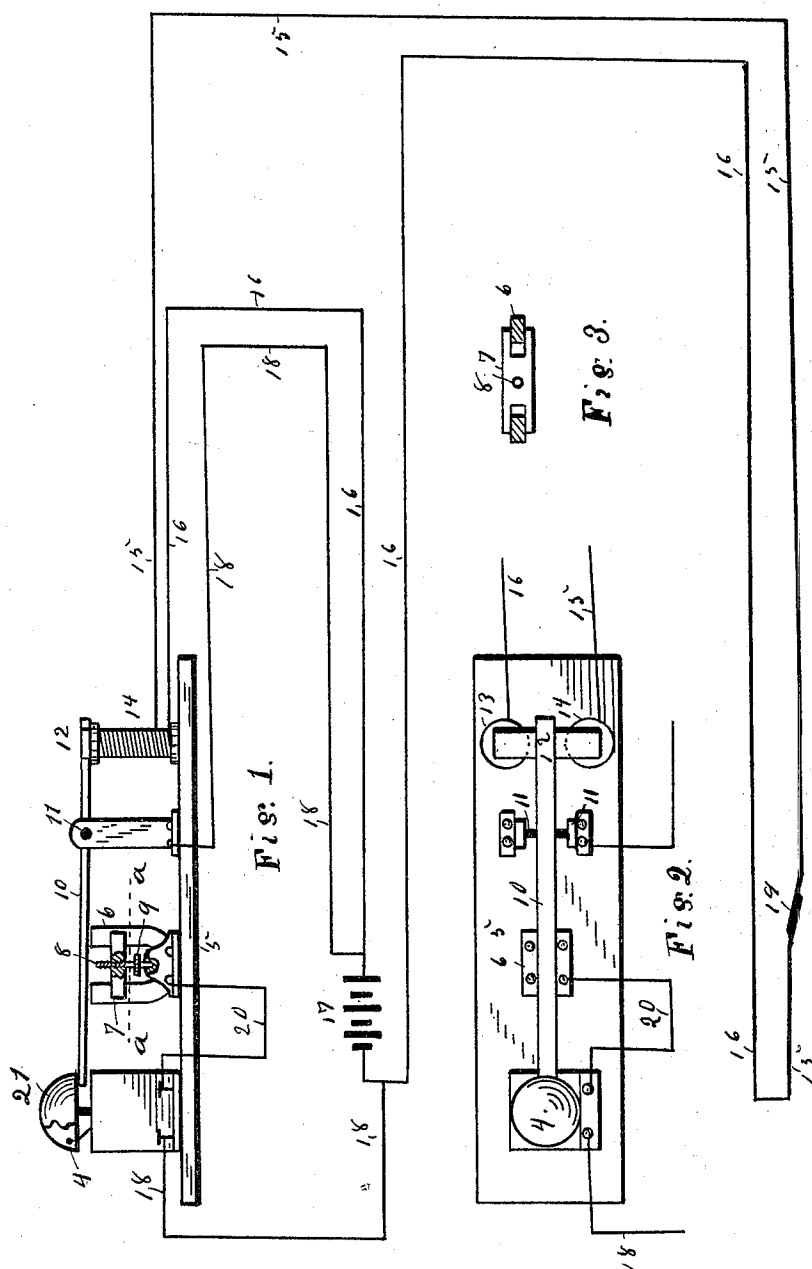


(No Model.)

M. W. PARRISH.
ELECTRIC TRAIN SIGNAL.

No. 585,342.

Patented June 29, 1897.



Witnesses:
Thomas H. Stewart
L. A. Love

Inventor:
Myron W. Parrish,
By his Attorney Lucius C. West

UNITED STATES PATENT OFFICE.

MYRON W. PARRISH, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-FOURTH TO JAMES DEAN, WILLIAM REID, FREDERICK ZABRISKIE, J. H. CARSTENS, AND S. K. STANTON, OF SAME PLACE.

ELECTRIC TRAIN-SIGNAL.

SPECIFICATION forming part of Letters Patent No. 585,342, dated June 29, 1897.

Application filed November 7, 1896. Serial No. 611,316. (No model.)

To all whom it may concern:

Be it known that I, MYRON W. PARRISH, a citizen of the United States, residing at Detroit, in the county of Wayne, State of Michigan, have invented a new and useful Electric Train-Signal, of which the following is a specification.

This invention relates to that class of electric signals which employ a signal-circuit and a signaling-circuit, and in which are employed a signal, and battery or generator.

The object of the invention is to employ an armature to muffle the signal and an adjustable magnet to lock the armature away from the signal or bell when the signal is sounding.

Other objects will appear in the following description and claims.

A construction embodying my invention employs circuits in which one polarity runs through the permanent magnet which locks the muffling-armature and the other through the armature which muffles the bell or signal, all as more particularly set forth below.

In the drawings forming a part of this specification, Figure 1 is a side elevation of signaling apparatus, showing circuits connected; Fig. 2, a plan of Fig. 1; and Fig. 3 is a section on line *a a* in Fig. 1, looking from a point below.

In the below-described construction one circuit is closed when the other is open, they thus alternating in their respective uses in giving the signal and muffling the same.

Referring to the parts of the drawings pointed out by numerals, 4 is the bell or signal. Near this bell or signal 4 on base 5 is the adjustable permanent magnet 6. I prefer this magnet to be adjustable, so as to make it conform more nicely to the varying conditions of use, the power of the electric energy, and the proportion of the construction of parts.

What I mean by the permanent magnet 6 being adjustable is this: At 7 is a cross-bar movable up and down in contact with the arms of the magnet, as in Figs. 1 and 3, the ends of the cross-bar 7 being forked, as in Fig. 3, and slide up and down loosely, but in contact, on the arms of the magnet, as stated, when adjusted. The cross-bar 7 is adjusted

by a screw 8, having a thumb-wheel 9, said screw being inserted in a screw-threaded hole in the cross-bar, as in Fig. 1. This permanent magnet 6 is beneath the free end of an armature 10, which armature is fulcrumed at 11. The free end of this armature 10 contacts with the bell or signal 4, as in Fig. 1, when the bell is muffled. When the voltage is light, the cross-bar 7 is adjusted so as to be nearer the top of the arms of the permanent magnet, but if the voltage be increased then the cross-bar 7 must be adjusted to a lower point on the permanent magnet to cause said magnet to be adapted to the increase of voltage, and thus the capacity of the magnet is adjusted in accordance with the power of the electric energy.

Beneath the other end of the armature 10 at 12 are two magnets 13 and 14, from which magnets the circuit used for signaling is extended to different places desired and from which to operate it. When employed for train-service, this circuit would run through the train, while the signal and connecting parts would be in the cab, and if on a freight-service or boat an answering-signal might be in the caboose or captain's room. This signaling-circuit is shown at wire 15, running from magnet-spool 14, and by wire 16, running from spool 13 and through battery 17, and the two being detachably connected by circuit-breaker 19, Fig. 2.

Other circuit-breakers may be employed at such places and stations as it is desired to signal from in case the system is used for other than train-service.

The signal-circuit runs from the battery 17 along the wire 18 to the standard 11, thence along the armature 10 to the metal of the permanent magnet 6, thence along the wire 20 to the bell 21, and by the wire 18 back to the battery.

In systems of this kind not employing the muffling-armature 10 difficulty has been experienced from the jar of the train or other causes, such as the battery becoming weak and the like, and the bell would give an annoying and uncertain sound at abnormal times. By the use of the permanent magnet and the muffling-armature this is overcome.

In the operation when the signaling-cir-

cuit 15 and 16 is made as at 19, Fig. 2, the spool-magnets 13 and 14 are energized and the armature is held in contact with the bell 21, as in Fig. 1. In this condition if the bell should abnormally try to ring the bell would be dead as against giving out any natural sounds. Should the circuit 15 and 16 become accidentally broken or separated by design, then the permanent magnet 6 would draw the armature 10 to it and hold the same locked, so the bell would give natural signals or sounds unmuffled.

When using this system for freight-train service instead of for passenger-service, the signaling-circuit would consist of a single wire running from devices in the engine, thence over the cars to devices in the caboose, and the terminal ends grounded, thus making the circuit.

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

1. A signaling system, comprising the two

circuits, a signal, a source of electric energy, spool-magnets, a pivoted muffling-armature, and a permanent magnet adapted to lock the muffling-armature when the signal-circuit is broken, substantially as set forth.

2. In an electric signaling system, a signal, and a muffling-armature, combined with a permanent magnet for locking said armature, substantially as set forth.

3. A signaling system, comprising two circuits, a signal, a source of electric energy, spool-magnets, a pivoted muffling-armature, and a permanent magnet adapted to be adjusted to any number of volts and to lock the muffling-armature when the signaling-circuit is broken, substantially as set forth.

In testimony of the foregoing I have hereunto set my hand in the presence of two witnesses.

MYRON W. PARRISH.

Witnesses:

LEVI F. HOX,

JAS. H. HOPKINS.