(No Model.)

J. FRYSINGER.

AUTOMATIC RAILWAY TRAIN ARRESTER.

No. 492,152. Patented Feb. 21, 1893.

Fig. 1.

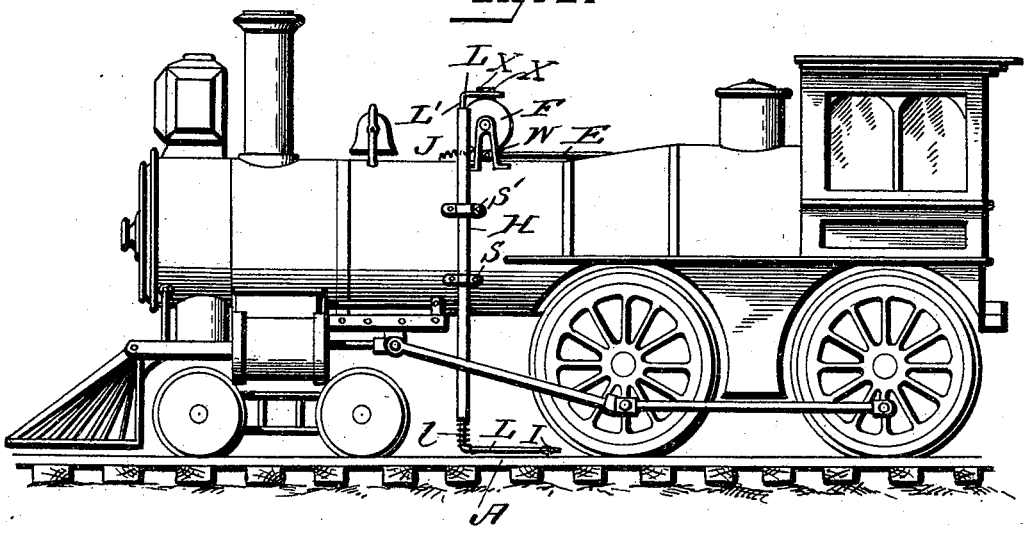
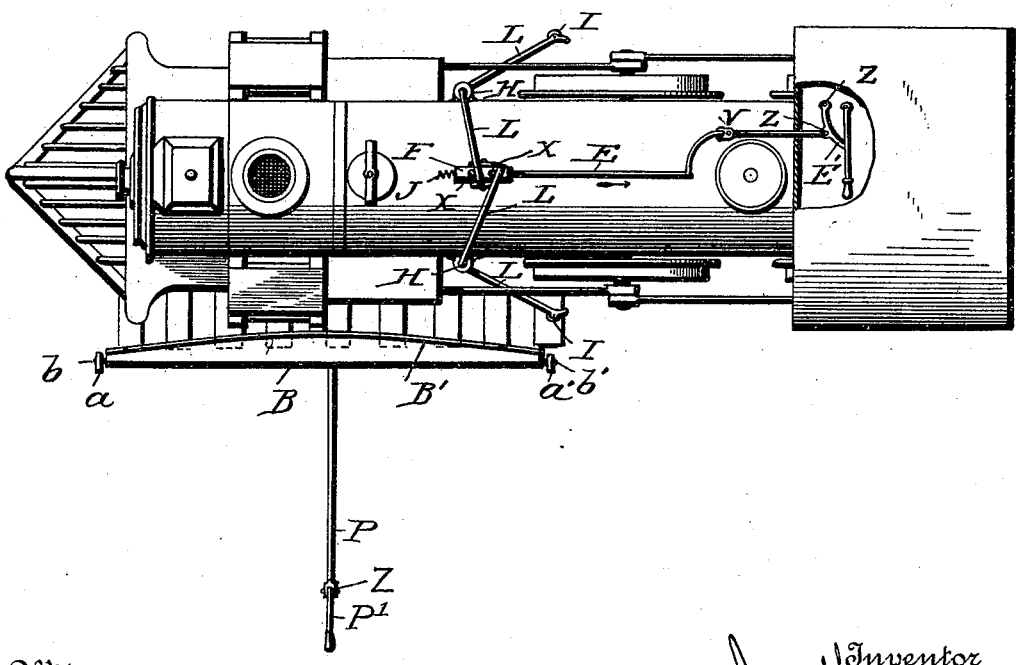


Fig. 2.



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JESSE FRYSINGER, OF HANOVER, PENNSYLVANIA.

AUTOMATIC RAILWAY-TRAIN ARRESTER.

SPECIFICATION forming part of Letters Patent No. 492,152, dated February 21, 1893.

Application filed June 8, 1892. Serial No. 436,005. (No model.)

To all whom it may concern:

Be it known that I, JESSE FRYSINGER, a citizen of the United States, residing at Hanover, in the county of York and State of Pennsylvania, have invented certain new and useful Improvements in Automatic Railway-Train Arresters; 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in automatic railway train arresters, which will be hereinafter more particularly described and pointed out.

Figure 1 is a side elevation which represents the devices applied to the side of a locomotive. Fig. 2 is a plan view of the invention as applied to the locomotive and railway track.

A is the railway track.

B, is a convexed flanged bar of iron which may be made any length and width as may be required to suit the circumstances and locality of each one. The flange, B′ is either convex or of two planes at an angle to each other. This said flange, B′, may also when used on the outer side of a sharp railway curve be concaved to suit the place and circumstances. This bar, B, is pivoted at each end, near the axis thereof at *b* and *b′* to standards *a a′* on a firm and substantial bed C. The end and purpose of hanging this flanged bar B on pivots is that the flange top of the said bar may by means of levers P P′, be moved to or from the railway track so as to either cause the lever L, later on described, to come in contact with said double-inclined flange top, or to allow the said lever to pass free.

As the track mechanism just described forms no part of the subject matter of the present invention and is simply shown in order to facilitate an easy understanding of the mechanism coacting therewith carried by the engine, a detailed description is deemed unnecessary.

In Figs. 1 and 2 are represented levers L, which may be placed one on each side of the locomotive so as to operate on either side of the railway track, or if desirable these levers L may be used or placed on any part of the locomotive most suitable for the same, and may also if desirable be placed on any part of a railway train, for the purpose of operating the brakes or of operating any other valve. These levers L are also to be operated in a reverse position by means of springs *l* for the purpose, viz: that after these said levers L have been forced inwardly by passing over the double-inclined flange B′ the said levers will be by means of the afore-stated springs moved outwardly into position to come in contact with the next double-inclined flange top that may be in position to operate the said lever L. The perpendicular rod of lever L works or operates inside of a suitable metal socket H, which will be so made as to allow said perpendicular rod afore-stated, to move within the same in a perfect and mechanical way.

The socket H afore-stated will be properly fastened to the side of the locomotive or train by bands S S′, so as to make it absolutely strong and firm to perform the work for which it is intended, viz: to support lever L. Any other support may be added to stiffen said socket so as to make it perfectly firm. The outer or lower ends of levers L are curved as best shown in Fig. 2, and go as far beyond the outside of the rail as to come in contact with the said flange B′ of bar B, when thrown inwardly toward railway track its maximum distance. The levers L being so arranged relative to the height of the flange of bar B that when the locomotive passes the bar B, the lever next the said bar will run along the convexity until it is pressed inwardly so far as to operate the brakes and thus stop the train. At the outer end of these levers L there are placed friction rollers or wheels I.

As the transverse motion of the locomotive is such that the levers L, may have a slight vertical change of place (caused by the rocking of the locomotive while running), the outer edge of flange on bar B is widened sufficiently and hollowed out to insure the contact of the friction roller I with the flange B′ of bar B. These bars B may be arranged with springs, so that they will be set by said springs

to operate levers L on the locomotive. The reverse motion of removing the bars B so as not to operate the said levers may be accomplished by means of levers to be operated by signal men from tower or by any other employé. The above stated manner of working bar B may be reversed so that the top or flange of bar B may be moved to the track by means of levers and be removed by means of springs, to suit place or circumstances.

The movable bearing or wheel marked F on locomotive boiler is pivoted through center and rests on standards W; standards are firmly fastened to boiler so as to allow the wheel to turn. Said wheel has also two upright posts X X, against which top arm of levers L form contact, so that when lower arm of lever L comes in contact with flange of bar B and is pressed inwardly the upper arm of said lever L will cause said wheel F to turn, thereby moving levers E E′, (which are connected with wheel F,) and thus apply the brakes by moving brake valve. Said wheel F after being turned by lever L will be moved to its former position by means of a spring J; two springs may be used.

The levers marked in drawings E E′ will be properly supported by plates or other suitable supports. These said levers E E′ which are connected with wheel F and extend to the engineer's brake valve may have springs to give them a reverse action. After lever L shall have passed the flange B′ of bar B and have returned to its former position by means of springs these levers and wheel F will also return by means of springs and be in position for the next movement of lever L. The place on lever E marked V is where the levers are connected by pivot to allow said lever E to have some play.

All levers marked E E′ being or coming in contact or connected with wheel F may be made any shape, length or size in order to make proper connections or to form proper contact with the brake valve. The reason of these changes is as follows. That almost every locomotive has some slight changes of machinery or changed location of the same which will cause the above changes to be absolutely necessary.

Connections may be made with levers L or wheel F so as to connect with and operate any other brake valve which might be preferable to use to the engineer's brake valves, as shown in the drawings. Under such circumstances all the levers connecting with lever L or wheel F, or any part of them, may be dispensed with and other connections made with lever L or wheel F, so as to operate successfully any such additional valve.

All places marked Z are places or points which are pivoted, or which work on pivots.

As almost all locomotives have some change of position or location of sand box, bell, &c on top of boiler, I would add that when it is advisable or necessary the rod or pivot extending through the center of said wheel F may be made sufficiently long to allow two of said wheels to be used on said iron rod or pivot one on each end of said rod or pivot, so as to have a wheel F on each side of top of boiler, both wheels being connected to one rod which rod or pivot works and rests on standards W.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic railway train arrester, the combination with the locomotive of a rotatable bearing located thereon, a lever suitably journaled upon the locomotive and having its upper end in engagement with the bearing and its lower end in proximity to the track, and a rod connecting with the bearing and with the air-brake mechanism, whereby when the lever is actuated by suitable mechanism upon the road-bed, the air-brakes will be operated to retard the locomotive.

2. In an automatic railway train arrester, the combination with the locomotive of a wheel journaled upon the upper portion of the boiler, a lever rotatably journaled upon the boiler and having its upper end in engagement with the wheel and its lower end bent outward to occupy a position normally beyond the track, a rod connecting the wheel with the air-brake mechanism of the locomotive and suitable mechanism upon the road-bed for engaging the lower portion of the lever whereby to force it inward and thus rotate the wheel and operate the air-brake mechanism in unison.

3. In an automatic railway train arrester, the combination with the boiler of a wheel journaled thereon, a vertical tubular socket held in position on the boiler, a lever journaled within the socket and having its upper end bent inward to engage with the wheel and its lower end bent outward to occupy a position normally beyond the track, a rod connecting the said wheel with the air-brake mechanism, and suitable mechanism upon the road-bed for engaging the lower end of the lever to cause it to turn and thus operate the air-brake mechanism.

4. In an automatic railway train arrester, the combination with the boiler of a wheel journaled thereon, a vertical tubular socket held in position on the boiler, a lever journaled within the socket and having its upper end bent inward to engage with the wheel and its lower end bent outward to occupy a position normally beyond the track, a rod connecting the said wheel with the air-brake mechanism, suitable mechanism upon the road-bed for engaging the lower end of the lever to cause it to turn and thus operate the air-brake mechanism, and a spring upon the lever for returning it to its normal position after having operated the brake mechanism.

5. In an automatic railway train arrester, the combination with a locomotive of a wheel journaled thereon, a tubular vertical socket supported on the boiler, a lever journaled in the socket, having its upper end bent inward

to engage the upper portion of the wheel, and its lower end bent outward to occupy a position beyond the track, and a rod connecting with the lower side of the wheel and with the air-brake mechanism.

6. In an automatic railway train arrester the combination with the air-brake lever, of a supplemental lever in engagement therewith, a rotatable bearing on the locomotive, a rod connecting the bearing and the supplemental lever, and a rotatable lever in engagement with the bearing and arranged at its lower end to engage a suitable obstruction upon the road-bed whereby to turn the latter lever and thus operate the supplemental lever.

7. In an automatic railway train arrester the combination with the boiler of a wheel journaled thereon, a vertical tubular socket held in position on the boiler, a lever journaled within the socket and having its upper end bent inward to engage with the wheel and its lower end bent outward to occupy a position normally beyond the track, a rod connecting the said wheel with the air-brake mechanism, suitable mechanism upon the road-bed for engaging the lower end of the lever to cause it to turn and thus operate the air-brake mechanism, a spring upon the lever for returning it to its normal position after having operated the brake mechanism and a spring connecting with the wheel to cause it to resume its normal position after the lever has performed its function.

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

JESSE FRYSINGER.

Witnesses:
HARRY M. PRICE,
ALLEN W. MALLERY.