

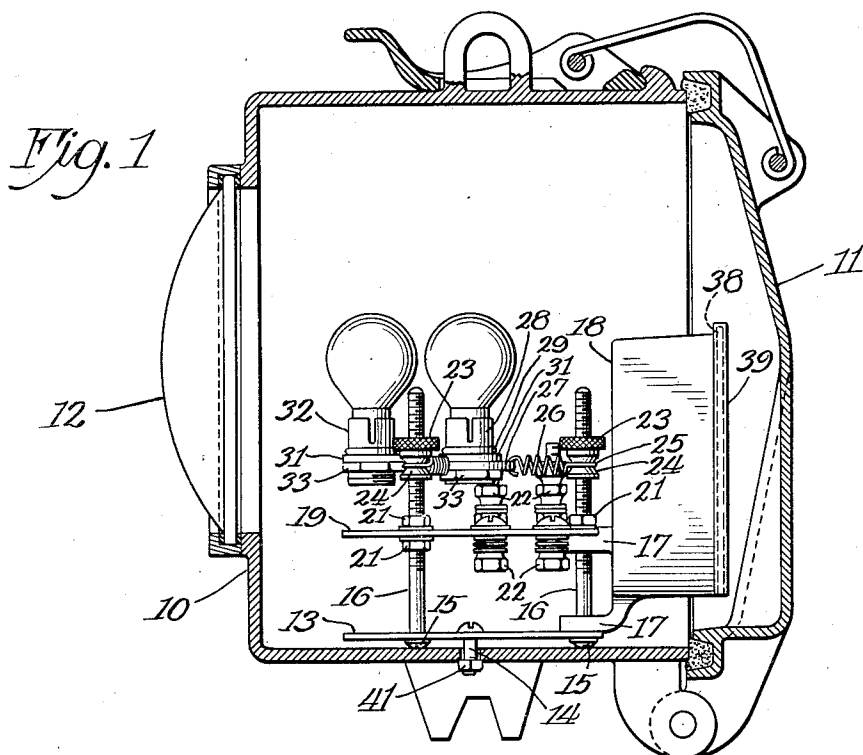
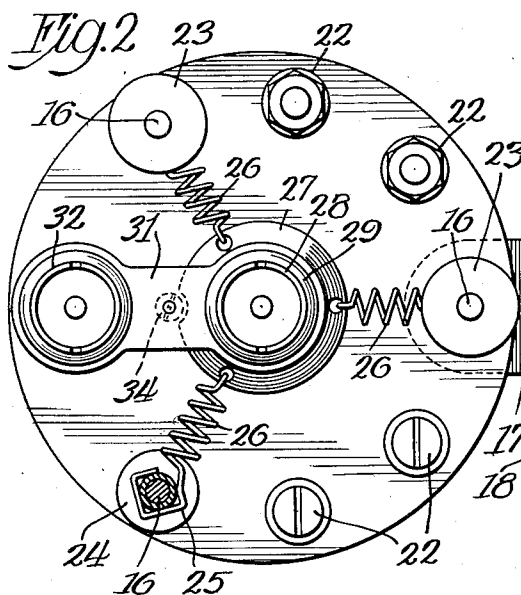
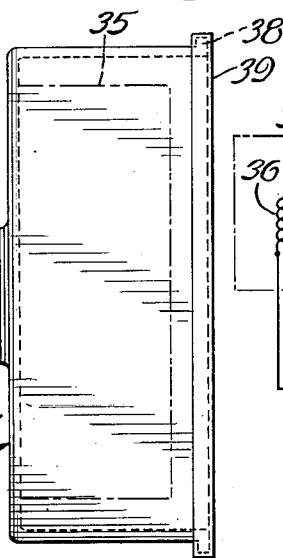
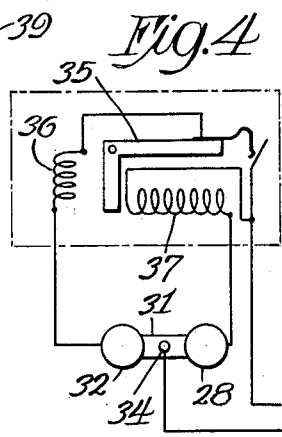
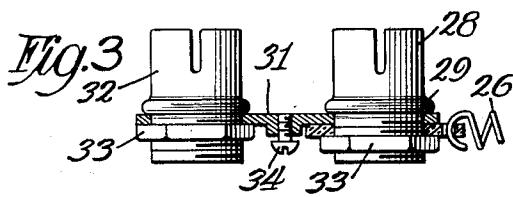
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2,009,504

ILLUMINATING UNIT FOR RAILWAY SIGNALS

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ILLUMINATING UNIT FOR RAILWAY SIGNALS

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1 Claim. (Cl. 177—329)

This invention relates to railway signals and has for its objects to furnish a resilient support for both the signal and the emergency lamp; to provide a convenient terminal board; to support a relay adapted to connect the emergency lamp; and to combine these elements in a single rugged unit which may be inserted in or removed from a standard railway signal casing with a minimum of labor and with no danger that the parts will be out of line, or the lamps out of focus.

These and other objects and advantages will become apparent from the following description when read in conjunction with the accompanying drawing, in which

Fig. 1 is a vertical section through a standard railway signal casing showing, however, the lens and the illuminating unit in elevation;

Fig. 2 is a top plan view of the unit;

Fig. 3 is a detail showing the method of suspending the lamp sockets; and

Fig. 4 is a schematic wiring diagram of the device.

The casing, generally indicated by 10, has its rear end closed by the door 11 and bears a lens or roundel 12 affixed in the opposite wall. A further description is not thought necessary since the casing is now well known.

When the casing is applied to dwarf signals, the signal is often subjected to severe and sudden shocks. The apparatus is very close to and often directly connected to the track. The small available space within the casing and the cramped or squat locations in which they are often placed makes it desirable that the illuminating apparatus should be detachable as a unit and cleaned, adjusted and inspected outside of the casing itself. Furthermore, the very sharp shocks which are imparted to dwarf signals make it desirable that an emergency lamp be placed alongside the main signal lamp and be held in readiness to light upon the failure of the signal lamp.

Emergency lamps have heretofore been attached rigidly to the signal casing and consequently have been subject to all of the shocks imparted to the casing itself. The result has been that the filament of the emergency lamp may be broken before the signal lamp burns out.

The illuminating unit comprises a base plate 13 which is attached to the signal casing by means of the bolt 14. Rising from the plate and attached thereto by the screws 15, or by any other suitable means, are three threaded rods 16. Bored ears 17, integral with the relay housing 18 are slid over one of the rods and a plate 19 of insulating or other suitable material is fitted

down over all three and held in place by the nuts 21. This forms a rugged terminal strip to which are attached the standard American Railway Association binding posts 22. A thumb nut 23 is fitted upon each rod and has a constricted shank portion 24 which is engaged by the squared end loop 25 of a spring 26. The other end of the spring is hooked through a disk 27 of insulating material which is thus freely suspended between the posts. A lamp socket 28 fits through the disk 27 and a collar 29 thereon bears against the emergency lamp support 31. The support is bored to receive an emergency lamp socket 32 and both sockets are held in place by the nuts 33, 33. The support 31 electrically connects the shells of both sockets and the flexible common lead thereto is connected at the point 34.

For clarity in illustration, in Figs. 1, 2 and 3, the wires have not been shown, but their location and arrangement is indicated by Fig. 4. A relay 35 of a conventional type is mounted in the housing 18. Preferably, between it and the emergency lamp is inserted an impedance coil 36 which is more particularly set forth in a companion application. The function of the impedance coil is to equalize the voltage applied to the emergency lamp with that applied to the main lamp in the circuit of which the relay coil 37 is included. If desired, the housing 18 may be provided with a bead 38 over which a pressed metal cover 39 may be slid which gives further protection to the relay 35.

While it is preferred to employ a relay of the type above mentioned, it is understood, however, that any suitable relay may be employed such for example as the relay disclosed in the Laney et al. Patent No. 755,890, issued in 1904.

The long vertical adjustment which is possible on any thumb nut supplies practically a universal movement to the central lamp and by it the signal lamp may be set exactly in the focus of the lens 12. It is not desired that the emergency lamp should occupy the focus since a drop in the brilliancy of the signal is the tell-tale which indicates that the main lamp has failed. Accordingly, the emergency lamp is located ahead of the focus, but in the axis of the lens. It is to be particularly noticed that it is necessary only to remove three nuts to free the illuminating unit entirely from the casing, viz. the nut 41 on the bolt 14 which holds the entire assembly to the casing, and the nuts 22, 22, which hold the power leads to the terminal board.

The emergency lamp has the same measure of protection against shocks as does the main sig-

nal, and since the relay is opened by current and closed by gravity drop, the particular fixed position of the relay casing assures its operation at all times.

5 What I claim, therefore, is:

In an illuminating unit, comprising a pair of lamp bulbs for alternative use and means for controlling the relative action of such bulbs, in

combination, a base plate, means for removably securing the plate within a casing, upright posts secured to the plate, means for mounting the lamps on the posts, and a housing for inclosing the first-mentioned means fixed to one of the posts. 5

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