Nov. 12, 1946. E. L. KISER 2,411,095

RAILWAY SIGNAL DEVICE

Filed June 24, 1944

FIG. 1.

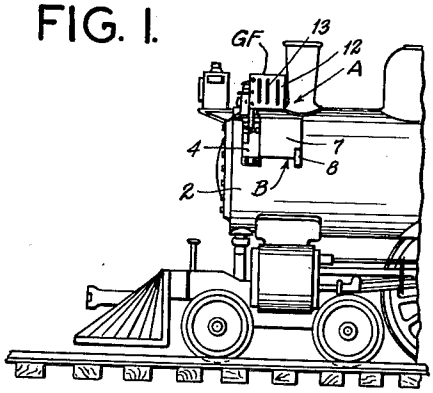


FIG. 2.

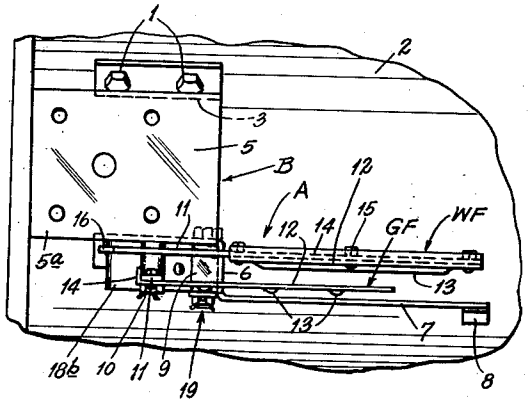


FIG. 5.

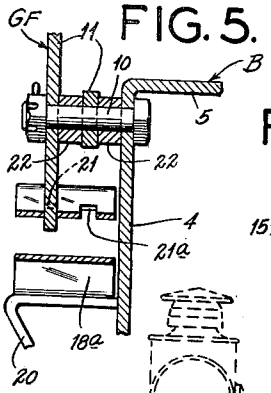


FIG. 4.

FIG. 3.

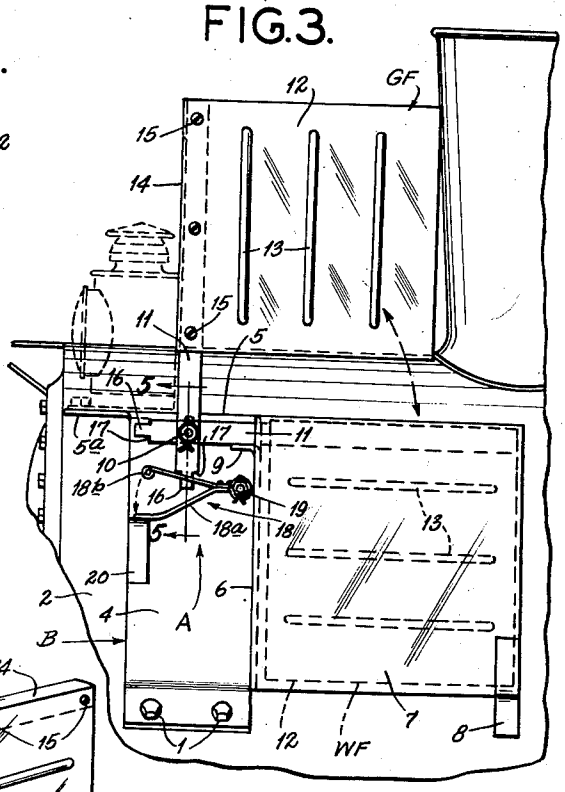
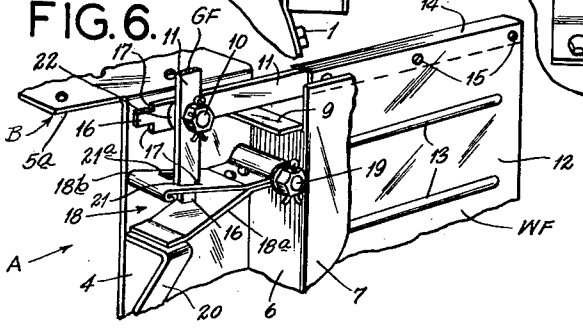


FIG. 6.



INVENTOR:
EDWARD L. KISER,
BY George J. Mogel
ATTORNEY.

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RAILWAY SIGNAL DEVICE

Edward L. Kiser, St. Louis, Mo., assignor of one-fourth to Howard L. Kiser, one-fourth to Archie E. Kiser, and one-fourth to William E. Kiser

Application June 24, 1944, Serial No. 541,378

5 Claims. (Cl. 116—175)

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This invention relates to a novel device for displaying appropriate signals on the locomotive of a train.

At present, the signals or flags employed on locomotives have numerous inherent disadvantages. The flag-staff is wooden and breaks easily. The flag proper is of cloth and shreds or disintegrates quickly under adverse or even favorable weather conditions. Unusually violent air currents occasionally dislodge the flag from its socket; rain and similar unfavorable weather conditions play havoc with its proper functioning. Frequently soot and grime adhering to the surface thereof obliterate, to some extent at least, the color of the flag.

The primary object of my invention is to overcome these defects by providing a simple, easily mountable signal device, requiring no deviation in present locomotive construction. In other words, the device of my conception is readily adaptable to locomotives in use at the present time.

More specifically, it is an object of my invention to provide a sturdy, simply constructed and operated device which will meet all the requirements of the railway signal code, which will function effectively under all weather conditions, and which will obviate the loss of, removal of, and replacement of flags.

Another object of the invention is the provision of a relatively inflexible flag, which in use simulates the fluttering cloth flag presently employed, which may be cleansed by washing should soot and grime be found adhering to its surface, and which may be repainted occasionally should its color fade or become dull.

A further object of the invention is the provision of means whereby a selected signal may be displayed, and means whereby a selected signal may be hidden from view.

Other objects and features of the invention will be apparent or pointed out in the followed detailed description.

In the drawing which illustrates a preferred embodiment of the invention,

Fig. 1 is a side elevational view of my device mounted in proper position on a railway locomotive;

Fig. 2 is a plan view thereof on an enlarged scale;

Fig. 3 is a view similar to Fig. 1 but on an enlarged scale to more clearly present details of construction;

Fig. 4 is a front elevational view of the device;

Fig. 5 is a vertical sectional view on an enlarged scale, being taken on line 5—5 in Fig. 3;

Fig. 6 is a fragmentary perspective view of the device per se.

As shown to best advantage in Fig. 4, the device, generally indicated A, includes a suitably contoured supporting bracket B, rigidly secured by

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bolts 1 as shown, or by welding, to the smokebox 2 of the locomotive, the locale of the device corresponding to that of present day signals. It is here noted, that an identical signal device is mounted correspondingly on the opposite side of the locomotive though not illustrated in the drawing.

Preferably, the supporting bracket B is generally of inverted channel-shaped cross-section, and includes a relatively short vertical side portion 3, a relatively long side portion 4, and a horizontal web portion 5, which may have an integral forwardly extending shelf portion 5a, to provide a base for mounting a night signal lamp indicated in broken lines, Figs. 3 and 4.

As best seen in Figs. 2 and 6, the side wall portion 4 of bracket B is offset as at 6 and then continues rearwardly as at 7 for a reason to be explained hereinafter. A suitable bracket 8, welded or otherwise secured to the smokebox 2 and to said portion 7 may be employed to minimize vibration. An integral horizontal forwardly extending ledge 9, is formed in the wall 6 at its upper end as shown.

At least two signals, hereinafter referred to as flags, are pivotally mounted and supported on the wall 4 as indicated at 10. In accordance with the present railway signal code, one of these flags, indicated generally by the symbol GF is green; the other, designated WF, is white.

Both flags are of identical construction and relatively inflexible weather proof material. Each includes a staff 11, apertured to accommodate the pivot 10, and an ensign or flag proper 12, provided with at least one or more laterally protruding vertical ribs or corrugations 13. Preferably, said rib or ribs are elongated to extend at least across the major portion of the member 12. Obviously they may extend from the upper to the lower margin of the flag if desired.

The forward or leading edge 14 of each flag is offset at right angles to the body portion 12 thereof as best shown in Figs. 2 and 4, said offset flange extending across and terminating inwardly beyond the inner margin of the staff. Suitable means, such as nut and bolt assemblies 15, may be employed to unify the staff and flag.

An inspection of Figs. 3 and 6 reveals that the lower extremity of each staff 11 is reduced in width to provide a depending extension 16 and a pair of shoulders or abutments 17 for cooperation with a compound leaf spring assembly 18 pivotally supported as shown at 19 on the bracket S. The lower spring member 18a of the assembly bears against an abutment 20, welded or otherwise secured to the bracket wall 4. The upper spring member 18b is provided with a pair of spaced slots 21, 21a, of a size to accommodate the reduced extensions 16 of the spaced flag-staffs 11.

It is here noted that, as clearly shown in Fig.

5, the staffs 11 are maintained in spaced relationship with one another and with wall 4 by a pair of collars 22 mounted on the pivot pin 10.

The device operates in the following manner. Assuming that a train is to proceed under the green flag, then the various elements of the device occupy the positions illustrated. The green flag GF is on display, while the white flag WF is hidden from view behind the offset portion or blind 7 of bracket wall 4. The green flag is maintained in display position by leaf spring member 18b, which bears against the shoulders 17 of green staff 11, the reduced extension 16 of the latter being encompassed by the slot 21 in said spring member.

However, since the major portion of the flag is unfettered though relatively inflexible, a slight lateral undulation thereof is had as the locomotive proceeds. The laterally protruding ribs 16 thus present to the eyes of one who observes the approaching locomotive, a simulation of the fluttering cloth flag now in use. In this connection, it is pointed out that the flange 14, being of greater width than the staff 11, also enhances the visibility of the on-coming flag.

The white flag WF, at this time, its staff 11 in horizontal position and resting on the ledge 9, is hidden from view as indicated by broken lines in Fig. 3.

Assuming now that a white flag run is scheduled, an attendant (usually the fireman of the locomotive) manually depresses the leaf spring member 18b, positions the green flag GF behind the blind 7 with its staff resting on the ledge 9, and then elevates the white flag WF until it occupies a position analogous to that previously occupied by the green flag, slot 21a being now employed.

Assuming that a run without signals is scheduled, both flags are lowered into position behind the shield 7, and are thus hidden from view.

Although the preferred embodiment of the invention is illustrated and described herein, it is understood that modified structural changes may be had within the scope of the invention as claimed.

I claim:

1. A railway signal device including at least two signal members, each comprising a rigid staff and a relatively inflexible flag portion fixed thereto, each of said staffs being apertured for pivotal mounting on the device and provided with a depending reduced extension at one end, each of said flag portions having formed therein laterally protruding elongated ribs which extend at least across the major portion of its surface, and each of said flag portions having formed thereon an offset lateral flange which extends across and slightly beyond the leading edge of said staff, and a compound leaf spring member mounted on said bracket the upper component of which is provided with a pair of spaced slots each adapted to encompass the depending reduced extension of the staff with which it cooperates, when said staff is in vertical position.

2. In a railway signal device adapted for mounting on a locomotive, a supporting bracket, at least two signal members pivotally mounted on the bracket, each signal member including a rigid staff with a reduced depending extension thereon and a relatively inflexible flag portion fixed thereto, said flag portion having formed therein a plurality of laterally protruding elongated ribs extending across the major portion of its surface, a leaf spring assembly mounted on the bracket and provided with means adapted in cooperation with said reduced extension to maintain the staff of a selected signal member in vertical position, said means comprising spaced slots formed in the upper leaf of said spring assembly in alinement with said staffs, whereby the reduced portion of a selected staff is adapted to enter the slot in alinement therewith and be releasably maintained in display position thereby, a ledge on the bracket adapted to support the staff of the other signal member in horizontal position, an offset shield portion on the bracket of a size adapted to completely conceal the horizontally positioned signal member, means secured to the bracket and to the shield to minimize vibration of the latter, and a suspended base on the bracket adapted for mounting a night signal lamp thereon.

3. In a railway signal device adapted for mounting on a locomotive by means of a bracket and including at least two spaced signal members each comprising a rigid pivotally mounted staff and a relatively inflexible flag portion secured thereto, a plurality of elongated laterally protruding ribs formed in each flag portion on one side thereof, and an integral flange portion constituting the leading edge extending beyond the opposite side thereof.

4. In a railway signal device adapted for mounting on a locomotive by means of a bracket and including at least two spaced signal members each comprising a rigid pivotally mounted staff and a relatively inflexible flag portion secured thereto, a plurality of elongated laterally protruding ribs formed in each flag portion on one side thereof, an integral flange portion constituting the leading edge extending beyond the opposite side thereof, an integral reduced depending extension forming the lower extremity of each staff when in display position, shoulders provided by said reduced depending extension, a compound leaf spring assembly pivotally mounted on the bracket including a first or lower component in engagement with a stationary abutment on said bracket, and a second or upper component provided with a pair of spaced slots in alinement with said staffs, each of a size to encompass said reduced extension of the staff in alinement therewith, the region of said upper component adjacent each of said slots being adapted to bear against said shoulders to releasably maintain a selected flag in signal position.

5. In a railway signal device including a supporting bracket, at least two spaced signal members each comprising a rigid staff pivotally mounted on the bracket and a relatively inflexible flag portion secured to the staff, means for releasably maintaining the signal members in display position, said means including a reduced depending extremity on each staff, a pair of shoulders formed on each staff adjacent the reduced depending extremity thereof, and a compound leaf spring assembly pivotally mounted on the bracket comprising a first or lower leaf in constant engagement with a stationary abutment on the bracket and a second or upper leaf in releasable engagement with the shoulders of a selected staff, said upper leaf being provided with a pair of spaced slots each in alinement with and of a size adapted to receive and encompass the reduced extremity of the staff with which the slot is aligned.

EDWARD L. KISER.