

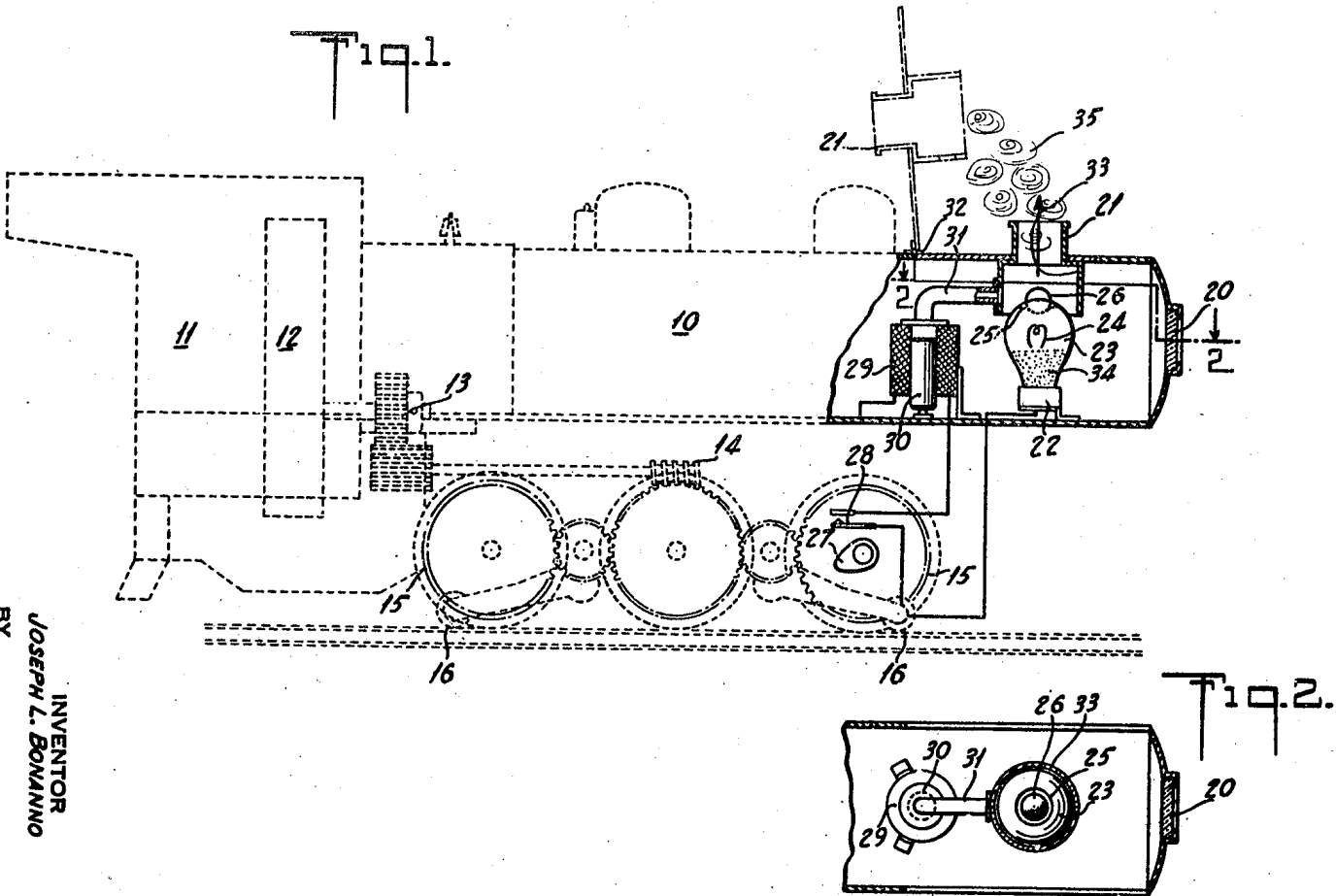
Dec. 31, 1946.

J. L. BONANNO

2,413,284

SMOKE PRODUCING TOY

Filed June 13, 1944



INVENTOR
JOSEPH L. BONANNO
BY *Joseph L. Bonanno*
ATTORNEY

UNITED STATES PATENT OFFICE

2,413,284

SMOKE PRODUCING TOY

Joseph L. Bonanno, Madison, N. J., assignor to
The Lionel Corporation, New York, N. Y., a cor-
poration of New York

Application June 13, 1944, Serial No. 540,162

8 Claims. (Cl. 46-9)

1

The present invention relates to smoke producing toys, and is more particularly directed toward toy locomotives wherein the lamp which serves as a light source for the headlight also serves as a source of heat for volatilizing smoke producing material.

According to the present invention the lamp for the headlight is placed directly under the smoke stack of the toy locomotive, and the upper surface of the lamp bulb is provided with a well or recess adapted to receive a charge or pellet of volatile material and hold it in this position while the locomotive is in operation.

A further object of the invention is to provide an intermittently operated pump for blowing a blast of air towards the smoke producing material.

The accompanying drawing shows, for purposes of illustrating the present invention, an embodiment in which the invention may take form, it being understood that the drawing is illustrative of the invention rather than limiting the same.

In the drawing:

Figure 1 is a diagrammatic side elevational view of a toy locomotive with parts in section; and

Figure 2 is a horizontal sectional view through the structure of Figure 1 along the line 2-2.

The drawing illustrates a conventional toy electric locomotive having boiler shell 10, cab 11, motor 12, spur gearing 13, worm gearing 14, driving wheels 15 and current collector shoes 16.

The headlight lens of a locomotive is indicated at 20, a smoke stack at 21. The lamp socket 22 is directly underneath the smoke stack 21 and the lamp 23 has its filament 24 opposite the center of the headlight lens 20. The upper surface of the lamp is depressed, as indicated at 25, so that a pellet or charge of smoke producing material 26 may be supported by the lamp. Various forms of material may be used for this purpose such, for example, as pellets containing as a principal component ammonium chloride or ammonium nitrate. Such compounds may be volatilized by the heat from the lamp.

In order that the smoke produced may be emitted in puffs to simulate the puffing of the locomotive, the locomotive is provided with a cam 27 on one of the driving wheels adapted to operate a circuit closer 28 connected to one of the collector shoes and to a solenoid coil 29. The armature 30 is loose in the coil, and, when the coil is energized, the armature is moved so as to force a blast of air through a tube 31 whose open end is adjacent the top of the lamp, so that

2

a blast or gust of air is blown against the smoke producing material. This will cause a momentary acceleration of the emission of smoke and the smoke will pass up the stack producing a more pronounced manifestation of smoke than that which continues merely from the regular heating of the material by the lamp bulb. To facilitate lamp removal and placing the pellet in the depression, the portion of the boiler which supports the stack is made removable, as by hinging at 32. It carries a ring 33 which surrounds the top of the lamp, concentrates the blast of air and directs the smoke. If desired, the bulb may have a reflecting coating around its lower portion, as indicated at 34, so as to reflect heat up toward the smoke producing material. The smoke is illuminated by light rays escaping up through the stack, as indicated at 35.

It is apparent that, within the scope of the invention, modifications and different arrangements may be made other than is herein disclosed, and the present disclosure is illustrative merely, the invention comprehending all variations thereof within the scope of the claims.

What is claimed is:

1. A toy locomotive having a headlight including an incandescent lamp, a smoke stack directly above the lamp so that light rays may escape up the stack, and means for producing artificial smoke below the stack whereby the escaping smoke is illuminated by the headlight lamp.

2. A locomotive such as claimed in claim 1, wherein the smoke producing means includes the bulb of the lamp, the bulb having a recess to receive smoke producing material.

3. A locomotive such as claimed in claim 1, wherein the smoke producing means includes the bulb of the lamp, the bulb having a recess to receive smoke producing material, and having an intermittently operated pump for blowing a blast of air toward the smoke producing material.

4. A toy locomotive having a headlight and a smoke producing means wherein the same lamp bulb serves as a source of light for the headlight and as a source of heat for volatilizing smoke producing material.

5. A steam type toy electric locomotive having a boiler simulating portion, the upper front part of which is removable, a head light lens, and a lamp socket and head light lamp carried in the front part of the locomotive and accessible when said upper front part is removed.

6. A self-illuminated smoke producing toy comprising an incandescent lamp bulb serving as a source of light and heat and having an outwardly

3

opening receptacle, formed integral with the bulb to receive smoke producing material, said material being heated to produce smoke.

7. A self-illuminated smoke producing toy as claimed in claim 6, wherein said receptacle is directly above the filament.

8. The method of obtaining the illusion of

4

illuminated smoke which comprises submitting volatilizable, smoke producing material while in contact with the bulb of an incandescent lamp to heat the same from the filament of the lamp and intercepting light from the lamp filament by the smoke.

JOSEPH L. BONANNO.