No. 752,012. PATENTED FEB. 9, 1904.

J. M. VANCE & T. LANAHAN.

AUTOMATIC DEVICE FOR SETTING AIR BRAKES ON STEAM RAILWAY CARS.

APPLICATION FILED MAY 26, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

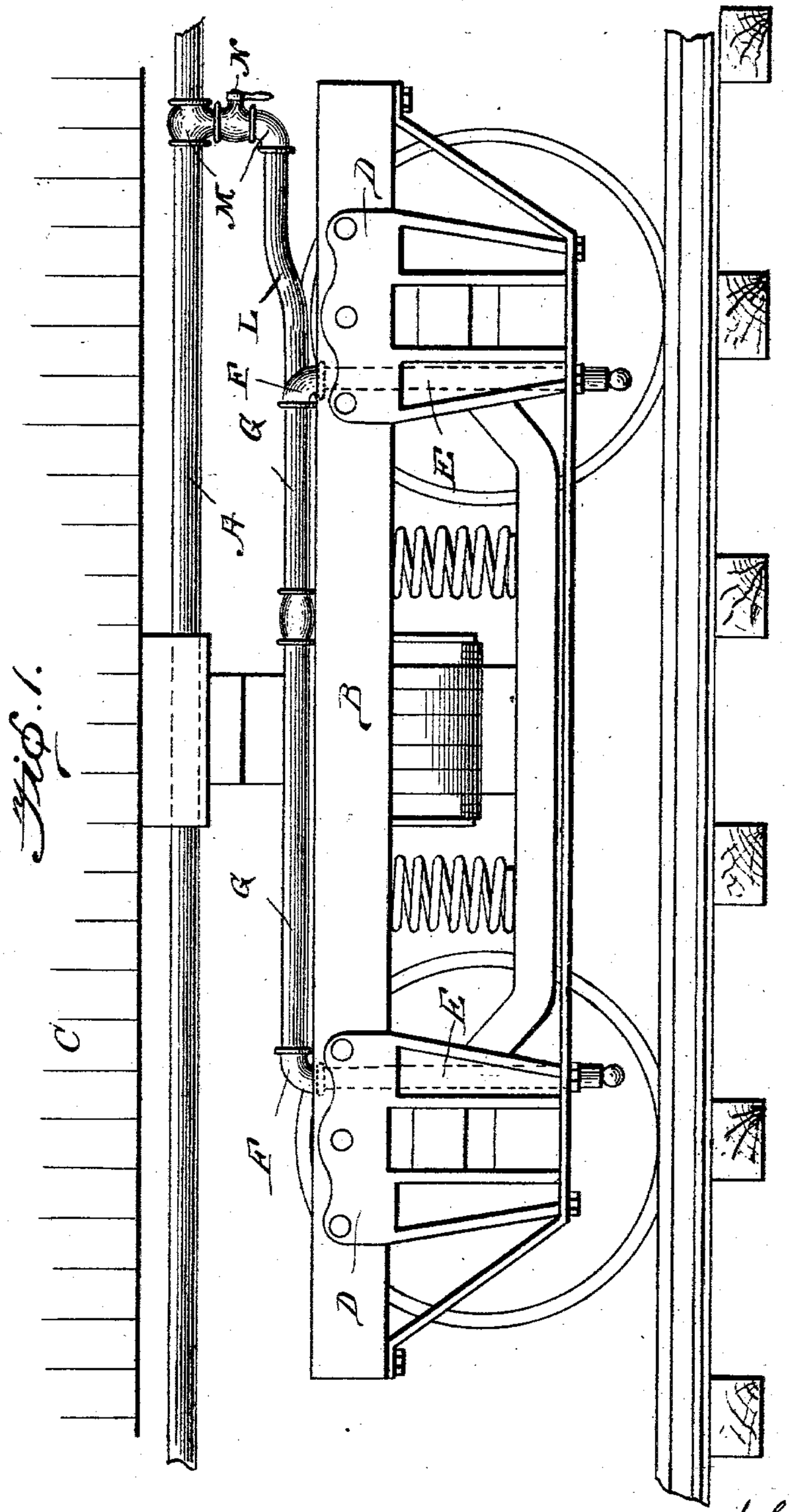

Fig. 1.

Witnesses
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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

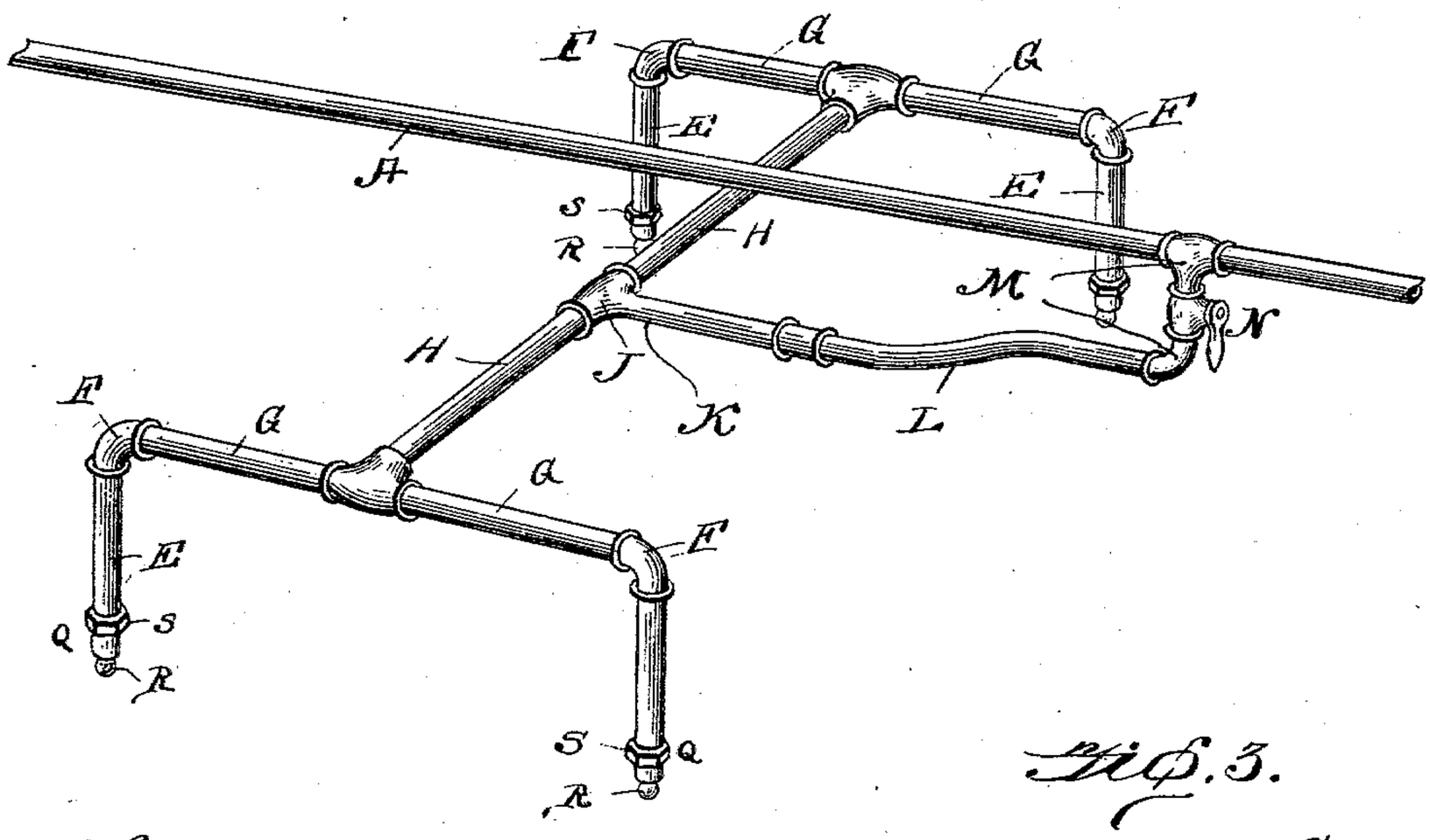

Fig. 3.

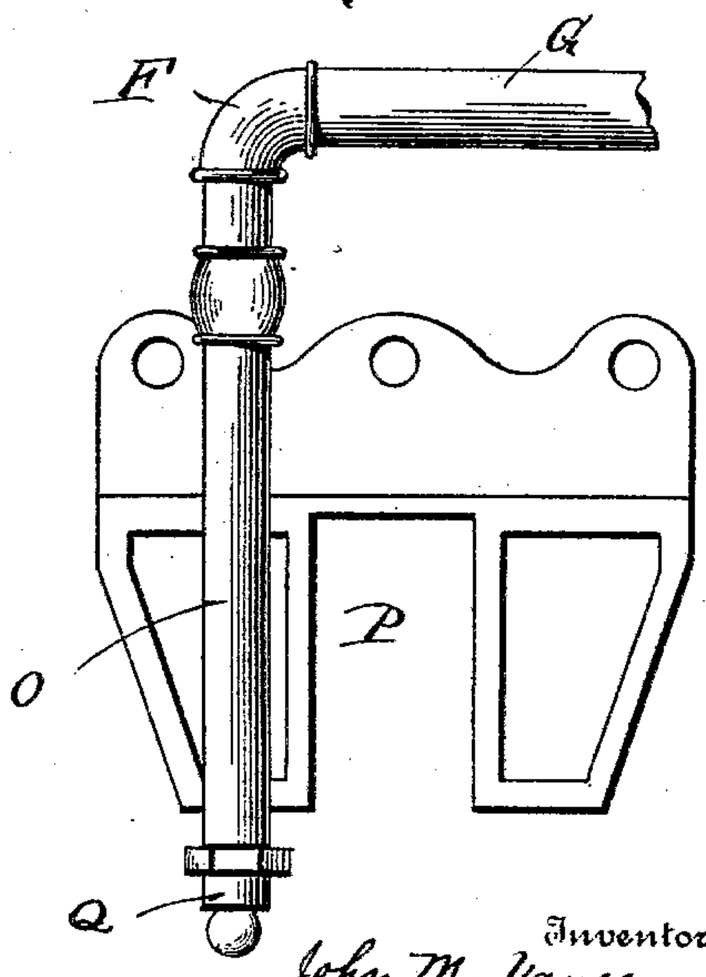

Fig. 4.

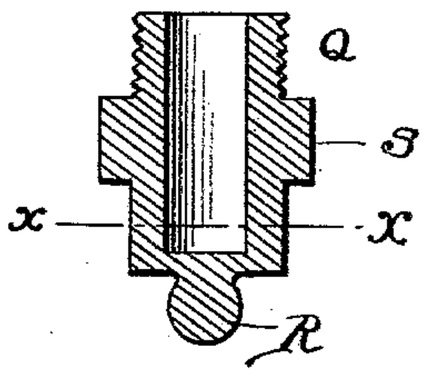

Fig. 6.

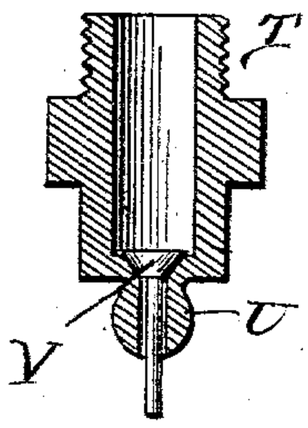

Fig. 5.

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No. 752,012. Patented February 9, 1904.

UNITED STATES PATENT OFFICE.

JOHN M. VANCE AND THOMAS LANAHAN, OF LOUISVILLE, KENTUCKY, ASSIGNORS OF TWO-THIRDS TO WILLIAM T. VAN BRUNT AND D. S. HARDING, OF NEW YORK, N. Y.

AUTOMATIC DEVICE FOR SETTING AIR-BRAKES ON STEAM-RAILWAY CARS.

SPECIFICATION forming part of Letters Patent No. 752,012, dated February 9, 1904.

Application filed May 26, 1903. Serial No. 158,801. (No model.)

To all whom it may concern:

Be it known that we, JOHN M. VANCE and THOMAS LANAHAN, citizens of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Automatic Devices for Setting Air-Brakes on Steam-Railroad Cars, of which the following is a specification.

This invention relates to improvements in devices for setting air-brakes on steam-railway cars, and has special reference to a device which is so connected as to be operated upon the derailment of a car-truck or by our improved system, as specifically set forth in our application for patent filed even date herewith, Serial No. 159,743.

To this end the invention consists of a novel construction of means whereby the air-brakes are set, the said device consisting particularly of a fragile plug or nipple which is adapted to be broken when contacted by the rail or by the device shown in our improved system, thus admitting of the escape of air through a series of pipes connected with the air-brake apparatus, so as to set the brakes upon the train and not necessitate manual setting thereof by the engineer.

To attain these objects, the invention consists of a device of this character embodying novel features of construction and combination of parts, substantially as disclosed herein.

In the accompanying drawings, Figure 1 is a side elevation of a car-truck, showing a portion of a car and air-brake system with our improved device in operative connection therewith. Fig. 2 is a detail perspective view of the device connected with the air-brake pipe, but removed from the car. Fig. 3 is an enlarged detail rear plan view of a modified form of casting used for supporting the device. Fig. 4 is a sectional view of a sealing-plug. Fig. 5 is a detail cross-sectional view of one of the fragile plugs on line *x x* of Fig. 4. Fig. 6 is a similar view to Fig. 4 of a modified form.

Referring to the drawings, A designates the air-supply pipe, which is connected to the air-brakes in the ordinary manner, and B is the car-truck which supports the car C. Secured upon opposite sides of the car-truck are the hangers or brackets D, to which is secured the short vertical pipes E, whose upper ends are connected, by means of the elbow F, to the two short longitudinal pipes G, these longitudinal pipes being connected together by means of the transverse pipe H. Connected to the center of this pipe by means of the T-coupling S is the short pipe K, this short pipe K being connected to the air-pipe through the medium of the flexible coupling L and the T and L coupling M, which are provided with the cut-off N.

In the modified form of our invention shown in Fig. 3 we dispense with the pipes E and use in place thereof the pipes O, formed integral with the casting P, the other part of the device being exactly as above specified. Connected to the lower end of this pipe E and O are the plugs Q, which are made, preferably, of cast gray iron-glass or any fragile metal or the equivalent thereof, the one in Fig. 4 consisting, substantially, of the lower knob R and the shouldered portion S, which provides a fragile seal or plug for the ends of the pipes O and E, so that immediately upon derailment of the car this plug when coming in contact with the rail or any other projection will be broken, so as to admit of the escape of air from the various pipes, thereby setting the air-brakes upon the train.

In the modified form of our invention shown in Fig. 6 we construct the plug or nipple T with the fragile end U and the valve V, which is adapted in case the breaking of the plug did not allow the escape of air to be operated upon contact, so as to doubly insure the escape of the air from the air-pipes, and thereby the setting of the brakes upon the train.

From the foregoing description it will be seen that we provide means whereby when these plugs or nipples are broken by contacting with any projection—such, for instance, as the rails or the device used in our improved system—that the same will be broken, and thus allow the escape of air from the air-brake

pipes and instantly set the brakes upon the entire train, so as to stop the same and prevent further damage.

What we claim as new, and desire to secure by Letters Patent, is—

1. In combination with an air-brake system, of a device for automatically setting the brakes, comprising a framework of pipes mounted upon the truck and communicating with said air-brake system, a series of downwardly-projecting pipes connected to and in communication with said framework having their lower ends outside the road of travel, and a plug of fragile material secured upon the ends of said downwardly-projecting pipes adapted to control the escape of air therethrough, said plug consisting of a single casting having a shouldered portion intermediate of its length and a globular knob upon its extremities.

2. In combination with an air-brake system, of a device for automatically setting the brakes, comprising a framework of pipes mounted upon the truck and communicating with said air-brake system, and a series of downwardly-projecting pipes adjacent to each wheel of the truck upon the outside thereof connected to and in communication with said framework, and a plug of fragile material connected to the extremities of said downwardly-projecting pipes each of said plugs being cast so as to have a centrally-arranged shouldered portion and a globular knob upon the extreme end thereof.

3. In combination with an air-brake system, and a car-truck, of a device for automatically setting the brakes comprising a frame of pipes mounted upon the car-truck and having a series of downwardly-projecting extremities a valve controlling the conduit connecting said frame with the air-brake system, and means connected to the extremities of the frame and carrying the valve adapted to be broken when contacted so as to operate the air-brake system, the valve being operated when the means is not broken.

4. In combination with an air-brake system and car-truck, of a device for automatically setting the brakes, comprising a frame of pipes mounted upon the car-truck, a flexible connection between said frame of pipes and the air-brake system, a series of downwardly-projecting pipes connected to the frame of pipes, a fragile plug connected to the extremities of said downwardly-projecting pipes, and a valve mounted in said plug for the purpose set forth.

5. In combination with an air-brake system and a car-truck, of a device for automatically setting the air-brakes, comprising a transverse pipe, a flexible pipe connecting said transverse pipe with the air-brake system, a pair of pipes connected to the extremities of the transverse pipe extending in opposite directions, a downwardly-projecting pipe connected to each one of said opposite-extending pipes, and a fragile plug for sealing the ends of said downwardly-projecting pipes.

6. In combination with an air-brake system and a car-truck, of a device for automatically setting the air-brakes, comprising a transverse pipe, a flexible pipe connecting said transverse pipe with the air-brake system, a pair of pipes connected to the extremities of the transverse pipe extending in opposite directions, a downwardly-projecting pipe connected to each one of said oppositely-extending pipes, a fragile plug for sealing the ends of said downwardly-projecting pipes, and a valve mounted in each of said plugs.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN M. VANCE.
THOS. LANAHAN.

Witnesses:
J. L. VANCE,
JAMES BIGWOOD.