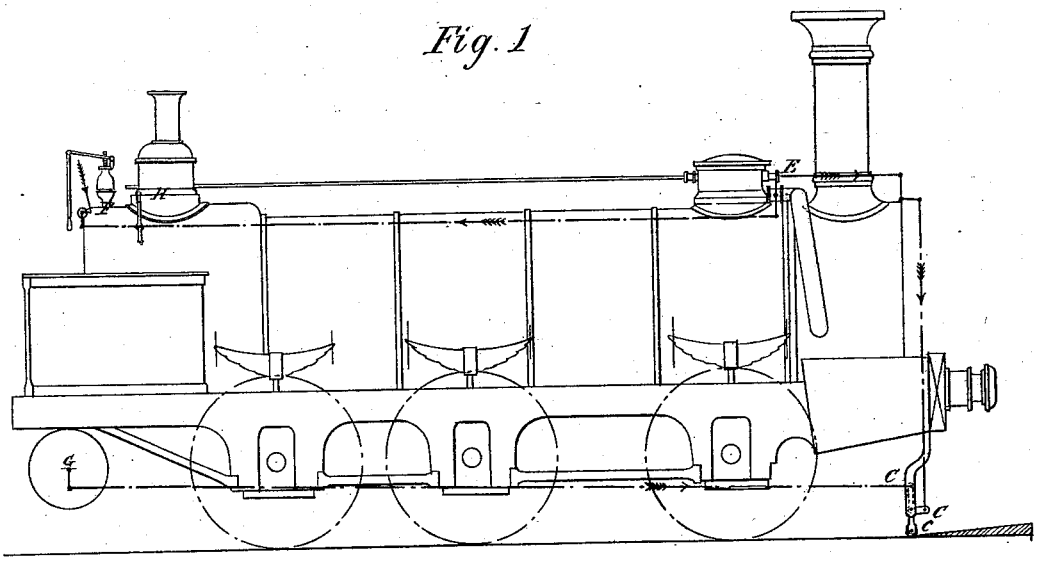
(No Model.) 2 Sheets—Sheet 1.

C. CATALA.

RAILROAD SAFETY AND SIGNAL SYSTEM AND APPARATUS THEREFOR.

No. 301,858. Patented July 15, 1884.

Fig. 1



WITNESSES

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(No Model.) 2 Sheets—Sheet 2.

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No. 301,858. Patented July 15, 1884.

Fig. 2

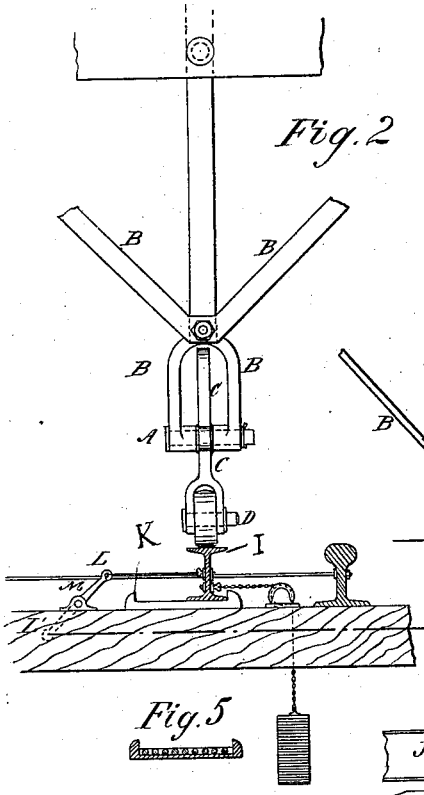


Fig. 3

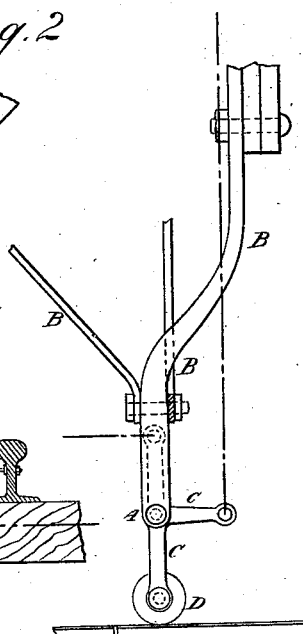
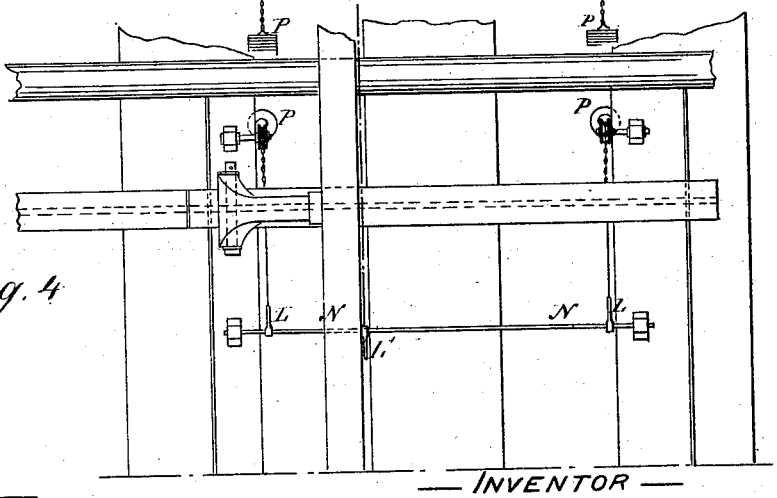


Fig. 5

Fig. 4



— WITNESSES —

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— INVENTOR —

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UNITED STATES PATENT OFFICE.

CHARLES CATALA, OF FAUQUEZ, BELGIUM.

RAILWAY SAFETY AND SIGNAL SYSTEM AND APPARATUS THEREFOR.

SPECIFICATION forming part of Letters Patent No. 301,858, dated July 15, 1884.

Application filed October 29, 1883. (No model.) Patented in Belgium October 5, 1883, No. 62,798; in Luxemburg October 8, 1883, No. 309; in France October 8, 1883, No. 157,900, and in England October 9, 1883, No. 4,793.

To all whom it may concern:

Be it known that I, CHARLES CATALA, a subject of His Majesty the King of the Belgians, residing at Fauquez, in said Kingdom of Belgium, have invented certain new and useful Improvements in Railway Safety and Signal Systems and in Apparatus therefor, of which the following is a specification.

The object of this invention is to provide a safety system by which the fate of the train shall not depend entirely upon the attention of the engine-driver, who frequently, by reason of fog, by the extinguishing of lights, or from other causes, does not see or attend to the signals.

The invention consists of the system and apparatus for carrying the same into effect, as hereinafter set forth and claimed.

The safety system consists in operating or acting upon the engine and carriages of a train by means of apparatus external thereto, and which may be operated from the ordinary signal-box or from any other suitable place. A convenient form or arrangement of parts for this purpose is as follows, reference being had to the accompanying sheets of drawings illustrating the invention, and in which similar letters refer to corresponding parts throughout all the figures thereof.

Figure 1 represents an elevation of a locomotive fitted with an arrangement of parts for the simultaneous cutting off of the steam-supply, application of the brakes, and sounding of the whistle. Figs. 2 and 3 represent, on an enlarged scale, the traveling parts which are attached to the engine, and also the fixed and movable portions carried by the sleepers. Fig. 4 is a plan of Fig. 3, and Fig. 5 a section of the anti-friction plate hereinafter referred to.

To the engine is attached a suitable forked bracket or support, B, which provides a bearing for an axle or pivot-pin, A, upon which is mounted a T or other suitable three-headed lever, C, the lower end of said lever being also forked and carrying a small wheel or roller, D, which, when the signal is placed at "danger" or "stop," will strike upon an upwardly-rising movable bar or piece, I, resting on suitable guides, K, upon the permanent way. Said piece I (which may be of a double-T or girder shape) has a lateral movement imparted to it in the guides K by means of rods L N and lever L', working on a pivot, M. These rods and levers may be directly or otherwise connected to the levers which operate the ordinary signals or switches, so that the piece I must be placed in the line of travel of the wheel D when the signal-levers are placed at "danger" or "stop," and out of the line of travel when the signals are "clear" or "go ahead."

To further facilitate the movement of the piece I, one or more counter-weights, P P, may be attached to it by chains; or, in lieu thereof, springs may be employed, the tendency of which will be always to retain the piece I in the path of travel of said wheel D, so that in the event of any breakdown of the levers the engine will be always acted upon. The plates K may also be supplied with anti-friction rollers, as shown in Fig. 5, to facilitate the sliding of the bar or piece I.

To one arm of the three-headed lever C, attached to the engine, are suitable connecting-rods, as shown in Fig. 1, operating through crank-pieces directly upon the steam-supply valve E to the cylinders and the whistle F. The other arm of the lever C is connected to a rod below the frame-plate of the engine, which applies the air or vacuum brake G.

The operation of the apparatus may be briefly described as follows: When it is desired to stop an approaching train, the signal-man places the movable piece I in line with the piece J. This movement will also be assisted by the counter-weights P, as previously described. When the engine reaches the signal, the roller D will glide over piece J, and, traveling up piece I, will gradually but rapidly throw the lever C into the position shown by the dotted lines in Fig. 3. This movement will operate through the connecting-rods, the whistle, and brake, and close the steam-supply, all as hereinbefore described. Upon the signal being given to proceed, the piece I will be withdrawn, and the engineer will, through the lever H, located near at hand, reset the apparatus in position.

It is evident that the apparatus may be worked separately from the ordinary signals or switches, either from the signal-box, from the station, or from any other convenient place.

I am aware that mechanism has heretofore been devised and arranged upon or near the railroad for the purpose of automatically operating alarms, &c., on the engine—such, for example, as shown in the English patent granted to E. Birch in the year 1840, and numbered 8,699; but so far as I am aware the particular arrangement hereinbefore described is new.

What I therefore claim, and desire to secure by Letters Patent, is—

The laterally-movable bar I, having its upper face inclined and arranged in guides K upon the railroad, combined with mechanism, substantially as described, for moving said bar laterally upon the said guides, to place it out of or into the position for operating mechanism on a train moving over it to sound an alarm or perform other operations, as set forth.

CHARLES CATALA.

Witnesses:
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ADOLF STEIN.