

(No Model.)

H. W. CARLTON.  
ELECTRIC TRAIN ARRESTER.

No. 277,990.

Patented May 22, 1883.

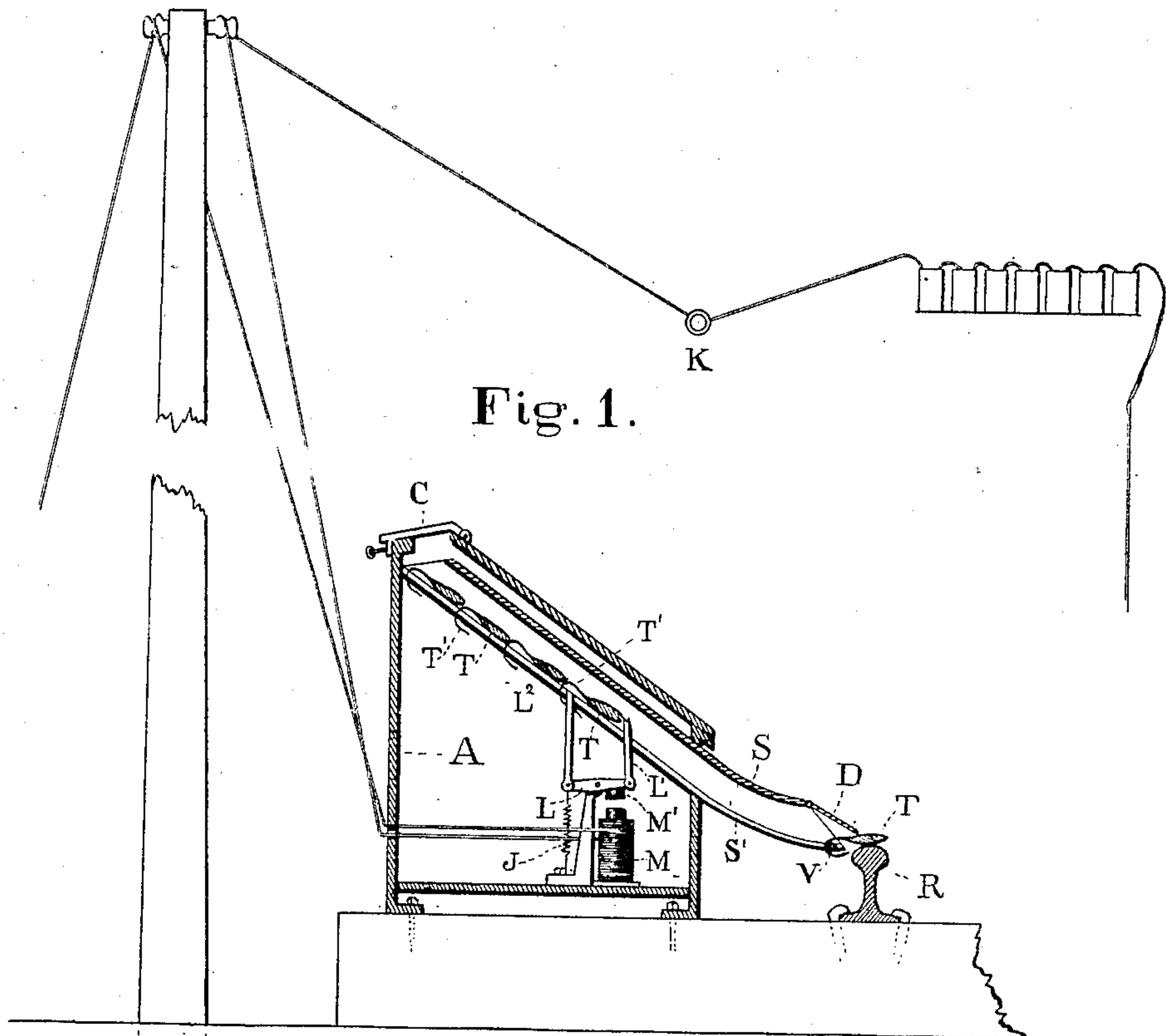
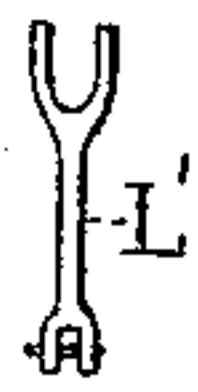


Fig. 2.



Witnesses;

H. W. Wells.

Rich<sup>d</sup>. A. Goldsbrough.

Inventor,

Harry W. Carlton.

per A. B. Upham:

Attorney in fact.

# UNITED STATES PATENT OFFICE.

HARRY W. CARLTON, OF PEORIA, ILLINOIS.

## ELECTRIC TRAIN-ARRESTER.

SPECIFICATION forming part of Letters Patent No. 277,990, dated May 22, 1883.

Application filed December 6, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, HARRY W. CARLTON, of Peoria, in the county of Peoria, in the State of Illinois, have invented an Improved Electric Train-Arrester; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawings, making a part of this specification, in which like letters of reference refer to like parts, and in which—

Figure 1 represents a vertical section; Fig. 2, a detail.

The object of my invention is the construction of an apparatus by means of which a railroad station-master can almost immediately signal one or more trains to stop, though they may be at any point between his station and the next. It often happens that by some means a train is allowed to pass a station at which, to prevent a collision or some other disaster, the said train should have been stopped. The station-master may be fully aware of the inevitable smash-up; but when the cars have swept by he is powerless to avert the disaster. Were my electric train-arrester in use upon the railroad, he would, however, be able to signal and stop the nearing trains.

My invention consists, essentially, of a sloping spout or chute, the lower end of which is fixed to one rail of the track, a torpedo retained near the upper end of said chute by a stop, an electro-magnet controlling said stop, and wires joining said magnet to a battery.

In the drawings, A represents a box in which is contained the chute S and the torpedo-controlling mechanism. The torpedoes T have a depending hook T' at one end of each, which projects through the slot S', cut the whole length of said chute S. The lower end of said chute S is curved somewhat, as shown in the drawings, that it may not be in the way of any parts of the car-trucks, and is supplied with a light outwardly and upwardly swinging door, D, to prevent the admission of snow therein. There is a wire, V, across the lower end of the slot S', arranged at such a distance from the track-rail that the hooked tail T' of the torpedo can catch thereon and hold thereby the explosive part of the torpedo T upon the said rail R. Just below the chute S in the box A is pivoted at its center the rocking beam L, from

the ends of which rise the arms L' and L<sup>2</sup>. These arms are of such length that when the beam L is rocked in one direction one of said arms projects up through the bottom of the chute S sufficiently to prevent a torpedo from sliding by it, while the other arm is low enough to permit a torpedo to slide down the chute over it. On rocking the beam L in the opposite direction the arm, which before retained a torpedo, now sinks just far enough to allow it to pass, and the other arm rises up into the chute. The upper ends of said arms L' and L<sup>2</sup> are forked, that they may not be in the way of the hooks T' of the torpedoes T, as in Fig. 2. Said beam L is rocked to lower the arm L' by means of one or more electro-magnets, M, attracting the armatures M' on said beam. The spiral spring J rocks the beam L in the opposite direction. One of the wires of the electro-magnet M is carried to the station, where a switch-key, K, can connect it to the battery, while the other wire is grounded.

In using my train-arrester I first fill the chute S, above the arm L', with torpedoes T, placed end to end, with the hooks T' all in the same direction, away from the said arm L'. The box A is furnished with a small locked cover or door to permit the placing therein of the torpedoes and keeping them and the internal machinery in safety. On connecting the circuit by the station-key K, the soft-iron core of the electro-magnet M is made magnetic, drawing down to it the armature M'. This depresses the arm L', allowing the torpedo T, resting against it, to slide over it down to the lower end of the chute S, where it knocks open the door D, catches its hook T' upon the wire V or other stop thereat, and is held upon the rail R ready to be run over and exploded by the wheels of the locomotive. Simultaneously with this depressing of the arm L' the arm L<sup>2</sup> rises up into the chute S and holds the torpedo from sliding, which was resting against the hook of the one just dropped. So soon, however, as the circuit is broken, by releasing the key K the magnet M releases its armature M', and the spring J rocks the beam L back till the arm L' rises into the chute S, and L<sup>2</sup> sinks, allowing the torpedo it was holding to descend to the arm L' and leave it all ready for use again.



In especially sharp curves of the railroad I design to use several of the "train-arresters," connected in the same circuit, at comparatively short distances apart. When a train has been signaled by one of these the engineer is to move ahead slowly, picking up whatever others there may be.

In the preceding description I have spoken of the electro-magnet M as being ordinarily in a disconnected circuit, and as operating the beam L when the circuit is closed. I do not, however, restrict myself entirely to this construction, as I often find it advantageous to place the magnet M at the other end of said beam L, keeping the circuit closed all the time except when it is desired to let drop a torpedo.

What I claim as my invention is as follows:

1. In electric train-arresters, a torpedo-receptacle having mechanism for transporting torpedoes therefrom to an adjoining track-rail, in combination with a stop, electro-magnet, and circuit, whereby to render said torpedo-transporting mechanism inoperative or otherwise.

2. A torpedo-receptacle having a chute leading therefrom to an adjoining track-rail, in

combination with a chute-obstructing stop, an electro-magnet, and circuit-wires controlling said stop, substantially as and for the purpose specified.

3. The chute S, having slot S' and box A, in combination with the rocking beam L, having arms L' and L<sup>2</sup>, spring J, one or more electro-magnets, M, and circuit-wires, substantially as and for the purpose set forth.

4. The box A, having locked cover, chute S, having slot S', wire V, and door D, in combination with the rocking beam L, pivoted at its center, forked arms L' L<sup>2</sup>, armature M', electro-magnet M, and connecting-wires, substantially as and for the purpose specified.

5. In combination with the chute S and its appurtenances, the torpedo T, having hooked tail T', substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing invention I have hereunto set my hand this 30th day of October, 1882.

HARRY W. CARLTON.

Witnesses:

H. W. WELLS,

RICHD. A. GOLDSBROUGH.