

July 9, 1929.

F. L. GATCHET

1,720,394

MECHANICAL SOUND PRODUCING DEVICE FOR TOYS

Filed Sept. 17, 1927

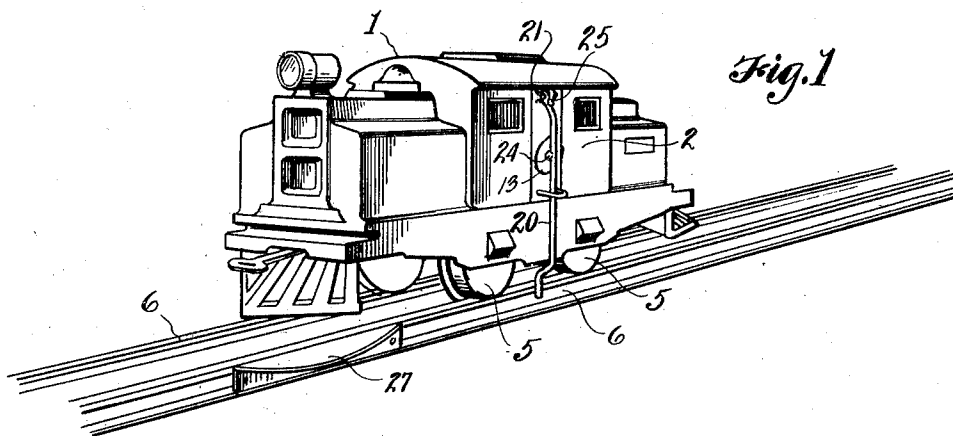


Fig. 2

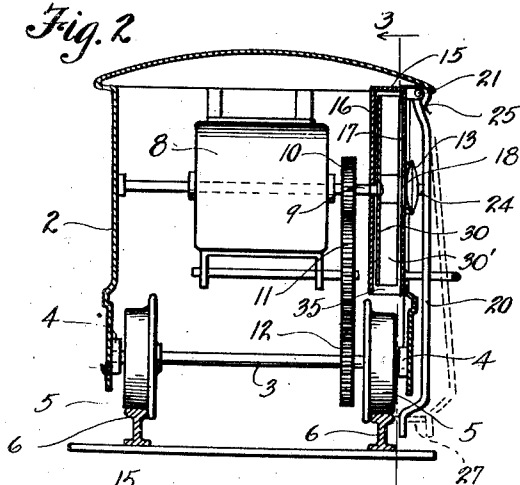


Fig. 3

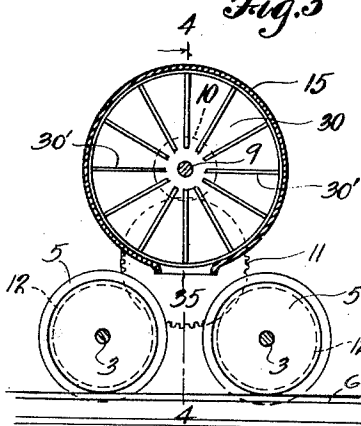


Fig. 4

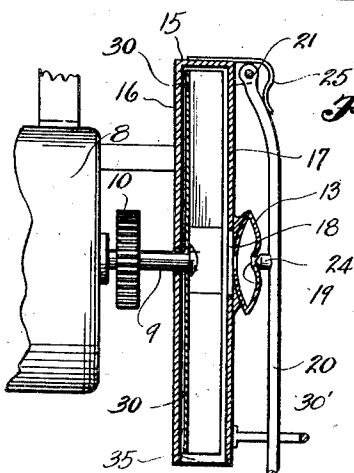
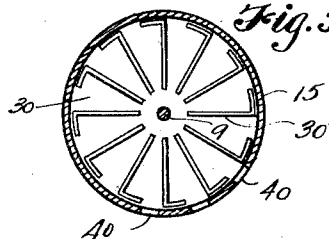


Fig. 5



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UNITED STATES PATENT OFFICE.

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MECHANICAL SOUND-PRODUCING DEVICE FOR TOYS.

Application filed September 17, 1927. Serial No. 220,218.

This invention relates to improvements in toys, and more particularly to mechanically operated, sound producing devices for use on toy vehicles such as trains or automobiles; the principal object of the present invention being to provide means in connection with a toy locomotive for producing a whistling sound.

More specifically stated, the object of the present invention is to provide a toy locomotive, or car, with a device operating in connection with the car driving motor and under the influence of other devices located on or adjacent the track on which the car travels, whereby a whistling sound will be produced whenever the car passes one of the latter devices.

Other objects of the invention reside in the various details of construction and in the combination of parts, as will hereinafter be described.

In accomplishing these and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings, wherein—

Figure 1 is a perspective view of a toy locomotive equipped with a sound producing, or whistling, device embodied by the present invention.

Figure 2 is a transverse, sectional view of the locomotive, illustrating the disposition and manner of operating the whistling device.

Figure 3 is a sectional view of the whistling device taken on the line 3—3 in Figure 2.

Figure 4 is an enlarged section taken on the line 4—4 in Figure 3.

Figure 5 is a sectional detail of a device of an alternative construction.

Referring more in detail to the drawings—

1 designates, in its entirety, what may be a toy locomotive of a type adapted to be mechanically driven and equipped with wheels whereby it may operate upon a track. As herein illustrated, the locomotive, or car, 1 is of metal construction with opposite side walls 2—2 between which a pair of transverse axles 3—3 are mounted; these being supported revolvably at their ends in bearings 4 fixed to the sides of the car. Mounted on the axles 3—3 are supporting wheels 5; these being flanged so that they will follow the rails 6—6 forming the track. Also, suspended within the car, is a driving motor 8

which may be of any suitable character, electrically or spring driven, or may be operated by fluid pressure such as steam. This motor has a drive shaft 9 extending therefrom and is equipped with a gear wheel 10 which, through a gear train consisting of gears 11 and 12, drives one or both of the axles 3 to move the car along the track.

It will be stated here that the type of car and the means for driving it is not material to the present invention, but they may be of any suitable construction to which the whistling device embodied by the present invention may be adapted. The present type of locomotive has been used as an illustration only because it is especially suitable for whistling devices of the present form. It is also to be understood that the location of the whistling device on the car is not material, since it may be located outside or inside and operate just as well in one position as in the other so long as the operating devices are properly arranged.

The whistling device illustrated in the present construction consists of a circular housing 15 that is mounted just within one of the side walls of the car and which is closed at its opposite sides by walls 16 and 17. Centrally of the outer wall of the casing is an opening 18 and fixed over this is a device whereby the whistling sound is produced when air is drawn through it. It consists of a hollow, wafer-like construction 13 with an opening 19 centrally therethrough which registers with the opening 18 in the housing wall 17. A lever 20 is pivotally attached, as at 21, to the upper edge of the housing 15 and this depends centrally across the whistling device with its lower end extended inwardly below the side wall of the car to a point adjacent the track. On this lever, is mounted a valve member 24 which is adapted to seat within the opening 19 of the whistling device to prevent the drawing of air through the latter, and a spring 25 is fixed to the top of the housing 15, with its end portion bearing against the lever to normally retain the valve member 24 seated.

Fixed to the rail of the track and extending laterally therefrom, is a flanged member 27 which is adapted to contact with the lower end of the lever 20 when the car moves past it to push the lever outwardly against the pressure of the spring 25 and to thereby unseat the valve member 24 from the opening 19.

Extended into the housing 15 through an opening centrally of the inner side wall 16, is the end of the motor drive shaft 9, and fixed on this shaft within the housing, is a fan wheel 30 comprising a plurality of radially directed vanes 30'. This fan is rotatably driven in such manner that it will cause a suction of air through the opening 19 of the whistling device and into the housing 15 when the valve member 24 is lifted, and will, in this way, produce the whistling sound. Air drawn into the housing 15 by rotation of the fan is discharged through an opening 35 at the base of the housing. The construction of the fan is such that it will effect the suction of air through the whistling device when rotating in either direction.

In Figure 5 is illustrated an alternative form of device for effecting the whistling sound. In this construction, the vanes of the fan have laterally turned end portions and the casing 15 has relatively small openings 40 at one side through which the air is discharged by the vanes. The action of these vanes past the opening effects the whistling sound after the same manner that a siren operates.

Assuming the device to be so constructed and the track on which the car operates to be equipped at desired places with the flanged devices 27 against which the lever 20 may contact, it is apparent that whenever the car passes one of these devices the lever will be actuated outwardly by contact therewith and will thus unseat the valve member 24 from the opening 19 of the whistling device, and the fan operating within the housing 16 will cause a suction of air through the device that will produce the whistling sound.

Such devices may be made in various forms and mounted in various ways other than herein illustrated and, for this reason, it is not desired that the claims be limited only to the details of construction as herein illustrated.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent, is:

1. The combination with a guide track and a vehicle operable along the track, of an air whistle carried by the vehicle, means carried by the vehicle and operable incident to travel thereof to produce air suction through the whistle, a yieldably mounted means for normally preventing the passage of air through the whistle and a contact fixed adjacent the track in position to be engaged by said yieldable means in passing to move the latter to permit the whistle to function.

2. The combination with a guide track and a car operable along the track, of an air operated whistle carried by the car and provided with an air passage therethrough, an air fan operated by motive means in the car to draw air through said passage to sound the whistle, a pivotally mounted lever having a valve member adapted to seat in said passage to prevent functioning of the whistle, a spring engaging the lever to normally hold the valve member seated and a contact member fixed adjacent the track against which the lever will engage in passing to unseat the valve member and to thereby permit functioning of the whistle.

Signed at Seattle, Washington, this 13th day of July, 1927.

FRANCIS L. GATCHET.