May 17, 1932. C. R. JOHNSON ET AL 1,858,448

REMOVABLE HEADLIGHT FOR TOY LOCOMOTIVES

Original Filed Feb. 6, 1930 2 Sheets-Sheet 1

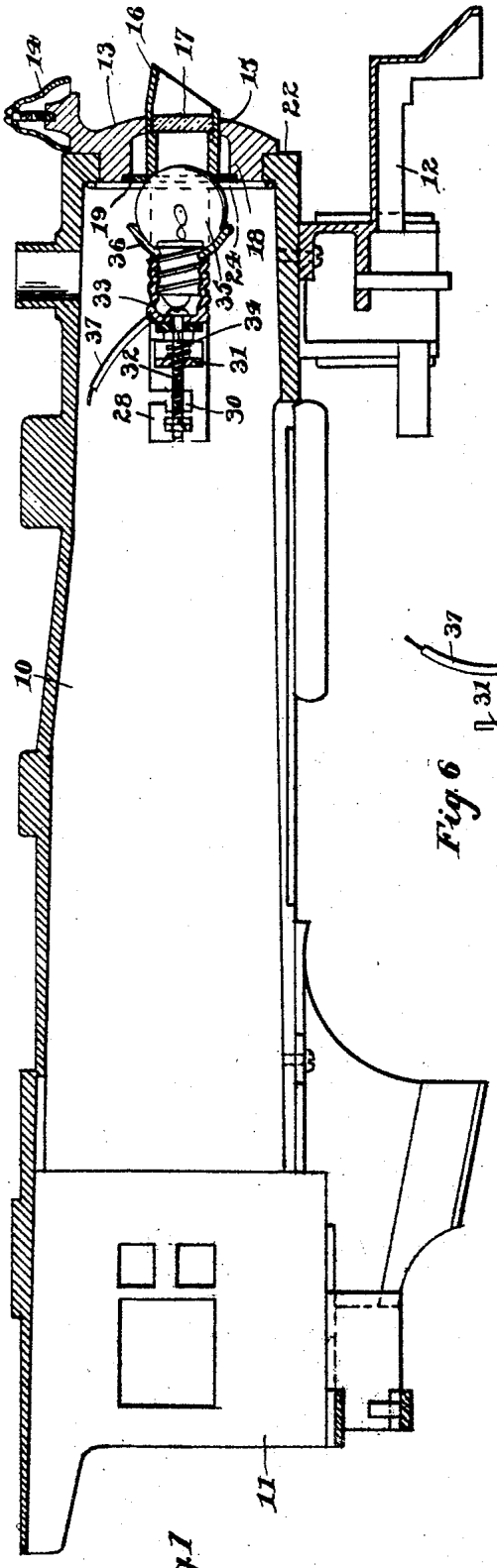

Fig. 1

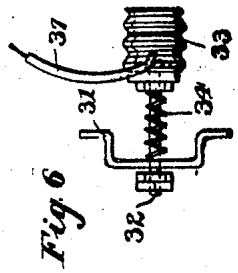

Fig. 6

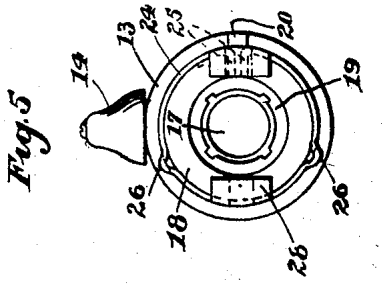

Fig. 5

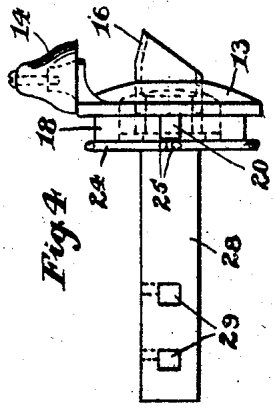

Fig. 4

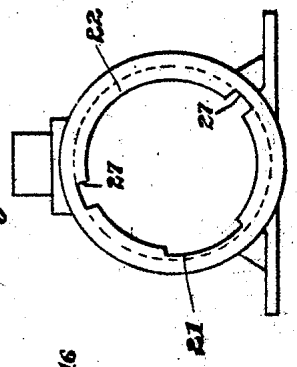

Fig. 2

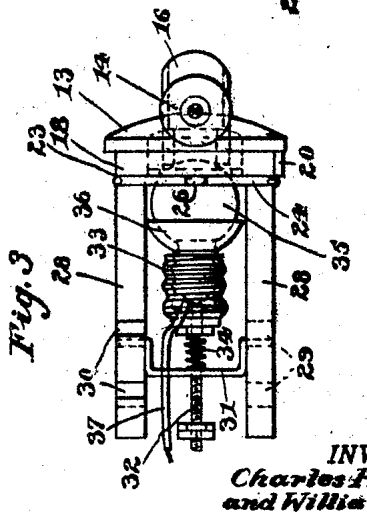

Fig. 3

INVENTOR.
Charles R. Johnson
and William E. Thorn

BY

Chamberlain & Newman
ATTORNEYS.

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REMOVABLE HEADLIGHT FOR TOY LOCOMOTIVES

Original Filed Feb. 6, 1930 2 Sheets-Sheet 2

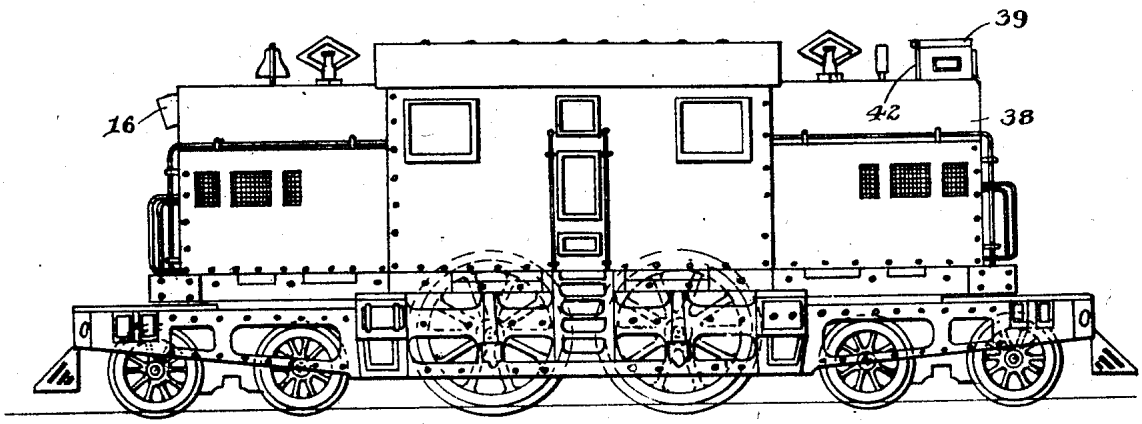


Fig. 7

Fig. 8

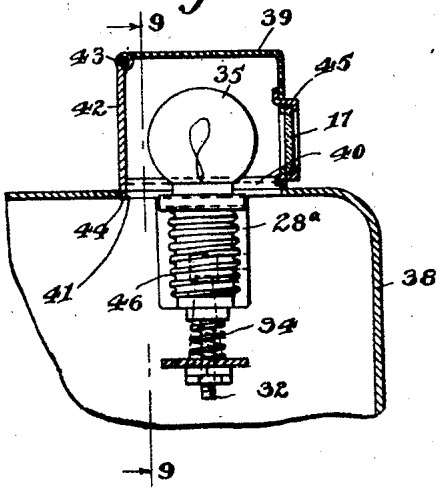


Fig. 9

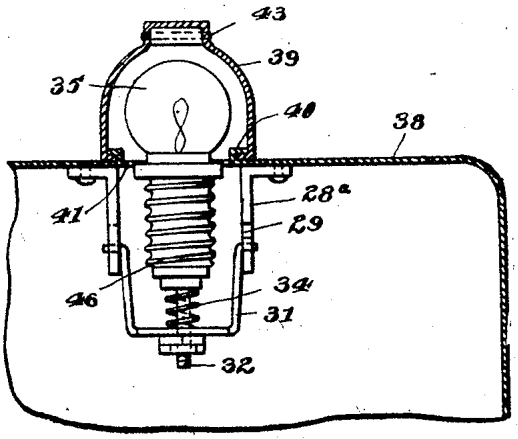


Fig. 10

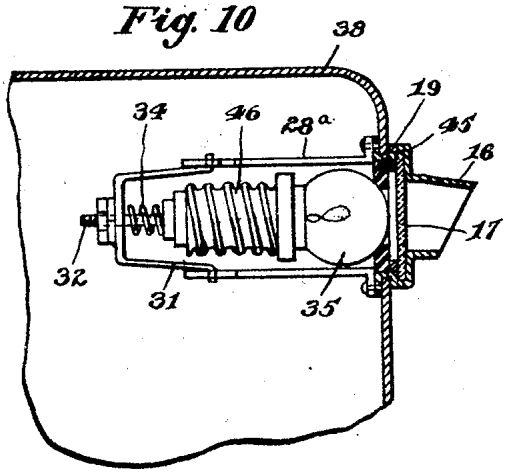
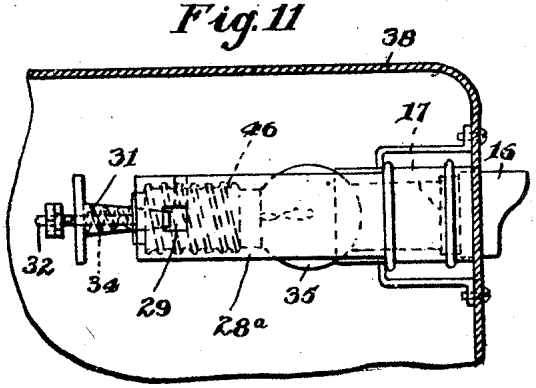


Fig. 11



INVENTOR.
Charles R. Johnson
and William E. Thorn

BY

Chamberlain & Newman

ATTORNEYS.

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UNITED STATES PATENT OFFICE

CHARLES R. JOHNSON, OF FAIRFIELD, AND WILLIAM E. THORN, OF BRIDGEPORT, CONNECTICUT, ASSIGNORS TO THE IVES CORPORATION, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT

REMOVABLE HEADLIGHT FOR TOY LOCOMOTIVES

Application filed February 6, 1930, Serial No. 426,329. Renewed January 14, 1932.

This invention relates to new and useful improvements in toys and has particular relation to headlights for toy locomotives.

An object of the invention is to provide a toy locomotive headlight which is protected against casual breakage and which is readily accessible for renewal or repair.

Another object is to provide a toy locomotive having a light source arranged within its boiler and directing light through a lens arranged in the boiler head.

A further object is to provide a toy locomotive including a removable boiler head carrying means to support a light within the boiler, a lens being fitted in an opening in the boiler and the light rays being directed toward said lens.

An additional object is to provide a toy locomotive with a headlight including means whereby the light bulb may be readily renewed or replaced by a bulb of different size and which further includes means to prevent rattling of the headlight mechanism.

Other objects and advantages will become readily apparent from a consideration of the following detailed description taken in connection with the accompanying drawings wherein is shown a satisfactory embodiment of the invention.

It is to be understood that the description and drawings are by way of illustration only and since changes in the construction, combination and arrangement of parts will readily suggest themselves to those skilled in the art, reference must be had to the annexed claims for a definition of the limitation of the invention.

In the drawings:—

Fig. 1 is a sectional view through the boiler and cab of a toy locomotive showing the mounting of the headlight;

Fig. 2 is a front elevation of the boiler, the head being removed;

Fig. 3 is a top plan view of the headlight and boiler head removed from the boiler;

Fig. 4 is a side view of the head, removed;

Fig. 5 is a rear view of the head, removed;

Fig. 6 is a plan view of the light socket and associated parts removed.

Fig. 7 shows a side elevation of an electric type of toy locomotive having two forms of my novel headlight applying thereto;

Fig. 8 is an enlarged vertical, sectional view of the headlight shown at the right end of the locomotive Fig. 7;

Fig. 9 shows a further vertical cross section taken on line 9—9 of Fig. 8;

Fig. 10 is a vertical cross section through the form of headlight shown at the left end of the locomotive illustrated in Fig. 7 and

Fig. 11 shows a sectional elevation of a further slight modification of the application of the invention.

Referring in detail to the drawings, at 10 is shown a cast metal locomotive boiler integral with a cab 11 and having attached a cowcatcher 12. Boiler includes a removable head 13 carrying a bell 14 adapted to be aligned with a smoke stack, steam chest and other features usually found on locomotive boilers.

The head 13 is provided with a central opening 15 in which is fitted a tubular visor 16 mounting light transmitting window-forming member such as a lens 17 through which light from a lamp or bulb is transmitted onto the track ahead of the locomotive. Head 13 includes a rearwardly extending cylindrical portion 18 carrying a disc 19 of leather or the like, the disc being provided with an annular seat against which a lamp bulb is positioned and held as will be later more fully described.

As is clearly shown in Fig. 1, head 13 fits into an opening in the front end of the boiler. A stop lug 20 carried by the head is adapted to enter the recess 21 formed in an annular flange 22 at the end of the boiler to lock the head in place. The cylindrical extension 18 of the head is provided with a recess 23 in which is positioned a spring 24 having its ends 25 bent at right angles and extending into radial openings formed in the extension 18 to receive said ends.

Spring 24 includes two small spaced apart loops 26 adapted to enter notches 27—27 in the flange 22 after which the head is given a partial turn to have the loops engage the back of the flange as shown in Fig. 1 to secure the head in place. Mounted on or integral

with head 13 is a pair of parallel inwardly or rearwardly directed legs 28—28, one of which is provided with holes 29, while the other is provided with sockets 30 for a purpose to be described.

The holes 29 and 30 respectively are adapted to receive an attachable guide bar 31 supporting a threaded stem 32 carrying at one end a lamp socket 33. A spring 34 serves to hold the stem and socket in forward position relative to the bar 31, the spring bearing at its respective ends against the bar and the socket.

In use, the socket receives a lamp or bulb 35, which is held against the annular seat of disc 19 by the action of spring 34. Due to this arrangement the bulb is held directly in the rear of the window-forming member or lens 17 and the spring, urging the parts into position, prevents rattling. A reflector 36 in the rear of the lamp 35 directs the light forwardly through the opening in disc 19 to the lens 17.

The electric type of locomotive shown in Fig. 7 differs principally from the steam type of locomotive shown in Fig. 1 in design, and in that its superstructure 38 is formed of sheet metal rather than cast metal. The application of the invention to this locomotive is, therefore, necessarily somewhat different being applied to the sheet metal shell 38 referred to, and are located in the upper, opposite end portions, either on the top of the shell as shown in Figs. 7, 8, and 9 or in the end of the shell as shown in Figs. 7, 10, and 11.

The structure shown in Figs. 7, 8 and 9 includes a detachable housing 39 which is slidably mounted in ways 40 formed on the top side of the shell along opposite edge portions of an opening 41. The back end 42 of the housing is hinged as at 43 to the main housing and has its depending end portions 44 adapted to snap into the opening 41, in the assembling of the parts so as to hold them in position. The forward end portion of the housing is provided with a frame 45 in which the lens 17 is mounted. The lamp 35 is positioned in the housing immediately in the rear of the lens and, like the lamp shown in the other drawings, is detachably supported in a socket 46 in substantially the same manner as is the socket shown in the application of the invention to the steam type of locomotive, sheet 1. The attachable guide bar 31 which yieldably supports the lamp socket in this instance is of slightly different proportions and is carried by separate brackets 28^a having holes 29 to receive the ends of the guide bar, said brackets being secured to the shell of the locomotive in any suitable manner.

In the form of the invention shown in Figs. 10 and 11 we employ a flexible disk 19 against which the lamp bulb is yieldably held, said disk and the lens being thus supported in the frame 45 in spaced relation to each other. The tubular visor 16 may be formed as a part of the frame and is positioned forward of the lens and in alignment with the lamp bulb located upon the inside.

The structure shown in Fig. 11 is more like that shown in Fig. 1, wherein a longer tubular visor 16 is employed, the rubber disk being positioned against one end portion of the visor for the support of the lamp and lens located within and adjacent to each other.

The circuit to the lamp socket 33 is from any suitable or usual source of supply for toy locomotives, through wire 37 and the frame of the locomotive. It is to be noted that the holes and sockets 29 and 30 are so arranged that one hole and one socket form a pair. Owing to this arrangement the guide bar 31 may be moved to different positions along the legs 28 in order that various sized lamps or bulbs may be used in the socket 33.

It will now be apparent that the present headlight mechanism is such that it is well protected against accident and is in addition held against rattling. Further, it will be noted that by giving the head 13 a partial rotation it may be removed from the boiler carrying the headlight mechanism with it and exposing all the parts for inspection and any needed replacement or repair.

Having thus described the invention, what is claimed is:—

1. A toy locomotive including a boiler, a removable head closing the forward end of said boiler, and a headlight mounted on and removable with said boiler head.

2. In combination, a toy locomotive including a boiler having a removable head at its forward end, said head having an opening, a light transmitting window-forming member for said opening, and a lamp arranged within the boiler in position to direct rays of light through said opening.

3. In combination, a toy locomotive including a boiler having a removable head at its forward end, said head having an opening, a light transmitting window-forming member for said opening, a lamp arranged within the boiler in position to direct rays of light through said opening, and means on said head supporting said lamp.

4. A toy locomotive including a boiler having a removable head, said head having an opening, a light transmitting window-forming member for said opening, supporting means carried by said head and arranged within the locomotive, and a lamp on said supporting means in position to direct rays of light through said opening.

5. A toy locomotive including a boiler, a removable head thereupon having an opening, a light transmitting window-forming member for said opening, supporting means carried by said head and arranged within the boiler, means mounting a lamp on said sup-

porting means in a position to direct rays of light through said opening, and means whereby said last means is adjustable on said supporting means to accommodate lamp bulbs of various sizes.

6. A toy locomotive including a boiler having a removable head provided with an opening, a light transmitting window-forming member for said opening, supporting means carried by said head within the boiler, a guide bar adjustable on said supporting means, a stem extending through said guide bar, a lamp socket carried by said stem, a lamp in said socket, a seat for said bulb carried by said head in the rear of said opening, and a spring arranged between said guide bar and lamp socket and acting to maintain the bulb on said seat.

7. A toy locomotive including a boiler having a head provided with an opening, a lens in said opening, and a lamp within said boiler and directly in the rear of the lens and arranged to direct light rays toward said lens.

8. A toy locomotive including a boiler having a removable head provided with a perforation and a lens in said perforation, supporting means within the boiler in position to support a lamp in the rear of said lens, and a lamp supported by said supporting means.

9. The combination with a boiler of a toy locomotive having a removable head provided with an opening, a light transmitting window-forming member for said opening, supporting means carried by the head and arranged within the boiler, a lamp including a bulb carried by said supporting means within the boiler, a seat for said bulb carried by the head in the rear of the opening, and a spring normally acting to maintain the bulb against its seat.

10. In a toy locomotive headlight, a locomotive body having an opening therein, a tubular visor projected therefrom, a light transmitting window-forming member mounted in the visor, lamp supporting means, a guide bar on said supporting means, a lamp socket carried by the guide bar, a lamp positioned in the socket and disposed adjacent the opening, and means intermediate the lamp bulb and visor for cushioning the bulb.

11. In a toy locomotive headlight, a locomotive body having an opening therein, a tubular visor projected therefrom, a light transmitting window-forming member mounted in the visor, lamp supporting means, a guide bar on said supporting means, a lamp socket carried by the guide bar, a lamp positioned in the socket and disposed adjacent the opening, a means intermediate the lamp bulb and visor for cushioning the bulb, and spring means for holding the bulb against said cushioning means.

12. The combination with a boiler of a toy locomotive having an opening, a light transmitting window-forming member for said opening, supporting means within the boiler, a lamp including a bulb carried by said supporting means, a seat for said bulb arranged in the rear of the opening, and a spring normally acting to maintain the bulb against its seat.

13. In a toy locomotive, a locomotive body having a boiler simulating portion open at the front, a lamp socket concealed in the locomotive body, a lamp bulb carried in the socket and disposed behind the open front, and a closure member for the front of the body, the closure member being apertured to permit light from the bulb to pass through to simulate a locomotive headlight.

Signed at Bridgeport, in the county of Fairfield and State of Connecticut, this 31st day of January, A. D. 1930.

CHARLES R. JOHNSON.
WILLIAM E. THORN.