

(No Model.)

G. S. NEU.

ELECTRIC SIGNAL CONTROLLER.

No. 412,530.

Patented Oct. 8, 1889.

Fig: 1.

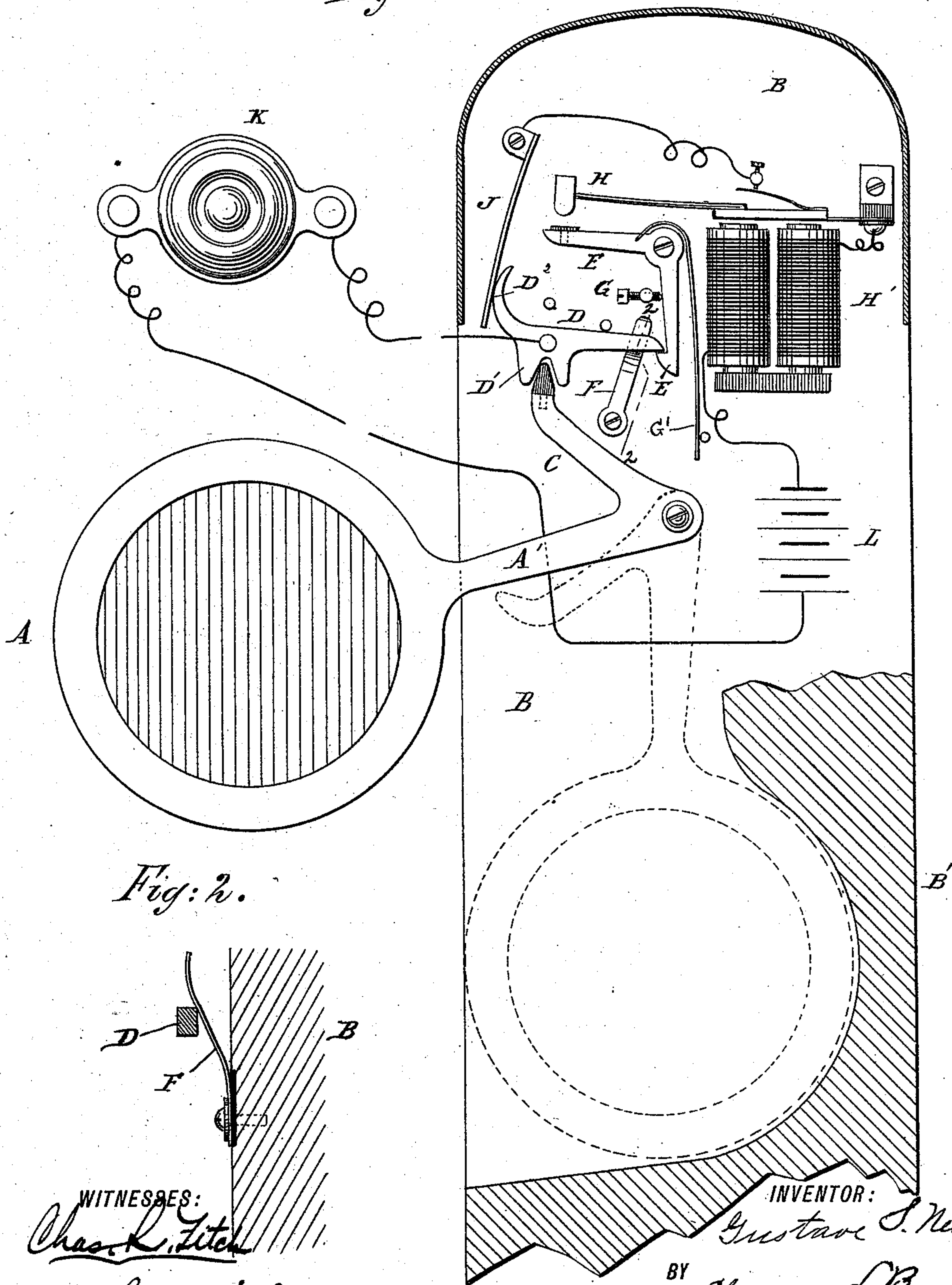
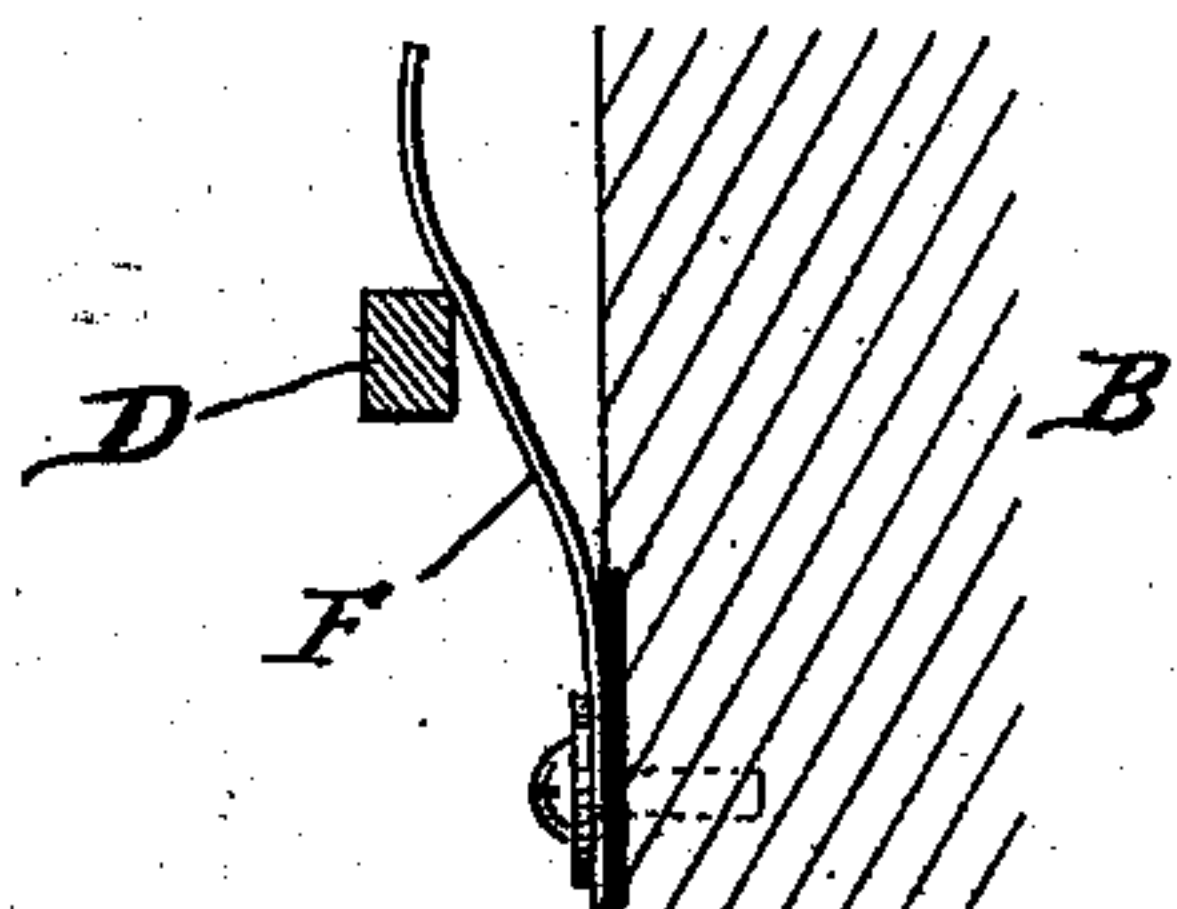


Fig: 2.



WITNESSES:

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ELECTRIC SIGNAL-CONTROLLER.

SPECIFICATION forming part of Letters Patent No. 412,530, dated October 8, 1889.

Application filed August 28, 1888. Serial No. 284,019. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVE S. NEU, of the city, county, and State of New York, have invented a new and useful Improvement in Electric Signal-Controllers, of which the following is a specification.

This invention relates to means for displaying or withdrawing visual signals from a distance through the agency of electricity, as in railroad block systems, and in various other situations.

The object of the invention is to insure the proper operation of the signal when the electric circuit is closed, and to provide for the resetting of the signal in a simple and convenient manner.

To this end the invention consists, primarily, in the combination, with a signal made self-acting by means of a spring, weight, or equivalent device, of a catch to restrain the signal, a vibratory hammer to trip the catch, an electro-magnet, an intermittent circuit-breaker to vibrate the tripping-hammer, and a circuit closer or controller included in the circuit with the electro-magnetic hammer-vibrating devices and arranged to be automatically closed by the setting of the signal for operation and automatically opened by the operation of the signal, so that the tripping of the signal-restraining catch and the consequent operation of the signal will be insured by the repetition of the blows of the hammer, which will cease only when the operation of the signal breaks the circuit.

The invention further comprises an operating-arm on the signal, a two-armed lever pivoted to a fixed point and having one arm forked to receive the signal-arm and the other arm arranged to be automatically engaged by the catch before mentioned, the arrangement being such that in setting the signal for operation the signal-arm strikes one prong of the fork and throws the lever into engagement with the catch, and the other prong of the fork then restrains the signal.

In order that my invention may be fully understood, I will first describe in detail the manner in which the same may be carried into effect, and then point out its distinctive features in the claims.

Reference is to be had to the accompanying

drawings, forming part of this specification, in which—

Figure 1 represents in elevation an electric railway-signal controller embodying my invention. Fig. 2 is a detail view of a portion of the signal mechanism.

The signal A here illustrated is presumed to be a common red-colored and glazed railway danger-signal, which is to be displayed in case of danger on the track, and to be invisible when the way is clear. The shank A' of the signal is pivoted within a vertical recess B of a post B', which is located at the side of the railway-track, and the signal is weighted and adjusted in such a manner that when free it will swing to the position indicated in dotted lines in the figure, so as to be concealed within the recess B. The signal A is also provided with an arm C, the end of which is by preference insulated, as shown, and is adapted, when the signal A is raised in setting, to strike one prong of the forked arm D' of a lever D, pivoted to the fork B', and thereby throw the other arm of the said lever automatically into engagement with a self-acting catch E, so that the signal will be restrained in such position of display by the catch E acting through the lever D. A spring is, as best shown in Fig. 2, arranged to check the motion of the forked lever D as it is swung by the signal-arm A² into the restraint of the catch E. The catch E is also provided with an adjustable stop G for limiting its engagement with the forked lever D and with a light actuating-spring G'. An electrically-vibratory hammer H is arranged to, when operated, trip the catch E and permit the self-acting signal A to swing downward out of view. The vibratory hammer A, its actuating electro-magnet A', the forked lever D, its check-spring F, and the catch E are all insulated from their post-support B'. The forked lever D is provided with a cam electric contact-arm D² to engage a yielding electric contact J, attached to the support B', when the lever D is itself engaged by the catch E, and to be separated from the contact J when the forked lever is released and swung by the signal-arm C. The yielding contact J is electrically connected with the intermittent circuit-breaker of the electro-magnetic hammer-

vibrator, the forked lever D with the circuit-closer K at the point whence the signal is to be controlled, and the latter and the electro-magnet A' with the terminals of the battery L, so
5 that when the circuit-closer K is operated the catch E will be certainly tripped and the signal A operated, owing to the repetition of the blows of the hammer, which are continued until the operation of the signal opens the circuit-controller formed by the cam-arm D² of
10 the lever D and the yielding contact J.

Any of the contrivances in common use or otherwise for setting a signal, as from the weight of a passing train, may be employed in
15 connection with the signal-controller here shown, or by a simple change in arrangement the signal-actuating weight or spring may be adjusted to set the signal when released by the tripping device described.

20 I claim as new and desire to secure by Letters Patent—

1. In an electric signal-controller, the combination, with a self-acting signal, of a catch to restrain the signal, a vibratory hammer to
25 trip the catch, an electro-magnet and inter-

mittent circuit-breaker to vibrate the hammer, and a circuit-controller included in the circuit with the electro-magnetic hammer-vibrating devices, the said circuit-controller being automatically closed by the setting of
30 the signal for operation and opened by the operation of the signal, substantially as described.

2. In an electric signal-controller, the combination, with a self-acting signal having an
35 arm, of a two-armed lever pivoted to a fixed point and having a forked arm to engage the signal-arm, and a self-acting catch to engage the other arm of the lever, the arrangement being such that in setting the signal for op-
40 eration the signal-arm strikes one prong of the fork and throws the lever into engagement with the catch and the other prong of the fork then restrains the signal-arm, substantially as described.

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Witnesses:

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