

(No Model.)

G. S. JEFFRIES.

DEVICE FOR CONTROLLING AIR BRAKE MECHANISM.

No. 550,346.

Patented Nov. 26, 1895.

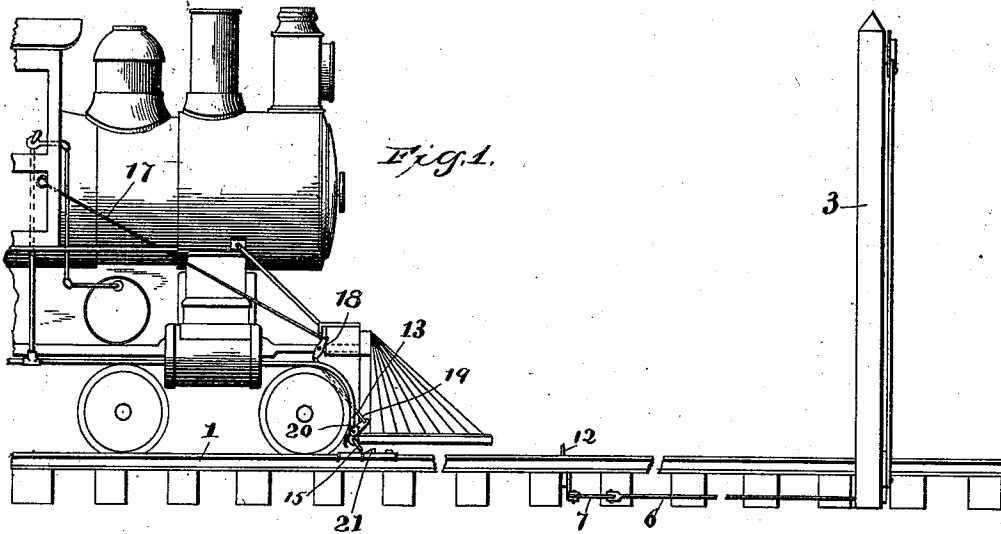


Fig. 2.

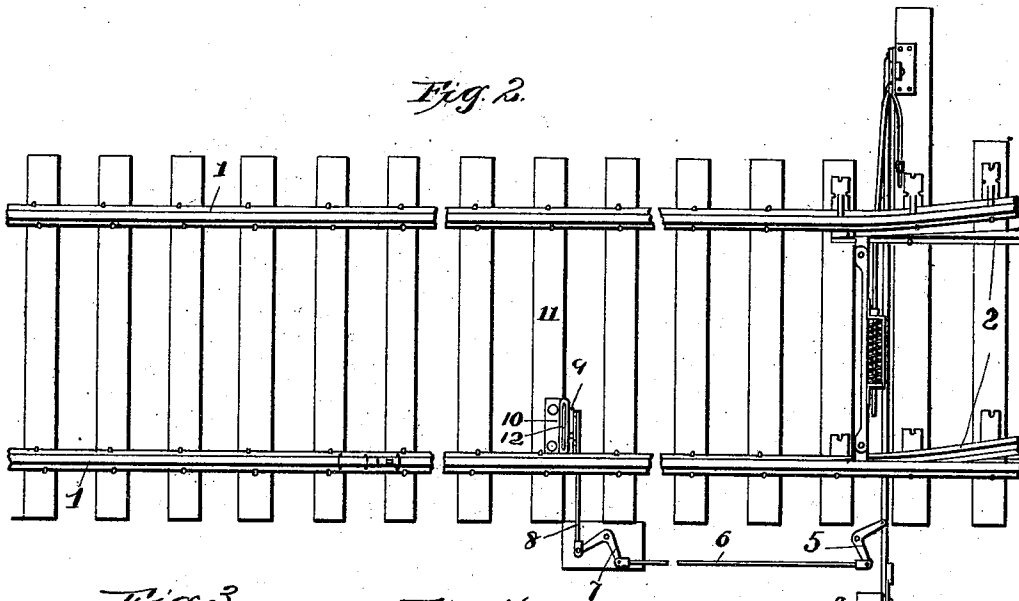


Fig. 3.

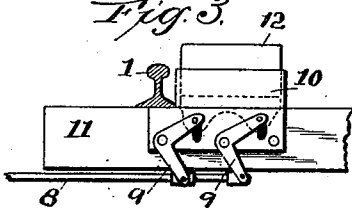


Fig. 4.

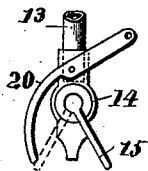
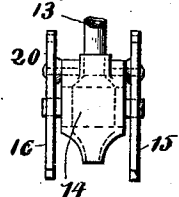


Fig. 5.



Witnesses

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DEVICE FOR CONTROLLING AIR-BRAKE MECHANISM.

SPECIFICATION forming part of Letters Patent No. 550,346, dated November 26, 1895.

Application filed May 24, 1895. Serial No. 550,520. (No model.)

To all whom it may concern:

Be it known that I, GIDEON S. JEFFRIES, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented certain new and useful Improvements in Devices for Controlling Air-Brake Mechanism, of which the following is a specification.

This invention relates to controlling devices for air-brake mechanism, and is designed to improve the device for which Letters Patent were granted to me on the 23d day of January, 1894, No. 513,267, and has for its object to produce a device by which the air-brake mechanism of an approaching train may be fully controlled from a signal-tower by the operation of a semaphore to stop the train, and, further, to permit of the controlling of said air-brake mechanism independent of the semaphore in case it becomes desirable to stop a train at other points of the road.

With these ends in view my present invention consists in certain details of construction and combination of elements hereinafter set forth, and then specifically designated by the claim.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its operation and construction in detail, referring by number to the accompanying drawings, in which—

Figure 1 is an elevation of a section of a track and locomotive with my improvement adapted thereto; Fig. 2, a plan view of a track, showing the arrangement of the several parts of the improvement applied to the operating parts of the semaphore; Fig. 3, a detailed elevation of the trip-plate, showing the arrangement of levers for operating the same in conjunction with the semaphore; Fig. 4, a detail of the vent-valve and its controlling lever, and Fig. 5 an elevation at right angles to Fig. 4.

Similar numbers denote like parts in all of the views of the drawings.

1 are the main rails of a track, and 2 the switch-rails, which latter are controlled by the usual rods and levers connected with the semaphore 3, which in turn is adapted to be operated from a tower through the rod 4 in the well-known manner.

5 is a right-angled lever, one end of which is connected to a rod 4 and the other to the rod 6, which in turn is connected through the right-angled lever 7 to the rod 8, and to the inner end of the rod 8 are pivoted two right-angled levers 9, which are thus caused to work in unison by any movement of said rod.

10 is a housing secured to one of the ties 11, and in this housing is fitted the trip-block 12, adapted to slide vertically therein, and to the lower portion of which are pivoted the upper ends of the levers 9, so that upon the operation of the rod or lever 4 to set the switch and semaphore signal for "danger" the trip-block 12 will be elevated through the last-described rods and levers and thus brought within a higher horizontal plane, for a purpose to be explained.

13 is a supplementary air-pipe placed in communication with the train-pipe in such manner that when the passage through it is opened to the atmosphere the train-pipe will be vented and the brakes thereby applied. At the lower end and within the pipe 13, which extends in front of the forward truck of the locomotive and in close proximity to one of the rails, is placed a vent-valve 14, provided with two levers 15 and 16, one of which is carried immediately over the center of one of the rails of the track and the other to the inside of said rail in line with the trip-block 12, so that the operation of this part of my improvement will be as follows: Upon the approach of a train that the operator in the signal-tower desires to stop it is only necessary for him to operate the proper lever within said tower to set the semaphore at "danger," when the trip-block 12, as before described, will be elevated within the field of the lever 16, so that as the train passes over this point in the road said lever will come in contact with said trip-block and operate the valve 14 to vent the brake-cylinders and apply the brakes to the train independent of the engineer, should he fail to be attracted by the semaphore-signal; also, where a switch is left open by mistake and the engineer's attention is not attracted the trip-block 12 will operate to apply the brake and stop the train. After the operation of the valve by the trip-block said valve may be closed by the engineer through the rod 17, lever 18, rod 19, and levers

20, which latter are pivoted to the valve-casing and arranged so as to come in contact with the levers 15 and 16 when the rod 17 is pulled upon, as will be readily understood.

5 It is often necessary to stop a train at a point where there is no semaphore-signal or switch mechanism, such as in the case of an accident to a preceding train, when a train-
 10 man is sent back to signal the following train, and it often happens that the engineer of the train so signaled is not attracted and a disastrous accident occurs, and to avoid this I
 15 provide a trip 21, composed of sheet metal, having a projection for coming in contact with the operating-lever 15 of the valve 14 and
 wires or strips for securing said trip to the upper surface of a rail, as shown in Figs. 1
 and 2. This trip may also be provided with a cartridge, so that upon the passage of the
 20 wheels of the locomotive over said trip an audible signal will be sounded. At the same time the air-brake cylinders are vented and the brakes applied to the train independent
 25 nection with the trip-block 12.

Thus it will be seen that by the use of my present improvement a train may not only be signaled and stopped from the ordinary sig-

nal-tower, but said train may also be signaled and stopped independent of such tower and
 30 at points upon the road where there are no switches or switch mechanisms.

Having thus fully described my invention, what I claim as new and useful is—

In a device of the character described, a
 35 valved vent pipe for the brake mechanism, actuating levers arranged to pass along the oppositesides of a rail, a semaphore, a series
 of connecting levers, one connected by a rod to the semaphore, a second series of right an-
 40 gular levers, a trip block with which the upper ends of the levers are connected, said levers having connection at the opposite end
 with the aforesaid series of levers, a housing arranged on the ties and having slots in which
 45 the pivots of the levers work as the block rises and falls in the housing, the levers of the valve being operated by said block, as
 and for the purpose described.

In testimony whereof I have hereunto af-
 50 fixed my signature in the presence of two subscribing witnesses.

GIDEON S. JEFFRIES.

Witnesses:

SAMUEL L. TAYLOR,
 S. S. WILLIAMSON.