M. WOOD.

Steam or Air Brake.

No. 208,660. Patented Oct. 1, 1878.

Fig. 1.

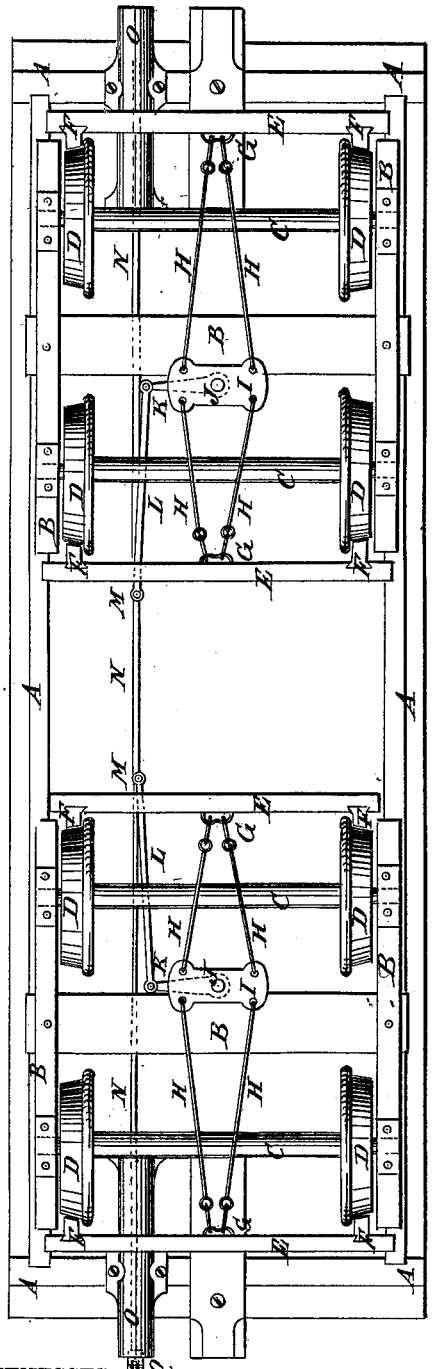


Fig. 2.

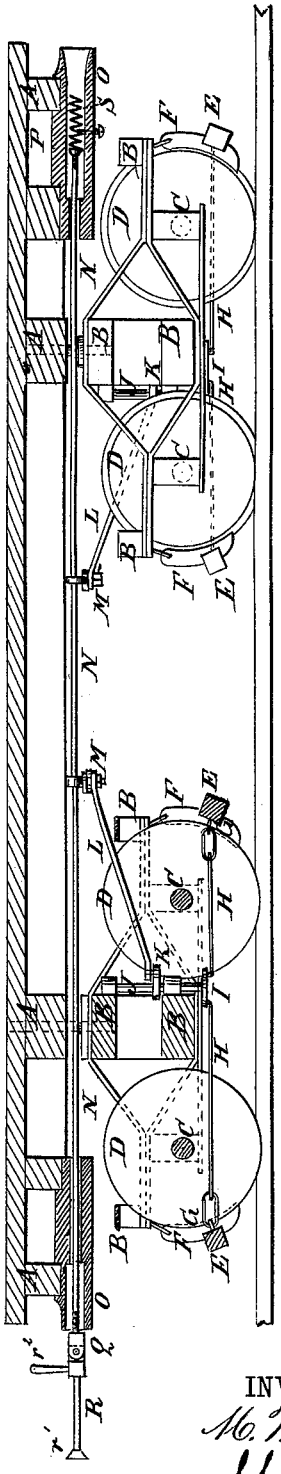
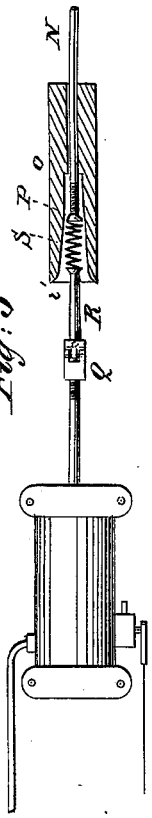


Fig. 3



WITNESSES:

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MARSHALL WOOD, OF ALDERSON, WEST VIRGINIA.

IMPROVEMENT IN STEAM OR AIR BRAKES.

Specification forming part of Letters Patent No. **208,660**, dated October 1, 1878; application filed August 1, 1878.

To all whom it may concern:

Be it known that I, MARSHALL WOOD, of Alderson, in the county of Monroe and State of West Virginia, have invented a new and useful Improvement in Steam and Air Brakes, of which the following is a specification:

Figure 1 is an under-side view of a railroad-car to which my improvement has been applied. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a detail view illustrating the manner in which the brake is connected with the steam-cylinder attached to the engine.

Similar letters of reference indicate corresponding parts.

The object of this invention is to furnish an improved mechanism for connecting the brakes of the several cars of a train, so that all the brakes may be applied at the same time by the engineer while in his place upon the engine, and which shall be simple in construction and convenient and reliable in use.

The invention will first be described in connection with the drawing, and then pointed out in claims.

A represents the car-frame. B represents the truck-frames, C the axles, and D the wheels, about the construction of which parts there is nothing new. E are the brake-bars, which are provided with shoes F, and are suspended from the truck-frames B in the usual way.

To the inner sides of the two brake-bars E of each truck are attached bolts G, made with double or heart-shaped eyes, to which are pivoted the outer ends of rods H, the inner ends of which are pivoted to the opposite parts of a double cam or wheel, I, so that by turning the said cam in one direction the brakes will be applied, and by turning it in the other direction the brakes will be withdrawn.

The double cam or wheel I is rigidly attached at its center to the lower end of a short upright shaft, J, which works in bearings attached to the truck-frame, and to the middle or upper part of which is rigidly attached an arm, K.

To the outer end of the arm K is pivoted the end of the connecting-rod L, the other end of which is adjustably connected by a clamp, M, with the rod N. The rod N extends longitudinally beneath and is supported from the car-frame A, and its ends enter sleeve-couplings O attached to the said car-frame A at the sides of the bumpers.

The outer parts of the cavities of the sleeve-couplings O are flared to give the coupling-rods the necessary play as the cars pass around curves, &c.

Upon each end of the rod N is cut a screw-thread, and upon one end is screwed a head, P, and upon the other end is screwed the head Q, which has a short coupling-rod, R, hinged to it. The coupling-rod R has a head, r^1, formed upon its free end, and is provided near its hinged end with a handle, r^2, for convenience in guiding it into the sleeve-coupling O of the adjacent car when the cars are run together to be coupled.

In the sleeve-coupling O is placed a spiral spring, S, for the heads r^1 P to bear against, to prevent a sudden jar when the brakes are applied and to assist in withdrawing the brakes when the steam-pressure is removed.

The brakes are designed to be applied by introducing steam into a cylinder attached to the engine, the piston-rod of which is connected with the rod N by a jointed coupling-rod, Q R r^1 r^2, in the manner hereinbefore described, which cylinder should be provided with a cock or valve to let out the steam and water when the brakes are to be withdrawn.

The brakes are to be withdrawn when the steam-pressure is removed by the elasticity of the air compressed between the said piston and the end of the said cylinder and by the elasticity of the spiral springs S.

The spiral springs S may be kept from dropping out when the cars are uncoupled by set-screws, pins, or other suitable means.

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

1. The combination, with a steam or air cylinder, of rod N, having heads P Q, and the hinged rod R, having head r^1 and handle r^2, a sleeve, O, and spring S, as and for the purpose specified.

2. The combination, with a steam or air cylinder, of the adjustable clamps M, the connecting-rods L, the rigid arms K, the upright shafts J, the double cam or wheel I, and the connecting-rods H, with the long rods N, and the brake-bars E, substantially as herein shown and described.

MARSHALL WOOD.

Witnesses:

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