UNITED STATES PATENT OFFICE.

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SAFETY DEVICE FOR AIR-BRAKES.

No. 870,284.


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To all whom it may concern:

Be it known that I, JOHN WILLIAM GUFFEY, a citizen of the United States, residing at Arkansas City, in the county of Cowley and State of Kansas, have invented a new and useful Safety Device for Air-Braakes, of which the following is a specification.

This invention relates to air brakes for railway cars and other rolling stock and more particularly to a safety device for automatically setting the brakes in case of derailment of said cars.

The object of the invention is to provide a pipe section or tube having its intermediate portion rigidly secured to and depending from the platform of the car and its opposite ends provided with frangible extensions disposed between the train shoes so that in case of derailment, one of the truck wheels will sever the adjacent frangible extension thus causing a reduction in the train pipe pressure with a consequent application of the brakes.

A further object is to provide the pipe section or tube with a turning plug or valve for cutting off communication between the train pipe and said tube.

A still further object of the invention is to generally improve this class of devices so as to increase their utility, durability and efficiency.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

In the accompanying drawings forming a part of this specification: Figure 1 is a top plan view of the platform of a car provided with a safety device constructed in accordance with my invention, a portion of the platform at each end of the car being broken away to show the position of the safety device. Fig. 2 is an end elevation of the same. Fig. 3 is a detail sectional view partly in elevation of one end of the pipe section or tube.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved device forming the subject matter of the present invention is principally designed for attachment to freight cars, engine tank trucks and other rail way rolling stock and by way of illustration is shown in connection with a rail way car of the ordinary construction in which the platform of the car and the trucks pivotally mounted on the platform and provided with the usual traction wheels.

The device consists of a pipe section or tube having its intermediate portion supported by hangers, the latter being rigidly secured to the platform of the car at the front of the axle, as shown. Threaded on the opposite ends of the pipe section are elbow couplings 11 and 12 to one of which is secured a similar elbow coupling 13 carrying a frangible extension which extends transversely of the car to a point adjacent the inner face of the contiguous wheel and is provided with a threaded cap. Secured to the elbow coupling 11 at the opposite end of the pipe section is a T coupling 16 which communicates with the train pipe 17 and is provided with a frangible extension 18 similar in construction to the extension 14 and which terminates a short distance from the inner face of the opposite truck wheel, as shown.

The frangible extensions 14 and 18 are provided with weakening grooves 19 so that in case of derailment of the car the wheels of the truck will engage and break the adjacent transverse sections at the weakening grooves 19 so as to permit the reduction of the air pressure in the train pipe and thus apply the brakes.

Interposed between the T coupling 16 and train pipe 17 is a turning plug or valve 20 provided with an operating handle 21 by means of which communication between the pipe section and train pipe may be controlled at will. It will thus be seen that in case of derailment of the forward or rear truck of the car said truck will drive around to the right or left and in doing so one of the wheels of said derailed truck will fracture the adjacent frangible extension and permit the escape of air so as to automatically apply the brakes and stop the car, in the manner before described.

The attachment may be readily repaired after each derailment of a car by removing the broken pipe from the couplings 13 and 16 with a wrench or other suitable tool and screwing new frangible members in said couplings, as will be readily understood. In case the necessary tools and frangible members to effect the repairing of the device are not handy or accessible, the train pipe 27 may be used in the ordinary manner by rotating the handle 21 of the valve so as to close the latter and thus cut off communication with the train pipe and the pipe sections.

Attention is here called to the fact that the frangible extensions are severed or broken by contact with the wheels of the truck as contra distinguished from contact with the rails or cross ties of the road bed, this result being accomplished by rigidly securing the pipe sections to the platform of the truck between said traction wheels.

It will of course be understood that one of the safety devices will be arranged at each end of the car and that the several cars in a train may be equipped with similar devices.

From the foregoing description it will be seen that there is provided an extremely simple, inexpensive and efficient device admirably adapted for the attainment of the ends in view.
Having thus described the invention what is claimed is:

1. The combination with a railway car including a train pipe, of a pipe section rigidly secured to the platform of the car and communicating with the train pipe, and frangible portions carried by the opposite ends of the pipe section and adapted to be broken by contact with the adjacent car wheels upon derailment of said car.

2. The combination with a railway car including a train pipe, of a pipe section extending transversely of the car and rigidly secured to the platform thereof, and extensions carried by the opposite ends of the pipe section and provided with weakening grooves, said extensions being arranged between the wheels of the car and adapted to be broken by contact, with the latter upon derailment of said car.

3. The combination with a railway car including a train pipe, hangers rigidly secured to the platform of the car, a pipe section supported by the hangers and provided with frangible portions disposed between the wheels of the car and adapted to be broken by contact with said wheels upon derailment of the car.

4. The combination with a railway car including a train pipe, of a pipe section depending from and rigidly secured to the platform of the car and communicating with the train pipe, frangible portions carried by the opposite ends of the pipe section and adapted to be broken by contact with the adjacent wheels upon derailment of said car, and a valve interposed between the pipe section and train pipe for cutting off communication between the two.

5. The combination with a railway car including a train pipe, hangers rigidly secured to the platform of the car, a pipe section extending transversely of the car and supported by said hangers, frangible portions extending longitudinally from the opposite ends of the pipe section and arranged between the wheels of the car, said frangible portions being provided with weakening grooves and adapted to be broken by contact with the wheels of the car upon derailment of the latter, and a valve interposed between one end of the pipe section and the train pipe for cutting off communication between the two.

6. The combination with a railway car including a train pipe, hangers rigidly secured to the platform of the car, a pipe section extending transversely of the car and supported by the hangers, frangible portions engaging the opposite ends of the pipe section and providing terminal caps, said frangible portions being arranged between the wheels of the car and supported by the hangers, frangible portions being provided with weakening grooves adapted to be broken by contact with the wheels of the car upon derailment of the latter, and a valve interposed between the pipe section and the train pipe for controlling communication between the two.

7. The combination with a railway car including a train pipe, hangers rigidly secured to the platform of the car, a pipe section extending transversely of the car and having its opposite ends curved upwardly, an elbow joint secured to one of the up-turned ends of the pipe section, a T coupling secured to the opposite up-turned end of said pipe section, detachable frangible portions threaded in the elbow and T couplings, respectively, and extending between the wheels of the car, said frangible portions being provided with weakening grooves and adapted to be broken by contact with the wheels of the car upon derailment of said car, and a valve for cutting off communication between the train pipe and pipe section.

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

JOHN WILLIAM GUFFEY.

Witnesses:
FRED A. GOULD,
E. T. MILLER.