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TOY LOCOMOTIVE

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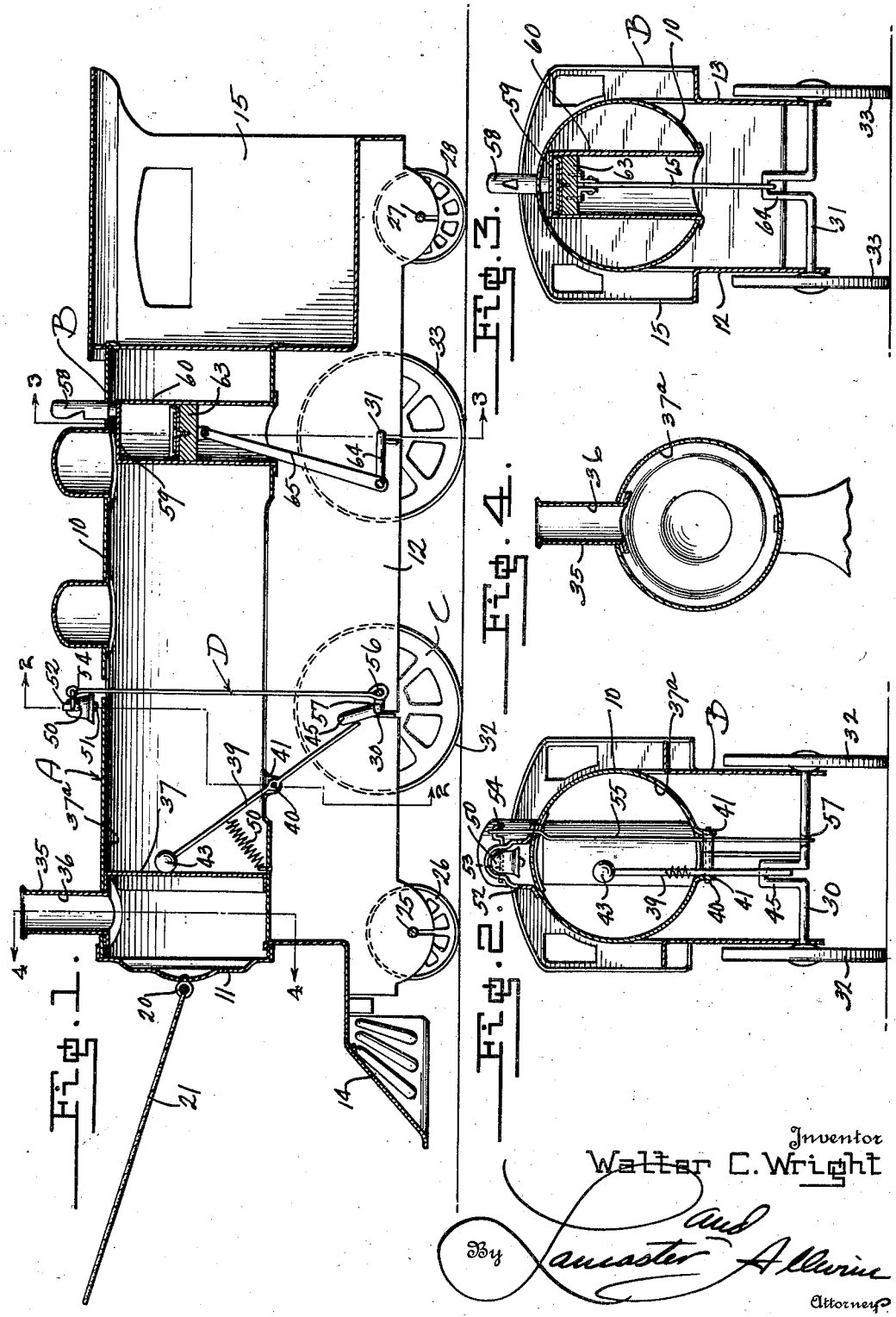


Fig. 1.

Fig. 3.

Fig. 4.

Fig. 2.

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TOY LOCOMOTIVE.

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This invention relates to improvements in toys, and has particular reference to a toy locomotive with novel noise making means embodied therein.

The primary object of the invention is the provision of a toy locomotive embodying running gear, and various noise producing devices connected with the running gear for operation when the locomotive is propelled in order to simulate the locomotive exhaust, the bell, and whistle features of an ordinary locomotive.

A further object of this invention is the provision of a novel construction by which the running gear of a toy locomotive may be used for operating a device to produce an intermittent noise, simulating exhausts.

Other objects and advantages of this invention will be apparent during the course of the following detailed description.

In the accompanying drawing, forming a part of this specification, and wherein similar reference characters designate corresponding parts throughout the several views.

Figure 1 is a longitudinal cross sectional view taken through a toy locomotive, which is preferably constructed of sheet metal, and which includes the novel noise producing devices associated therein, without detracting from the exterior appearance of the locomotive.

Figures 2, 3 and 4 are cross sectional views taken on their respective lines in Figure 1 of the drawing.

In the drawing, wherein for the purpose of illustration is shown only a preferred embodiment of the invention the letter A may generally designate the toy locomotive, which may include a body portion B, and running gear C. The improved noise producing devices D are associated with the body portion B and running gear C.

The body portion B may be of any approved formation, according to the quality of the toy locomotive, and in the preferred instance the same includes the horizontal tank or cylinder 10, formed of sheet metal, at the forward end of which the front wall 11 is connected in any approved manner. Vertical depending side walls 12 and 13 may be provided, connected with the body cylinder 10 and extending therebelow for the purpose of supporting the running gear C to be subsequently described. At the front the body portion B may include a fender or cow catcher structure 14 of any approved construction. A cab 15 is preferably supported to the rear of the body cylinder 10, of any approved structure.

The locomotive may be power propelled, although it is preferred that for the inexpensive type of toy the same will be merely manually propelled, and to this end an eye 20 may be connected in the front wall 11 of the cylinder 10 to which a cable or string 21 may be attached.

The running gear C may include a front truck axle 25, having the relatively small supporting wheels 26 fixed therewith, and which axle 25 is preferably rotatably carried by the depending side walls 12 and 13 immediately to the front of the vehicle, below the front wall 11 of the cylinder 10. A similar axle 27 and small supporting wheels 28 are provided at the rear of the locomotive, supported by the side walls 12 and 13, below the cab 15. The intermediate axles 30 and 31 are rotatably supported by the side walls 12 and 13 of the locomotive body, upon which the relatively large wheels 32 and 33 respectively are fixed; the axle 30 and its wheels 32 being located forwardly of the axle 31 and the wheels 33 thereof, and these axles and wheels 30 to 33 inclusive preferably simulate the driver wheels of an ordinary locomotive, and the noise producing devices are preferably connected with the axles 30 and 31 in a relation to be subsequently described.

At the front of the body cylinder 10, a smoke stack 35 is preferably provided, which includes a passageway 36 connecting with the compartment 37^a of the engine tank or cylinder 10. At the opposite side of the stack or chimney 35 from the front wall 11 of the locomotive tank or cylinder 10, a drum head or diaphragm 37 is supported within the compartment 37^a of the engine body; this diaphragm extending entirely across the campartment, and subdividing the forward part of the same from the rearward part. This diaphragm or disc may be of metal, skin, or any other approved material which will render a noise simulating an exhaust when it is struck by a hammer. A hammer 39, in the form of a lever, is pivoted intermediate its ends upon a suitable pin 40 carried by lugs 41 integral with the body cylinder 10; the upper end of this lever or hammer 39 extending into the compartment 37^a and having a substantially spherical shaped head 43 thereon adapted

to normally rest against the diaphragm 37. The body of the hammer 39 is preferably straight, and the lower portion thereof, below the pivot pin 40 extends into proximity to the axle 30, so that the crank portion 45 of said axle 30 may engage the lower free end of the hammer lever 39 in order to operate the same once during every revolution of the axle 30. It is to be noted that the pin 40 is so supported by the lugs 41 that the lever 39 is disposed laterally of the center of the locomotive cylinder 10. A spring 50 is normally connected at one end to the lower part of the locomotive cylinder or body 10, within the compartment 37a, and at its other end being connected to the lever or hammer 39 above the pivot pin 40 to normally draw the head 43 against the diaphragm or disc 37.

An oscillating bell 50, including a clapper 51 therein, is carried upon a substantially U-shaped bracket 52. The bracket 52 is mounted on top of the cylinder 10, and the bell casing is fixed with a pin 53 which bears in the bracket 52; the pin 53 at one side thereof including a throw or crank portion 54. A connecting rod 55 is pivotally connected with the throw portion 54 of the pin 53, and with the throw portion 56 of a crank 57 provided on the axle 30.

A further noise producing device, includes a whistle 58 mounted in the top wall of the body cylinder 10, and having an air entrance end thereof extending into the top wall 59 of a piston cylinder 60. This cylinder 60 is preferably carried by the body B, within the compartment 37a of the cylinder 10, adjacent the cab 15, and in this cylinder 60 a piston 63 is reciprocably mounted, having connection with a crank portion 64 of the rear driver axle 31, by means of a connecting rod 65.

Referring to operation of the various noise producing devices of this invention, as the locomotive A is propelled, the axle 30 once during every revolution will cause the throw or crank portion 45 thereof to hit the lower end of the hammer or lever 39, rocking the same against the tension of the spring 50 acting thereon, and after the crank portion 45 has released the hammer 39, the spring 50 will draw the same sharply backward until the head 43 hits the drum diaphragm 37, producing a noise simulating the exhaust of steam from a port. This noise is readily heard exteriorly of the compartment 37a, because of the communcation of the passageway 36 with the noise producing compartment between the diaphragm 37 and the front wall 11 of the engine body. The oscillating bell is cooperatively related to the axle 30, being operated by the throw and crank portions 56 and 57 thereon, so that as the axle 30 revolves the bell 50 will be oscillated on the bracket 52.

The suction produced in the cylinder 60 above the piston 63, will draw air into the cylinder, and as the piston is forced upwardly in the cylinder 60, incident to its connection with the throw or crank portion of the axle 31, the compressed air forced through the whistle 56 will produce the whistling noise desired.

It is of course understood that various rearrangements of the noise producing devices may be provided, although the same are preferably connected to the axles of the driver wheels. A whistling arrangement which may be desired is that of providing a whistle in the chimney passageway 36, similar to the ordinary double concavo-convex whistle with central openings, and a similar piston arrangement to that illustrated in the drawing could be provided for sucking in and forcing air thru this whistle in the passageway.

Various changes in the shape, size, and arrangement of parts may be made to the form of the invention herein shown and described, without departing from the spirit of the same or the scope of the claims.

I claim:

1. In a toy locomotive of the class described a body portion including a cylindrical shaped tank providing a compartment therein and including a front wall and a chimney having a passageway communicating with said compartment rearwardly of said front wall, a diaphragm mounted across said compartment at the opposite side of said chimney passageway from said front wall, running gear for the body of the locomotive, and hammer means cooperating with said running gear whereby to intermittently hit said diaphragm at the opposite side thereof from said chimney passageway to produce noise as the locomotive is propelled.

2. In a toy locomotive a body portion including a substantially cylindrical shaped tank, running gear for the body portion including an axle extending transversely below said tank and having a crank disposed below said tank, a bell oscillatively carried upwardly of the tank including a crank portion movable therewith, and a connecting rod connected to the crank of said bell and extending downwardly through openings in said tank and being connected to the crank of said axle whereby the bell may be operated upon rotation of the axle.

3. In a toy locomotive a body portion including an elongated horizontally mounted cylindrical shaped tank, running gear for said tank including an axle extending transversely below said tank and having a crank portion thereon, a vertically arranged cylinder mounted in the chamber of said tank immediately over said axle with the axis thereof substantially intersecting the axis of said axle, a whistle carried upwardly above

said tank having operative communication with the upper portion of the compartment of said cylinder, a piston slidable in said vertical cylinder, and a connecting rod connected with said piston and with said crank portion of said axle whereby upon propelling of the toy locomotive the axle will be rotated for reciprocating the piston in said cylinder and forcing ingress and egress of air with respect to said whistle for sounding the same.

4. In a toy locomotive of the class described a hollow cylindrical shaped tank providing a compartment therein, and including a front wall, a chimney mounted on the tank at the top thereof having a passageway therethrough communicating with the compartment of said tank rearwardly of said front wall, a diaphragm mounted across said compartment parallel with said front wall and subdividing said compartment at opposite sides of the diaphragm to provide a forward compartment between said diaphragm and front wall into which the passageway of said chimney passes, running gear for the body of the locomotive including a crank operable with the locomotive being propelled, a substantially straight hammer device pivoted between its ends on the bottom of the tank, at a location on the tank rearwardly of the diaphragm so that the lower end of said hammer below its pivot extends to a point where the throw of the crank of the running gear may intermittently hit the same, the upper portion of said hammer above the pivot extending diagonally towards the diaphragm and having a head for engagement against said diaphragm, and a spring secured at one end to the tank adjacent the juncture of the bottom of the tank with the diaphragm, and extending transversely to the upper portion of the hammer and being connected thereto, said spring being under tension to normally draw the headed end of the hammer against said diaphragm.

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