

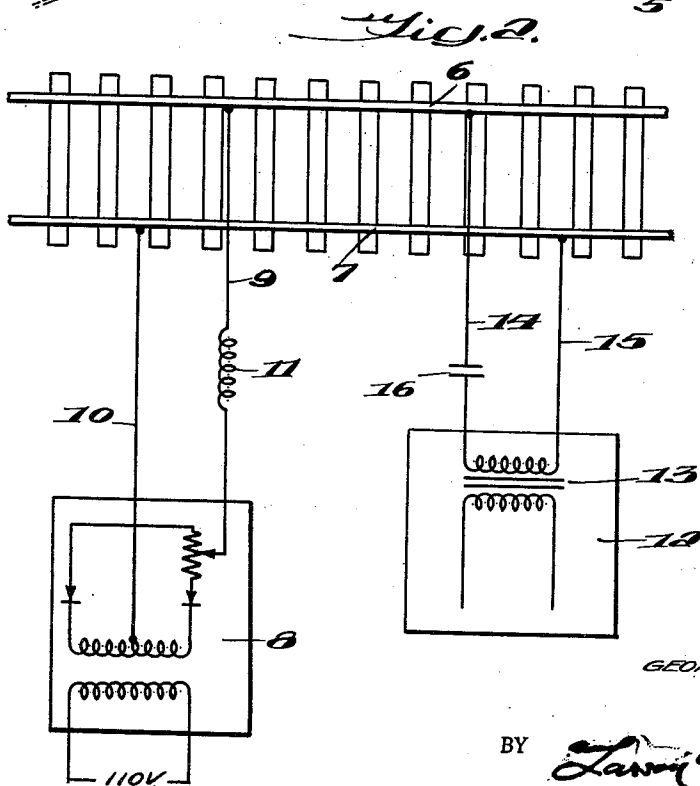
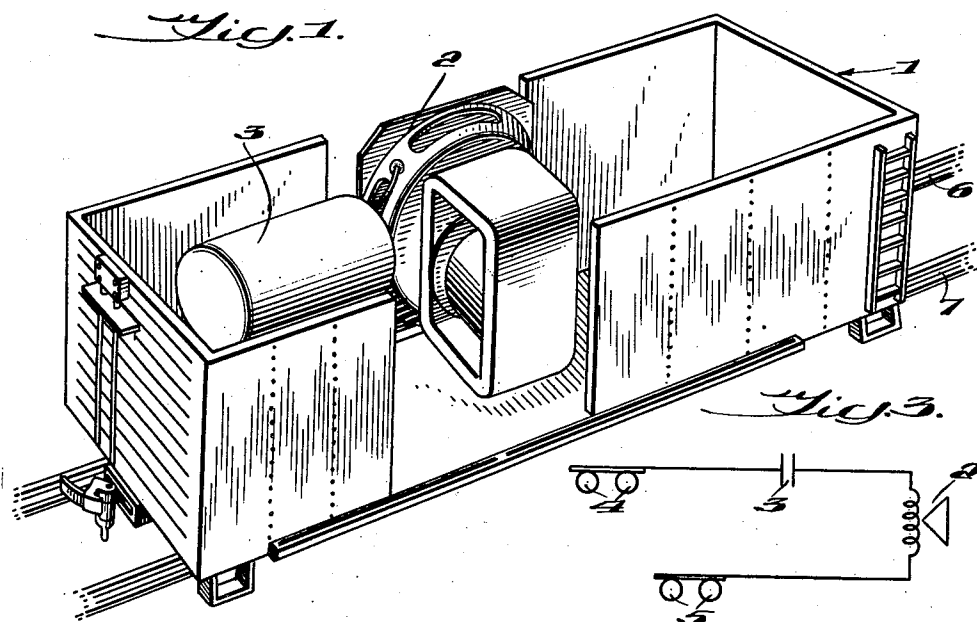
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SOUND SYSTEM FOR MODEL RAILWAYS

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SOUND SYSTEM FOR MODEL RAILWAYS

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This invention relates to a sound system for a model railway and more specifically to a system wherein realistic train sounds may be made to emanate from a model railway car.

Heretofore there have been various attempts to increase the effect of realism in a model railway system by providing the sounds normally associated with a railroad in the form of a record which is played so as to emanate from a train station, for example. The realistic effect of such a system is appreciably decreased when the train is at some distance from the station.

According to the present invention a system is provided in which train sounds may be made to emanate from a railway car so that a highly realistic effect is achieved regardless of the position of the train. There is provided a loudspeaker in a railway car, which loudspeaker is electrically connected with the wheels of the car so as to receive the sound signal from the track. Sound reproducing equipment such as a tape recorder or phonograph is connected to the track so that the signals from the tape or record is transmitted to the track. Means is provided in the circuitry to prevent any interference between the sound signal for the loudspeaker and the current normally used to operate the model railway.

An object of the present invention is to enhance the realism of a model railway by providing a speaker system so that normal train sounds will emanate from a railway car.

Another object of the present invention is to provide a speaker system for a model railway wherein the sound signal is carried by the track from a stationary sound reproducing equipment to a movable speaker.

Other objects and many of the attendant advantages of the present invention will become apparent upon consideration of the following detailed specification when taken in connection with the accompanying drawing wherein:

FIG. 1 is a perspective view of a model railway car according to the present invention,

FIG. 2 is a circuit diagram showing certain electrical components, and

FIG. 3 is a diagrammatic view of the circuitry in the railway car.

Referring now more specifically to the drawing wherein like numerals indicate like parts throughout the several views there is shown at 1 in FIG. 1 a model railway car which is in this particular instance a boxcar with the top and doors removed. It can be readily appreciated that a passenger car or any other type of rolling stock could be used with equal facility. Mounted in the boxcar is a loudspeaker 2 and connected therewith in a manner to be described more fully hereinafter is a capacitor 3. As shown in FIG. 3 the speaker 2 is connected through the capacitor 3 with wheels 4 on one end of the railway car 1. The opposite end of the speaker coil is connected with wheels 5 at the opposite end of car 1. The wheels 4 and 5 are adapted to engage tracks 6 and 7, respectively, which tracks form a portion of the circuits for carrying the signals to the loudspeaker and for carrying the current necessary to energize the model railway locomotive. While the wheels 4 and 5 are electrically conductive, it will be understood that the other wheels engaging the opposite track at each end of the railway car will be made of insulating material so that the circuit to the rail-

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way car is from wheels 4 through capacitor 3, the coil of speaker 2 and wheels 5.

In FIG. 2 a transformer rectifier 8 is shown which is adapted to convert the 110 volt alternating household current to a D.C. voltage suitable for operating a model railway. The circuitry of this rectifier is of a well known type and forms no part of the present invention. Conductors 9 and 10 connect the output of the transformer rectifier 8 with tracks 6 and 7, respectively. An inductance 11 is connected in the conductor 9 for a purpose which will become more fully apparent hereinafter.

Any commercially available sound reproducing equipment is diagrammatically shown at 12 and this may constitute a phonograph or tape recorder or the like provided with a transformer speaker, an amplifier and other common components of such equipment. According to the present invention the output coil 13 is connected through conductors 14 and 15 with tracks 6 and 7, respectively. A capacitor 16 is connected in conductor 14 in the manner shown for a purpose which will be more fully apparent hereinafter.

The model railway is normally operated by D.C. current supplied by transformer rectifier 8 and the rails 6 and 7 carry the D.C. current to the locomotive to energize the D.C. motor therein. The A.C. signal output of the sound reproducing equipment 12 is conducted via tracks 6 and 7 through wheels 4 and 5 to the speaker 2. A record or recording played by the equipment 12 will sound through the speaker 2. Thus a recording of train sounds when used will create a highly realistic effect in a model railway system.

The inductance coil 11 will block the A.C. signal emitted by the sound reproducing equipment 12 from the transformer rectifier 8. The capacitor 3 will block the D.C. signal emitted by the transformer rectifier 8 from passage into the speaker coil 2. Similarly, the capacitor 16 will isolate the output transformer of the sound reproducing equipment 12.

It is thus apparent that according to the present invention there is provided a means for reproducing the sounds normally associated with a railroad in a model railway car. Means are provided for transmitting the sound signal from a stationary source through the tracks directly to the rolling stock.

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. What is claimed as new and is desired to be secured by Letters Patent is:

1. In a model railway system of the class described, adapted to operate on D.C. current through the track, a railway car having at least one electrically conductive wheel on each side thereof, a loudspeaker disposed in said railway car, circuit means including a capacitor connecting the loudspeaker with said electrically conductive wheels, a sound reproducing equipment having an A.C. output, and circuit means including a capacitor for connecting the sound reproducing equipment with the track whereby the A.C. signal from the sound reproducing equipment is fed to the loudspeaker in the railway car and the D.C. current to operate the railway system is blocked by the capacitors from the sound reproducing equipment and the loudspeaker.

2. A model railway system according to claim 1 and further including a rectifier having the output thereof connected to the track to provide the D.C. current to operate the railway system and an inductor connected to the output circuit of the rectifier to block passage of the A.C. signal from the sound reproducing equipment to the rectifier.

3. In combination, a railway car, a loudspeaker mounted in said railway car, electrically conductive

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wheels on each side of said railway car, circuit means including a capacitor connecting said loudspeaker with said electrically conductive wheels, track for said railway car, a rectifier for supplying D.C. current to said track, a coil comprising an inductance connected in the circuit between said rectifier and the track, a phonograph, circuit means including a capacitor connecting the output of said phonograph with the track whereby the D.C. signal from the rectifier is blocked from the loudspeaker and the phonograph and the A.C. signal from the phonograph is blocked from the rectifier.

5**10****4****References Cited in the file of this patent****UNITED STATES PATENTS**

2,791,972	Smith -----	May 14, 1957
2,826,996	Smith -----	Mar. 18, 1958
2,882,834	Smith -----	Apr. 21, 1959
2,978,836	Kato -----	Apr. 11, 1961

FOREIGN PATENTS

1,118,988	France -----	Mar. 26, 1956
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