and two pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail; bolts extending through and transversely of the rail-support, which bolts project a suitable distance beyond the outer sides of the rail-support; two pairs of washers on each bolt at opposite sides respectively of the sleeper, with the two washers of each pair of washers spaced longitudinally of the bolt, with the inner washer of each pair of washers abutting against the adjacent side of the sleeper, with the opposing surfaces of the washers of each pair of washers receding from the bolt toward the edges of the washers, with the head of each bolt abutting against the outer side of the outer washer of one of the pairs of washers on the bolt and with a nut mounted on the shank of the bolt at the outer side of the washer of the other pair of washers on the bolt; an upright bar loosely mounted on each bolt between the washers of each pair of washers on the said bolt and extending upwardly and secured to the adjacent clamping-bar, and means acting to retain the clamping-bars in their inner and normal position.

13. The combination, with a rail, the rail-support arranged below and longitudinally of the rail, and two pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail; bolts extending through and transversely of the rail-support, which bolts project a suitable distance beyond the outer sides of the rail-support; two upright bars mounted on the bolts at opposite sides respectively of the rail-support and extending upwardly and overlapping the outer side of and secured to opposite clamping-bars respectively, said upright bars being relatively movable to accommodate the movement of the clamping-bars to widen the space between the clamping-bars, and means acting to retain the clamping-bars in their inner and normal position.

14. The combination, with a rail, and the rail-support below and longitudinally of the rail, of two pressure-exerting or clamping bars arranged above and longitudinally of the rail at opposite sides respectively of the rail; pairs of upright bars supported from the rail-support and supporting the clamping-bars, with the bars of each pair of supporting-bars arranged at opposite sides respectively of the rail-support and relatively movable to accommodate the movement of the clamping-bars to widen the space between the clamping-bars, and means acting to retain the clamping-bars in their inner and normal position.

15. The combination, with a rail, and the rail-support arranged below and longitudinally of the rail, of two laterally-movable pressure-exerting or clamping bars supported from the rail-support and arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars have their end portions diverging laterally toward the free extremities of the said end portions, and means acting to retain the bars in their inner and normal position.

16. The combination, with a rail, and the rail-support arranged below and longitudinally of the rail, of two pressure-exerting or clamping bars movable laterally and outwardly and arranged above and longitudinally of the rail at opposite sides respectively of the rail, which bars are supported from the rail-support; means for limiting the movement of the bars toward each other, and means acting to retain the bars in their inner and normal position.

In testimony whereof I sign the foregoing specification in the presence of two witnesses.

THOMAS W. FITCH, JR.

Witnesses:
C. H. DORER,
B. C. BROWN.