

W. K. OMICK.
AUTOMATIC RAILWAY AIR BRAKE.
APPLICATION FILED NOV. 20, 1909.

963,465.

Patented July 5, 1910.

2 SHEETS—SHEET 1.

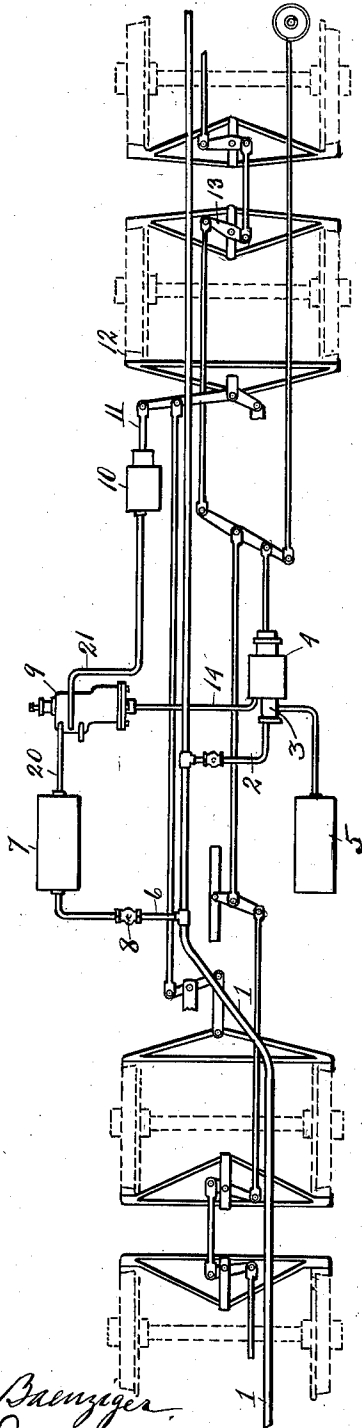


Fig. 1.

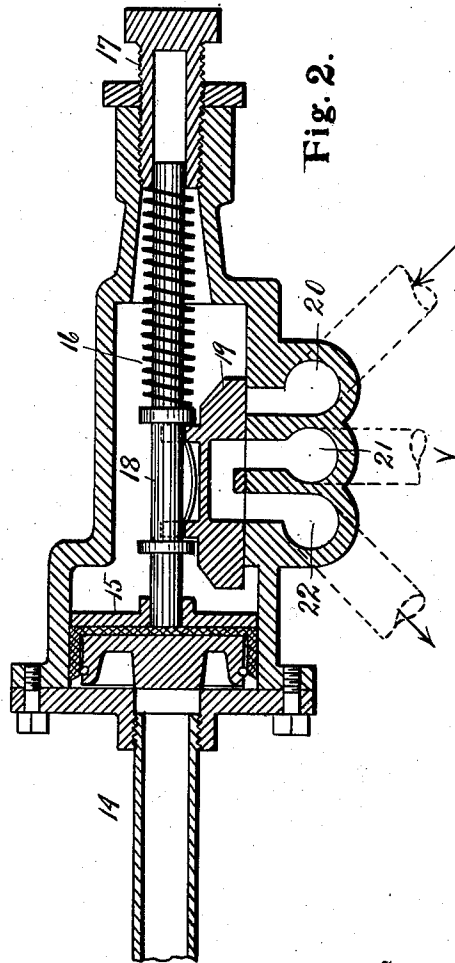


Fig. 2.

Witnesses

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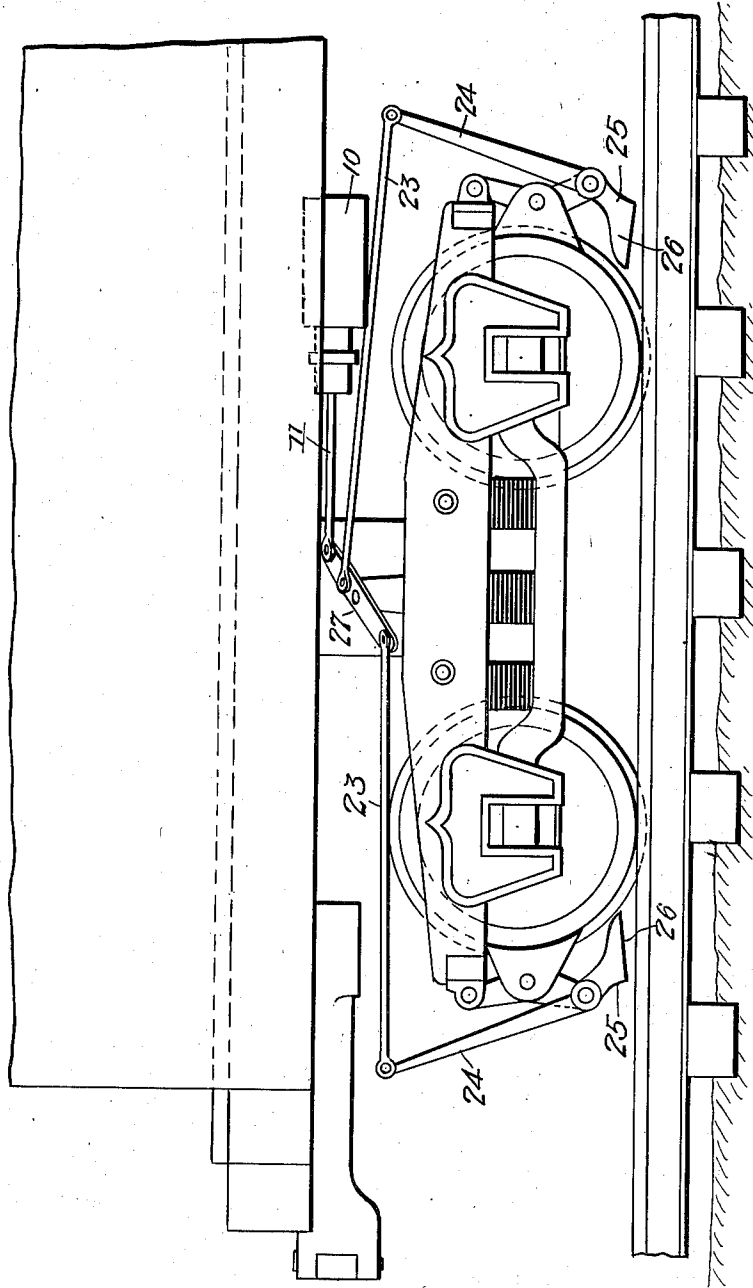
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

WILLIAM K. OMICK, OF DETROIT, MICHIGAN.

AUTOMATIC RAILWAY AIR-BRAKE.

963,465.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed November 20, 1909. Serial No. 529,012.

To all whom it may concern:

Be it known that I, WILLIAM K. OMICK, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Automatic Railway Air-Brakes; and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to railway air brakes.

It has for its object an improved auxiliary brake or automatic emergency brake which is arranged to be brought into action when the ordinary brake reaches a predetermined pressure. Generally the pressure is somewhat above the pressure that is ordinarily used in the setting of the regulation brake, but it is below the train pipe pressure. Preferably an emergency brake acts on a brake shoe that grips the track but which is not confined to a track-gripping shoe, but may be used in connection with an auxiliary brake thrown on the wheels.

In the drawings:—Figure 1, is a diagram showing the arrangement of the ordinary brake, and the auxiliary brake. Fig. 2, is a horizontal section of the valve used in connection with the auxiliary brake. Fig. 3, is a diagram showing the application of an auxiliary brake to a track-gripping shoe.

In Fig. 3 the lever which actuates the brake rods is thrown into perspective in order to bring it out clearly, whereas, in actual use, it would be horizontal, and a true view of it in elevation would be different from the view shown in Fig. 3.

1 indicates the train pipe in which the air is forced through by the air compressor or pump located on the engine.

2 indicates a branch leading to the triple valve 3.

4 indicates the position of the brake cylinder, and 5 the auxiliary reservoir for the main brake cylinder.

6 indicates a branch pipe leading to reservoir 7 of the auxiliary emergency brake apparatus past a check valve 8 which allows

air at a pressure corresponding to that in the train pipe to be stored in the auxiliary reservoir 7. The air from the auxiliary reservoir 7 is carried through valve 9 into the emergency auxiliary cylinder 10 to actuate the brake rod 11 and the brakes 12 which are distinct from the primary brakes 13 actuated by the main cylinder 4. The valve which brings into action the secondary braking system is thrown by air through pipe 14 that leads from the main cylinder 4 to the case of valve 9, and this is arranged to be actuated only when the pressure in the cylinder 4 has been raised somewhat above that which is necessary to actuate the main brake, as in a service application, but well below the extreme pressure in the train pipe. The valve 9 is actuated by piston 15 acted upon directly by air in pipe 14, and is actuated against the tension of the spring 16, whose tension can be regulated by means of an adjusting screw 17 which enters the head of the casing and presses against the spring. The piston 15 with its stem 18 actuates the D valve 19 that controls the air entering through the pipe 20. As shown in the drawing the D valve is closed over the port of the pipe 20 and no air can enter. The pipe 21 now acting as an exhaust for the cylinder 10 communicates through the passage in the D valve with the exhaust outlet 22. Upon shifting the D valve by an excess of pressure on the piston 15, the pipe 20 is brought into communication with the pipe 21 and the high pressure air is now directed into the cylinder 10, while the port 22, (which is now shown in communication with the pipe 21,) is closed. For the auxiliary or emergency brake, I prefer to use a brake which grips the track rather than the wheel, and is actuated by the rod 23 which appears in Fig. 3: this is actuated by the rod 11 of Fig. 1. This throws the brake lever 24 and tilts the brake arms 25, tilting the brake shoes 26 down against the track.

What I claim is:—

1. In combination with a primary brake an emergency brake provided with a feed pipe and a reservoir communicating directly with the train pipe, a controlling valve located between the emergency brake and its reservoir, and means for shifting the valve

actuated by compressed air in the cylinder of the primary brake, substantially as described.

2. In combination with a primary brake,
5 an emergency brake provided with a valve controlled feed pipe and with its proper reservoir in direct communication with the train pipe, a connecting pipe to said valve from the main brake cylinder whereby the

said valve may be actuated by an increased 10 pressure in said primary brake cylinder, substantially as described.

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

WILLIAM K. OMICK.

Witnesses:

CHARLES F. BURTON,
VIRGINIA C. SPRATT.