No. 711,208. Patented Oct. 14, 1902.

C. M. HAYNES.

CAR BRAKE.

(Application filed Feb. 13, 1902.)

(No Model.) 2 Sheets—Sheet 1.

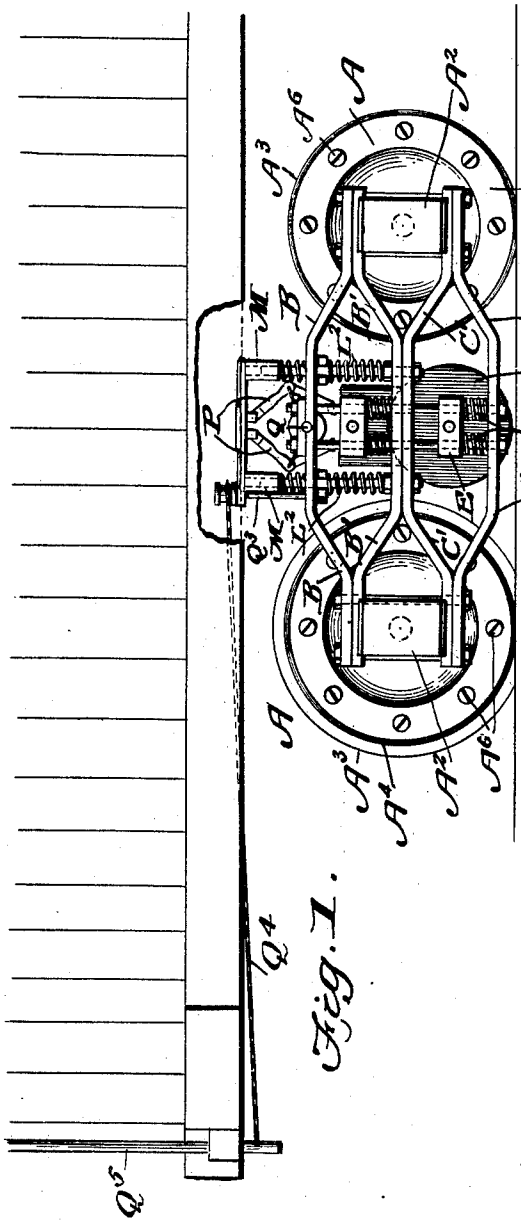

Fig. 1.

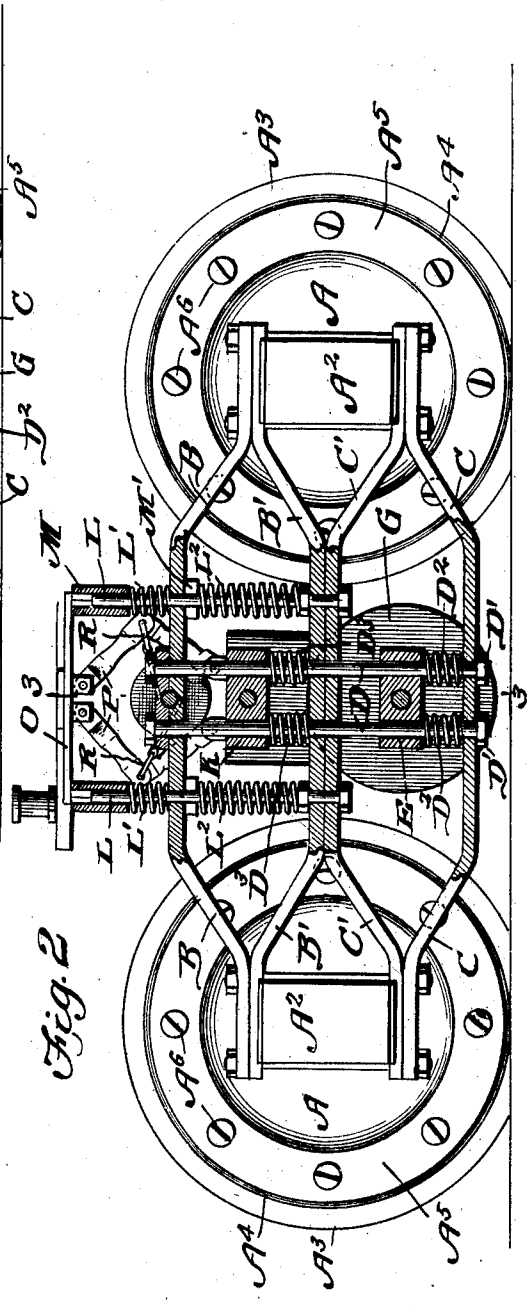

Fig. 2.

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Fig. 3.

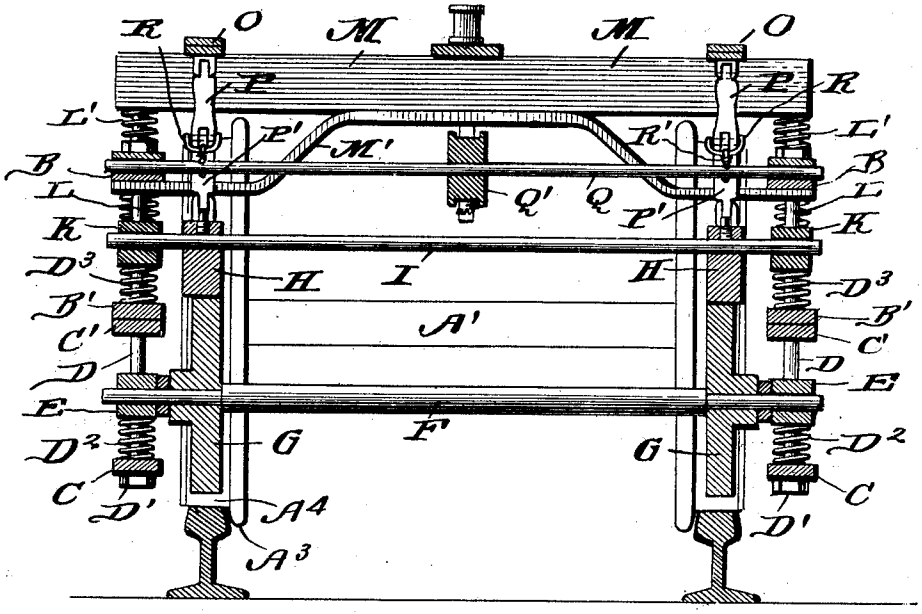


Fig. 4.

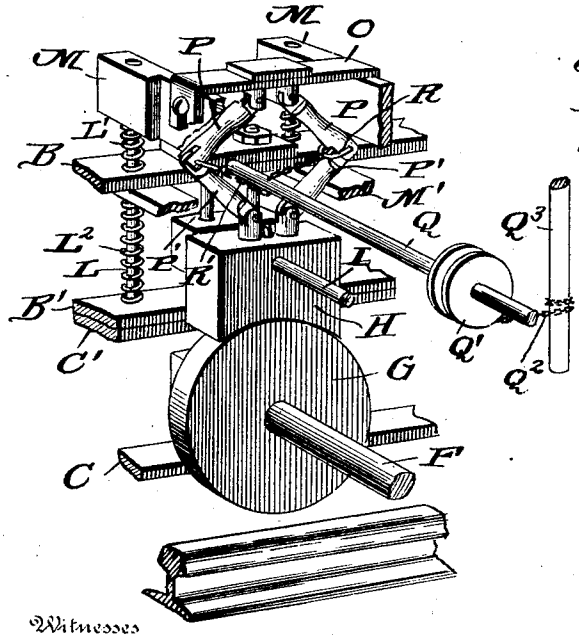
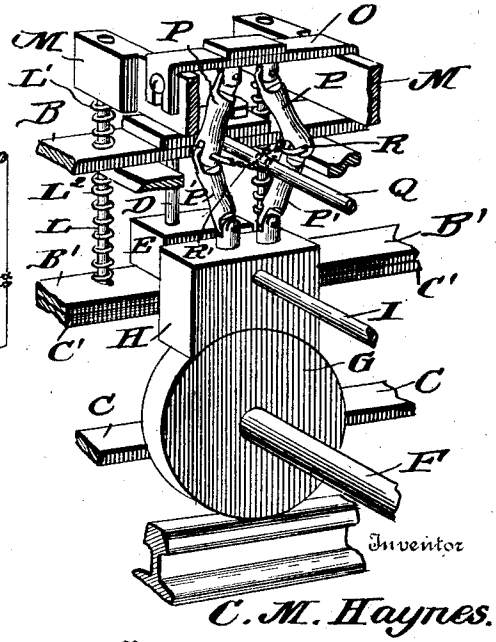


Fig. 5.



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CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 711,208, dated October 14, 1902.

Application filed February 13, 1902. Serial No. 93,920. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. HAYNES, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented a new and useful Improvement in Car-Brakes, of which the following is a specification.

This invention relates generally to car-brakes, and more particularly to that class thereof known as "track-brakes," in which a wheel or other braking object is pressed against the tread of the rail instead of pressing against the tread of the wheel.

The object of the invention is to provide a simple and efficient track-brake which can be quickly and easily applied and one which will automatically return to its normal position as soon as the tension is removed therefrom.

With these objects in view the invention consists in the novel features of construction and combination, all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a side elevation of a wheel-truck provided with my brake mechanism. Fig. 2 is a detail view, partly in section and partly in side elevation. Fig. 3 is a transverse vertical section taken on the line 3 3 of Fig. 2. Fig. 4 is a detail perspective view illustrating the connection between the brake-wheel, shoe, and toggle-arms, the parts being illustrated in their normal positions. Fig. 5 is a similar view illustrating the same parts, showing the brake applied.

In carrying out my invention I employ wheels A, the special construction of which will be fully described hereinafter, said wheels being mounted upon the ends of the axle A', the journals of said axles being mounted in boxes A^2, which are securely fixed between the ends of the truss-beams B B' and C C'. The beams B and C, forming the lower members of the frame, and the beams B' and C', which contact with each other, forming the central members of the frame. It will be understood that a frame of this construction is arranged at each side of the truck, and inasmuch as the brake mechanism is the same at each side a description of the parts at one side will suffice to give a clear understanding of my invention. Passing vertically through the beams B B' and C C' and adjacent to their central portions are the parallel upright rods D, securely fastened at their upper and lower ends by means of nuts D'. Sliding upon these rods D between the beams C and C' is a block E, said block resting upon coil-springs D^2, surrounding the rods D, and bearing upon the beam C, and journaled in each block E is the reduced end of a shaft F, carrying brake-wheels G, and directly above the said brake-wheels G are the brake-blocks H, each block being arranged on a horizontal shaft I, the ends of which are journaled in a box K, which slides upon the rods D between the beams B and B' and normally rests upon the coil-springs D^3, surrounding said rods. Parallel rods L are securely fastened at their lower ends to the beams B' and C' and project upwardly through the beam B, and fitted upon the upper ends of said rods are the horizontal cross-beams or bolsters M, said beams or bolsters resting upon coil-springs L', surrounding the rods L, between the upper faces of the beam and the lower side of the bolster or beam, and these cross-beams or bolsters M have the truss-beams M' connected centrally thereto, the outer ends of said truss being bifurcated to straddle the rods L below the beam B, said bifurcated ends being supported upon the coil-springs L^2, which surround the rod between the beams B and B'. The bolsters or cross-beams M are connected adjacent their ends by means of plates O, and pivotally connected to the under side of the plate O are the toggle-arms P, said toggle-arms P being pivotally connected to the toggle-arms P', which in turn are pivotally connected at their lower ends to the brake-blocks H. A shaft Q is journaled in suitable bearings upon the top of the beam B, said shaft having a sheave or pulley Q' mounted thereon adjacent to its center, and wound upon said sheave or pulley is a chain Q^2, which is connected to an upright Q^3, which is worked by means of a chain Q^4, operated by the brake-shaft Q^5, mounted on the end of the car. The toggle-arms P and P' have a link connection R at their pivotal points, and the chains R' connect the said

links to the opposite sides of the shaft Q, so that when the said shaft is rotated the chains R′ are wound thereon, the toggle-arms drawn toward each other, thereby forcing the brake-wheel down upon the track. Springs D^2 D^3, surrounding the guide-rods D, permit these movements, and as soon as tension is removed from the shaft Q the said springs will immediately return all of the parts to their normal positions.

It will thus be understood how the brake is applied and released, and it will also be noted that inasmuch as the track-wheel contacts with the track and the brake shoe or block with the brake-wheel it is evident that all strain is taken off the truck-frame.

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

1. In a car-brake, the combination with the brake frame and wheels, of the guide-rods having springs arranged thereon, the brake-wheel supported upon one set of springs, the brake-block supported upon the other set of springs, the toggle-arms connected to said brake-block, and means for operating said toggle-arms to apply the brake-block to the brake-wheel for the purpose specified.

2. In a car-brake, the combination with the brake frame and wheels, of the central guide-rods, and the end guide-rods attached to the truck-frame, the cross-beams or bolsters supported upon springs surrounding the end guide-rods, the upper and lower journal-boxes supported upon springs surrounding the central guide-rods, the wheel-brake having its shaft journaled in the lower journal-boxes, and the brake-block having its shaft journaled in the upper box, the toggle-arms connected to the brake-block, and means for operating the same for the purpose specified.

3. The combination with the brake frame and wheels, of the central and end guide-rods connected to the brake-frame, coil-springs surrounding said rods, the wheel-brake supported upon the springs surrounding the guide-rods adjacent to their lower ends, the brake-block supported upon springs surrounding the central guide-rods adjacent to their upper ends, the bolsters and truss-beams supported upon the springs surrounding the end guide-rods, the connecting-plates, the toggle-arms connecting said end plates and brake-blocks, a rotary shaft the chains connected to said rotary shaft and also to the toggle-arms, and means for operating said rotary shaft, whereby the brakes are applied, as specified.

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