

(No Model.)

M. A. GERBER.
CAR SIGNAL.

No. 463,036.

Patented Nov. 10, 1891.

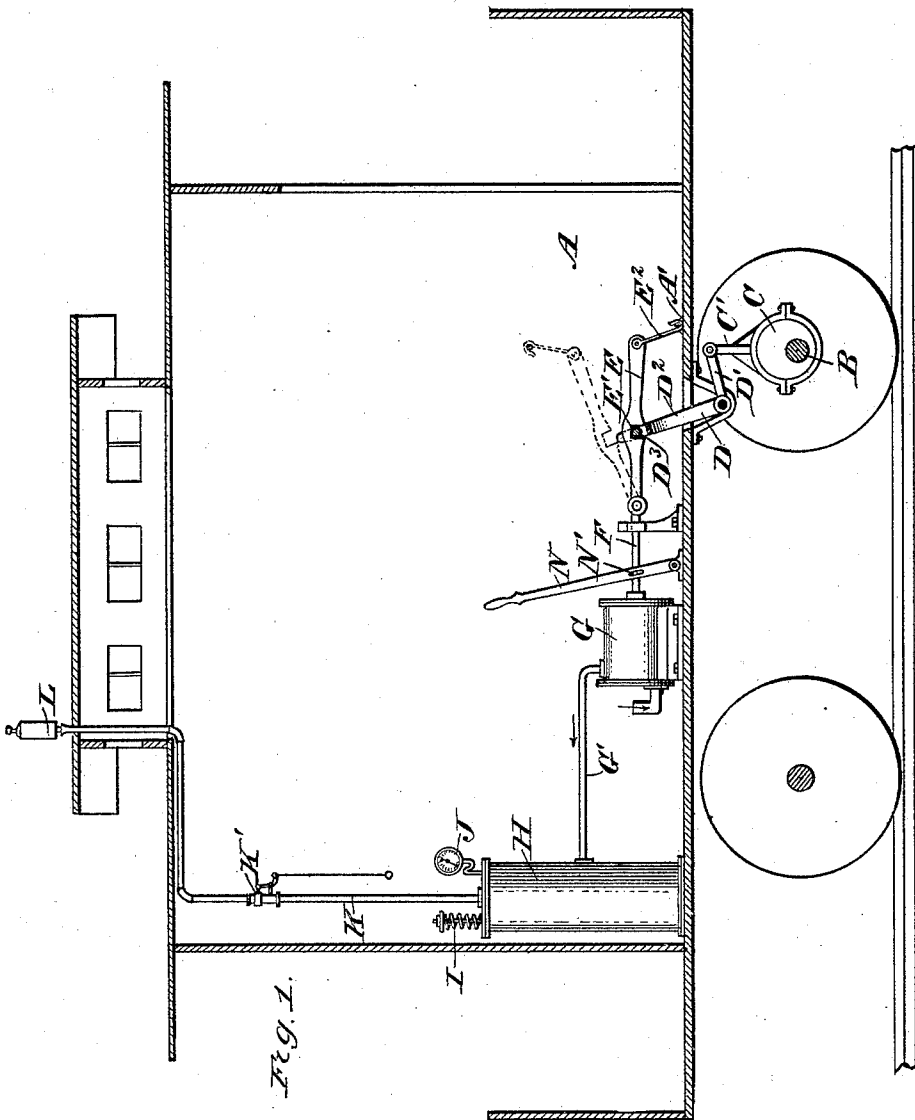
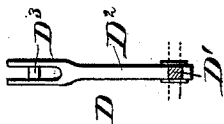


Fig. 1.

Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MAHLON A. GERBER, OF MAHANAY PLANE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WELLINGTON BERTOLET, OF SAME PLACE.

CAR-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 463,036, dated November 10, 1891.

Application filed June 8, 1891. Serial No. 395,442. (No model.)

To all whom it may concern:

Be it known that I, MAHLON A. GERBER, of Mahanoy Plane, in the county of Schuylkill and State of Pennsylvania, have invented a new and Improved Car-Signal, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved car-signal, which is simple and durable in construction, very effective in operation, and more especially designed for use on freight-trains to enable the rear brakeman or other person at the rear end of the train to signal to the engineer.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of the improvement, with parts in section; and Fig. 2 is a transverse section of a bell-crank lever.

The car or caboose A, in which the signal is located, is provided on one of its axles B with an eccentric C, connected by its eccentric-rod C' with the arm D' of a bell-crank lever D, pivoted on the under side of the car, the arm D² of said lever extending through an opening in the bottom of the car, as is plainly shown in Fig. 1. The upper end of the arm D² of the bell-crank lever D is forked, and in the fork is arranged a pin D³, adapted to be engaged by a notch E', formed in the under side of an arm E, pivotally connected with the piston-rod F of an air-pump G, of any approved construction and located in the car A. The air-pump G is provided with the usual discharge-pipe G', leading to a reservoir H, provided with a safety-valve I and a gage J to indicate the pressure within the reservoir.

From the top of the reservoir H leads a pipe K, provided with a valve K', and extending through the top of the car to carry at the upper outer end a whistle L of any approved construction. The valve K' is ordinarily

closed, and is arranged so as to be conveniently opened by the brakeman or conductor whenever necessary.

The arm or link E can be readily disconnected from the bell-crank lever D when a sufficient quantity of air has been pumped into the reservoir H. The pump G can also be worked by hand in case the car is at a standstill and no air is in the reservoir. In this case a lever N is provided, pivoted on the car-floor and adapted to be connected by a pin N' with the piston-rod F.

The pivoted arm E is held in place on the pin D³ by means of a hook E², arranged on the free end of the said arm and adapted to hook onto a staple A', secured on the car-floor. This hook E² permits the arm E to swing forward and backward, but also prevents disengagement of the notch E' from the pin D³.

It is understood that when the arm E is connected with the bell-crank lever D, as described, and the car A travels, the rotary motion of the axle B imparts by the eccentric C a swinging motion to the said bell-crank lever, so that the pump G is actuated and air is compressed and stored in the reservoir H. Now when the brakeman or conductor desires to signal to the engineer in the cab of the locomotive he opens the valve K', so that the compressed air from the reservoir H passes through the pipe K to the whistle L, thereby sounding the latter and giving the desired signal.

It is understood that it is frequently necessary for the brakeman at the rear end of the car to signal to the engineer in case trains are approaching, or for other reasons. As a rule, a rear brakeman leaves the standing train to walk back on the track a certain distance to signal approaching trains. The rear brakeman is usually ordered out to this position by a signal from the engineer, and by means of the arrangement described the brakeman is enabled to answer the signal received from the engineer, so that the latter is aware that the rear part of the train is guarded against approaching trains. The device

will also be useful in case the train parts, as the rear brakeman is enabled to quickly signal to the engineer with regard to the accident.

It will be seen that by having the safety-valve I in the reservoir H no explosion caused by an overcharge in the reservoir can take place within the car A.

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

1. The combination, in a signal, with the air-pump and the whistle operated therefrom, of a bell-crank lever the lower arm of which is operated from a car-axle, the upwardly-extending arm of the lever projecting into the car, and an arm connected with the piston-rod of the pump and detachably connected with the said upwardly-extending arm, substantially as described.

2. The combination, with the signal-operating pump and the bell-crank lever operated from the car-axle and having a transverse pin D³ at the upper end of its upwardly-projecting arm, of the vertically-swinging arm E, pivoted to the piston-rod of the pump and

having a notch E' in its lower edge to engage said pin, and a pivoted hook E² to hold the arm raised or in engagement with said pin, substantially as described.

3. In a car-signal, the combination, with a bell-crank lever and means for imparting a swinging motion to the same from the car-axle, of an arm adapted to connect with the said bell-crank lever, an air-pump provided with a piston-rod pivotally connected with the said arm, a hook pivotally connected with the said arm and adapted to be hooked on a staple in the car to hold said arm on said bell-crank lever, a reservoir connected with the said air-pump to be charged by the latter, a safety-valve and gage held on the said reservoir, a pipe leading from the said reservoir and provided with a valve, and a whistle held on the said pipe, substantially as shown and described.

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Witnesses:

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