Dec. 9, 1930. H. S. BECKER 1,784,778

AUTOMATIC SIGNALING MEANS FOR TOY TRACKS

Filed March 14, 1928

Fig. 1.

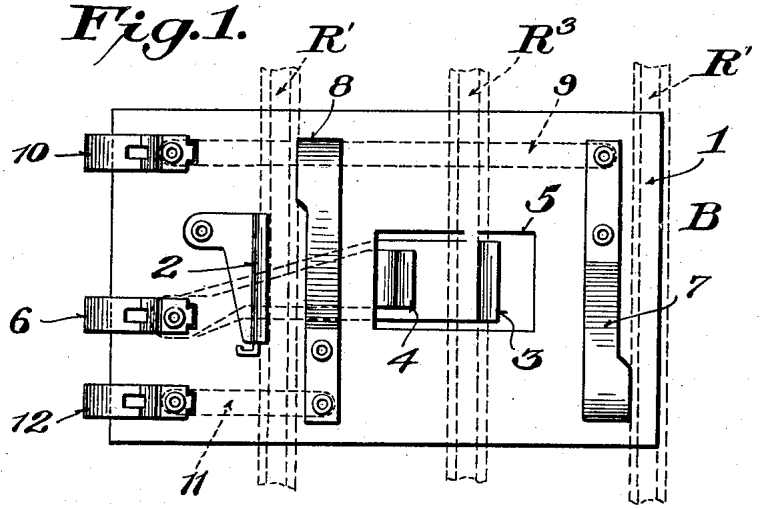



Fig. 2.

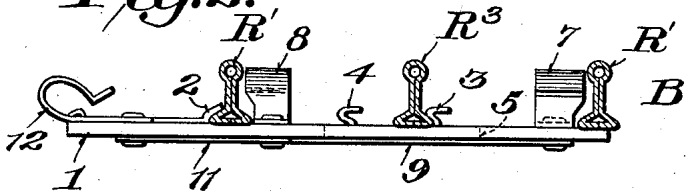



Fig. 3.

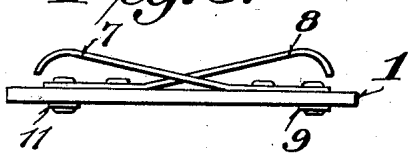
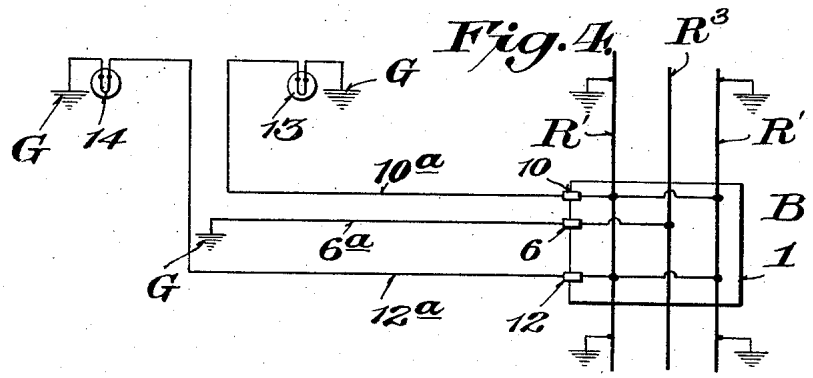



Fig. 4.

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# UNITED STATES PATENT OFFICE

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## AUTOMATIC SIGNALING MEANS FOR TOY TRACKS

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This invention relates to toy railways and more particularly to novel automatic signaling means for producing an intermittent signal.

That is to say, the present invention contemplates signaling means preferably in the form of a lamp or lamps which are caused to be intermittently lighted to produce a flashing signal effect. In that connection the invention includes as a part of the signaling means a novel track attachment which may be readily clipped or fitted to any selected portion of the track thereby permitting of the signal being readily and conveniently located without the necessity of utilizing a special track section.

Where electric lamps or other signals have been used in the past it has been customary to utilize a special track section having one of the wheel bearing rails insulated at each end from the adjoining rail of adjacent sections by the use of fibre joint pins or the like, the signal or other device to be operated being included in circuit with the special track section. The present invention therefore aims to obviate the use of a special track section of the type set forth and provide a device which may be readily fitted to any section of track thereby not only having the advantage of easy application and removal but also providing a unit which may be economically made and which is simple and reliable in operation to produce the desired signaling effects.

A further object of the invention is to provide a combined signaling unit and track attachment wherein the signaling means, such for example as electric lamps, remain dark except when a train is passing over the location of the track attachment.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

A preferred and practical embodiment of the invention is shown in the accompanying drawings in which:—

Figure 1 is a top plan view of the invention.

Fig. 2 is a side elevation thereof.

Fig. 3 is an end elevation.

Fig. 4 is a diagram illustrating the circuits involved.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

According to the embodiment of the invention shown in the drawings the present signaling means comprises a signal proper designated generally as A and a track attachment B, both being electricly connected by suitable wiring in a manner that will be presently referred to.

The track attachment B preferably includes in its organization an insulated block or base 1 adapted to lie beneath the wheel bearing rails R and R′ and also beneath the electrically charged third rail $R^3$, and carries therewith a rigid track abutment 2 adapted to engage the rail R and the yielding clip members 3 and 4 which are mounted on the underside of the base 1 but project upwardly through the opening 5 to engage with the third rail $R^3$. The purpose of members 3 and 4 is to enable the attachment to be fitted to either the so-called "0" gauge track or the wide "standard" gauge track now generally in use. That is to say, when a "standard" gauge track is used the spring clip 3 will engage with the third rail $R^3$ but when the attachment is applied to an "0" gauge track section the spring clip 4 will engage the third rail.

The fixed or rigid track abutment 2 performs no electrical function and is therefore completely isolated on the insulating base 1. The spring clips 3 and 4 however, which are adapted to work in opposition to the fixed abutment 2, are included in the electric circuit of the signal since they engage with the electrically charged third rail, and therefore said members 3 and 4 are connected with the wire terminal 6.

The base 1 also carries therewith the upstanding spring contact fingers 7 and 8, the same being riveted or otherwise fastened to the base 1 parallel to the position of the wheel bearing rails R and R′. As will be observed from Figs. 1 and 3, these contact members

have their free ends disposed in opposite directions and are adapted to lie in close proximity to the heads of the rails R and R′ so that as the wheels of a car or train pass over the rails the flanges thereof will engage said contacts and thus temporarily become a part of the ground circuit of the track as the wheels bear both on the rails and the contacts. The said contact 7 is connected by means of a metallic strip or other conductor 9 with a wire terminal 10 and likewise the contact 8 is connected by a metallic strip or other conductor 11 with a wire terminal clip 12.

Referring to Fig. 4 and assuming that the signal to be operated is of the flashing lamp type, it will be observed that the lamps 13 and 14 which have one terminal grounded to the frame of the signal are respectively connected by the wires $10^a$ and $12^a$ to the terminal clips 10 and 12 on the attachment, while the frame of the signal which constitutes the ground G for the lamp is connected by a wire $6^a$ with the terminal clip 6 that is electrically in contact with the third rail $R^3$.

When the attachment is applied to a track in the manner shown in Figs. 1 and 2 it will be apparent that both of the lamps 13 and 14 are normally dark because the circuit from the electrically charged third rail $R^3$ cannot pass through the lamp filaments until the contacts 7 and 8 are included in the ground circuit formed by the wheel bearing rails R and R′. Thus, ordinarily the circuit to these lamps is not closed until the metallic wheels of the car or train bearing on the rails R and R′ also engage with the contact fingers 7 and 8. When the wheels cause this engagement the circuit is temporarily closed through the lamps 13 and 14 thus producing an intermittent illumination of the lamps due to the circuit being closed by the wheels of the car or train passing over the location of the attachment.

Without further description it is thought that the features and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claims.

I claim:—

1. Railway signaling means comprising, in combination with the rails and a source of current, a contact device located adjacent to each rail adapted to be engaged by a wheel passing over the rail to close a signal circuit, said contact devices being disalined laterally with respect to one another to secure a maximum number of circuit closings by a minimum amount of travel of a vehicle over the rails at any given rate of speed.

2. In a toy railway signaling unit the combination with a pair of signal lamps having one of their terminals grounded to the signaling unit, a third rail track section having the wheel engaging rails grounded and an electrically charged third rail, of an insulating member fitted to said track section, a pair of spring contact members carried by the insulated member adjacent the grounded wheel engaging rails of the track section, electric connections between said spring contact members and the other terminals of said signal lamps, and an electric connection between the electrically charged third rail of the track section and the ground of the signaling unit.

3. A toy railway signaling unit comprising in combination, a signaling device including a pair of signal lamps having one of their terminals grounded to the signaling device, a track section having grounded wheel engaging rails and an electrically charged third rail, an insulating member fitted to said track section including a pair of spring contact members carried by the insulated member adjacent the grounded wheel bearing rails of the track section, said contact members being arranged one in advance of the other in the track section, electric connections between said spring contact members and the other terminals of said signal lamps, and an electric connection between the electrically charged third rail of the track section and the ground of the signaling device.

In testimony whereof I hereunto affix my signature.

HARRY S. BECKER.