G. W. SMITH.
SAFETY AIR BRAKE APPLIANCE.
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Fig. 1.

Fig. 2.

Fig. 3.

Witnesses

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by

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SAFETY AIR-BRAKE APPLIANCE.


To all whom it may concern:

Be it known that I, George W. Smith, a citizen of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented a new and useful Safety Air-Bridge Appliance, of which the following is a specification.

The present invention appertains generally to air brakes, and aims to provide a novel and improved yet simple and inexpensive appliance which can be readily installed upon railroad cars, whereby the derailment of the truck will open an emergency valve of the train pipe, so that the pressure in the train pipe will be reduced for automatically applying the brakes of the entire train, to bring the train to a halt, so as to avoid a wreck or other injury to the rolling stock.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a bottom view of a railroad car equipped with the present improvements, portions being broken away. Fig. 2 is an enlarged end view of the car showing the present appliance, and portions of the car body being broken away. Fig. 3 is a fragmental side elevation of the car illustrating one truck and the appliance applied thereto.

In the drawing, there is depicted the body 1 of a railroad car, underneath the bottom of which is secured the train pipe 2, as usual, and this train pipe is provided with an emergency valve 3 having an operating arm 4. Said valve is normally closed, to prevent the escape of air, but when the arm 4 is swung in one direction, the valve 3 is opened to relieve the pressure, whereby the brakes are applied in the ordinary manner. The valve 3 is disposed at the center of the car, and extending longitudinally in each direction from the arm 4 is a rod 5 for operating the valve. Each rod 5 extends over one of the trucks of the car, being slidable through suitable guides 6 attached to the bottom of the car body. Four bell crank levers 7 are fulcrummed to the bottom of the body above each truck, and certain arms of said levers project toward the rod 5 while others project longitudinally in one direction. The first mentioned arms of the levers 7 are connected by short chains or flexible elements 8 with the rod 5, and outwardly extending rods 9 are pivotally connected with the other arms of the levers 7. Chains or other flexible elements are connected to the rods 9 and are passed over pulleys 10 carried by the bottom of the car body 1. The lower ends of the chains 10 are attached by eye bolts 12, or by any other suitable means, to the four corners of the truck 13.

The chains are normally sufficiently slack to permit of the swaying of the car body, the rounding of curves, and the like, without operating the valve 3, but should the truck become derailed, the downward movement of one or more of the chains 10, thus swinging one or more of the bell crank levers 7, which will result in the rod 5 being pulled longitudinally. This results in the arm 4 being swung to open the valve 3, so that the air escapes from the train pipe 2, automatically applying the air brakes and stopping the train immediately after the derailment occurs. This will avoid a wreck or other destruction of the rolling stock.

The present appliance can be readily installed, and is quite simple and inexpensive in construction, but it will be thoroughly practical and reliable in use.

Having thus described the invention, what is claimed as new is:

1. The combination with a car body, truck and train pipe, of an emergency valve connected to said pipe, a reciprocatory rod connected to said valve and projecting over the truck, guides carried by the body for guiding said rod, and flexible elements carried by the body, connected to said rod and connected to the four corners of the truck, whereby the derailment of the truck will move said rod to open the valve.

2. The combination with a car body, truck and train pipe, of an emergency valve connected to said pipe, a longitudinal rod connected to said valve and projecting over the truck, guides attached to the body for guiding said rod, bell crank levers fulcrummed to the body, flexible elements connecting said
levers and rod, pulleys carried by the body, and flexible elements connected to said levers, passed over said pulleys and connected to the four corners of the truck, whereby the derailment of the truck will move said rod to open the valve.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE W. SMITH.

Witnesses:

G. W. POOSON,

S. E. LONG.

Copies of this patent may be obtained for five cents each, by addressing the “Commissioner of Patents, Washington, D C.”