(No Model.)

J. P. CLIFTON.

TRACK DEVICE TO AUTOMATICALLY OPERATE AIR BRAKES OF TRAINS.

No. 531,100. Patented Dec. 18, 1894.

Fig. 1.

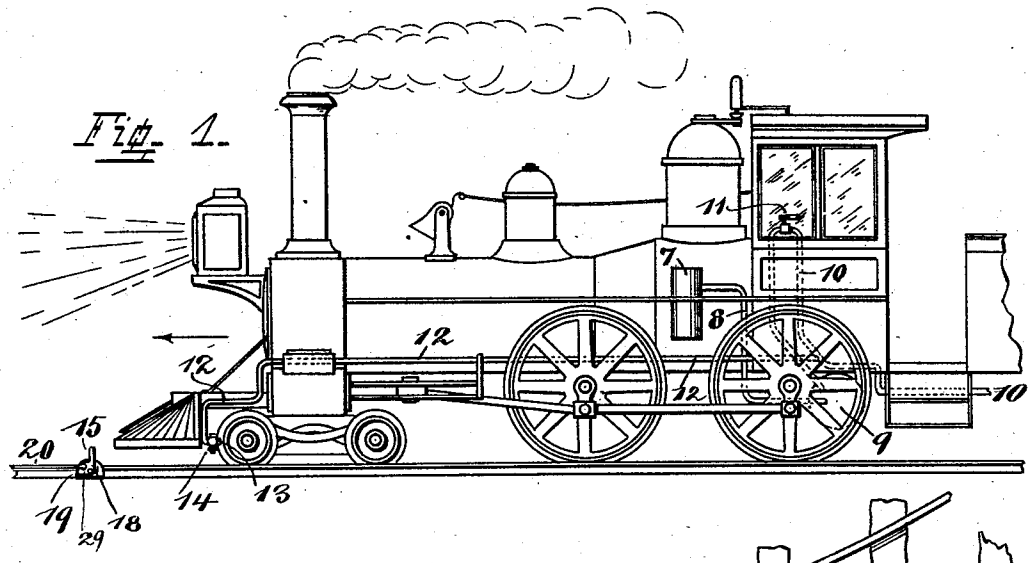


Fig. 2.

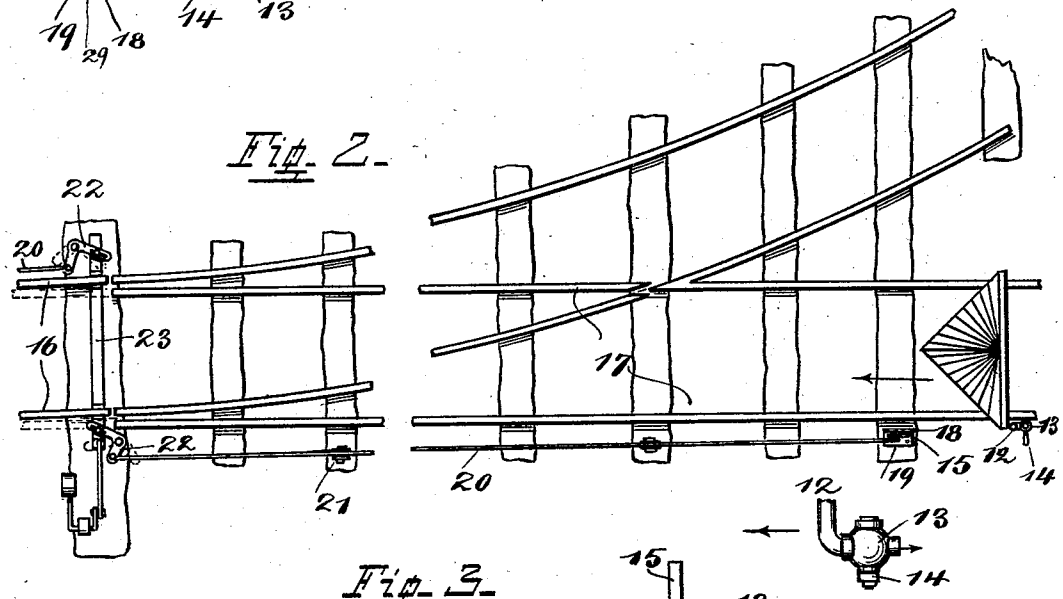
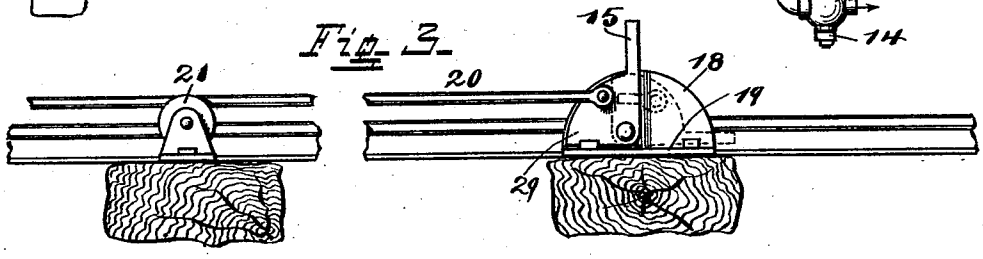


Fig. 3.



Attest
Alfred M. Davies.
Chas Sommer.

Inventor
James Percy Clifton
by Chas. Spengel Atty.

UNITED STATES PATENT OFFICE.

JAMES PERCY CLIFTON, OF RIVERSIDE, ASSIGNOR TO ARCHER E. CLIFTON, OF CINCINNATI, OHIO.

TRACK DEVICE TO AUTOMATICALLY OPERATE AIR-BRAKES OF TRAINS.

SPECIFICATION forming part of Letters Patent No. 531,100, dated December 18, 1894.

Application filed January 23, 1893. Serial No. 459,309. (No model.)

To all whom it may concern:

Be it known that I, JAMES PERCY CLIFTON, a citizen of the United States, residing at Riverside, in the county of Hamilton and State of Ohio, have invented certain new and useful Means to Automatically Operate Air-Brakes of Trains from the Track; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates in general to means for the prevention of accidents to railway trains and particularly to such accidents which may be caused by open switches, at crossings, or obstructions of the track. It is carried out by a construction whereby the train is brought to a stop by means acting automatically on its brakes a sufficient distance before the dangerous point is reached.

In the following specification and particularly pointed out in the claim is found a full description of my invention, its operation, parts and construction, which latter is also illustrated in the accompanying drawings, in which—

Figure 1, shows a side-view of a locomotive and a portion of the track with the features of my invention embodied. Fig. 2, shows a portion of a main-track, where the same is joined by a switch-track and with the front part of an approaching locomotive in position. Fig. 3, is an enlarged side-view of portions of Fig. 2.

This invention is intended to be used in connection with trains where the brakes are operated in a manner like or similar to the "Westinghouse" air-brake system, in which system the brakes are normally held open by air under pressure and by the release of which air the brakes are set. My invention is to relieve such air-pressure automatically by an object placed within the path of the train and acting upon the brake-system.

Referring to Fig. 1, 7, represents the customary air-pump carried by locomotives and which supplies air through a pipe 8, to a storage-tank, 9. From this tank air under pressure is supplied to the different brakes distributed through the train, by a pipe 10. Passage through this pipe is controlled by a valve 11, located in the engineer's cab. To this system I connect by a pipe 12, a valve 13, which I bring down close to the track. The particular location of this valve is not essential. It might be carried by one of the cars, but for quickest action its connection to the locomotive is the most preferable. Pipe 12, the outlet of which is controlled by valve 13, forms a part of the system so that if valve 13, is opened and the air-pressure relieved, the brakes will set the same as if the engineer's or conductor's valve had been operated for this purpose.

To enable the operation, or opening of valve 13, to be accomplished, it is provided with a handle 14, which normally, that is when the valve is closed, stands out as shown in Fig. 2. In such position it will strike an arm 15, the position of which is controlled by the position of switch 16. If the main-track 17, is open at a time when a train is approaching and when it should be closed, arm 15, located a sufficient distance ahead will come in contact with valve-handle 14, which contact causes the valve to open and relieves the air-pressure, whereupon the brake-system is put in operation and the brakes are caused to set. Thereby the train will come to a stop in due time, and be prevented from leaving the track. Arm 15, is pivoted to an upright flange 18, which rises from a base-plate 19, by which the whole is secured in position, preferably to one of the cross-ties. The arm is actuated by a suitable connection 20, supported on rollers 21, and which unites it with one arm of a bell-crank lever 22, the other arm of which connects to a bar 23, which forms a part of the switch and moves with it. Lever 22, is thus operated by the switch and by reason of connection 20, these operations are transmitted to arm 15, the position of which is thus made directly dependent on the position of the switch. When this latter is in proper position for a train to pass, arm 15, is down and out of the path of handle 14, but when the contrary is the case, it is in effective position and acts upon the air-brake system as de-

scribed. To enable arm 15 to resist the contact with handle 14, and prevent it from being knocked down I provide the former with a heel 29, which when arm 15 is raised, rests against base-plate 19, and forms a firm support. By having an additional bell-crank lever and similar connection secured at the other side of the switch and run out in opposite direction, trains coming either way will be protected. With some slight modifications this same arrangement may be applied at crossings, that is at points where two tracks cross each other and by it a train which has not the right of way to cross ahead of another one, may be held back to permit such other train to pass; or where two trains are due at a crossing at nearly the same time and the possibility of an accident exists, such may be guarded against by putting the apparatus on one track in effective condition long enough until all danger has passed, or until one train has gone by. In such case bell-crank lever 22, does of course not connect to a switch first but it connects directly to a lever similar to the lever by which the switch is operated, and which lever is specially provided at such crossing. Otherwise the operation is the same in either case.

Having described my invention, I claim as new—

In means to automatically operate air-brakes of a train from the track, the combination of a pipe 12 connected to the air-brake system of the train and reaching down close to the track, a release valve secured to the end of this pipe a handle secured to this valve, a pivoted arm connected near the track and adapted to be adjusted to a position which brings it within the path of the valve handle to enable it to open the valve for the purposes desired, and a heel connected to the arm, which supports this latter in its operative position and prevents it from being knocked down by the contact with the valve handle.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES PERCY CLIFTON.

Witnesses:
C. SPENGEL,
ALFRED M. DAVIES.