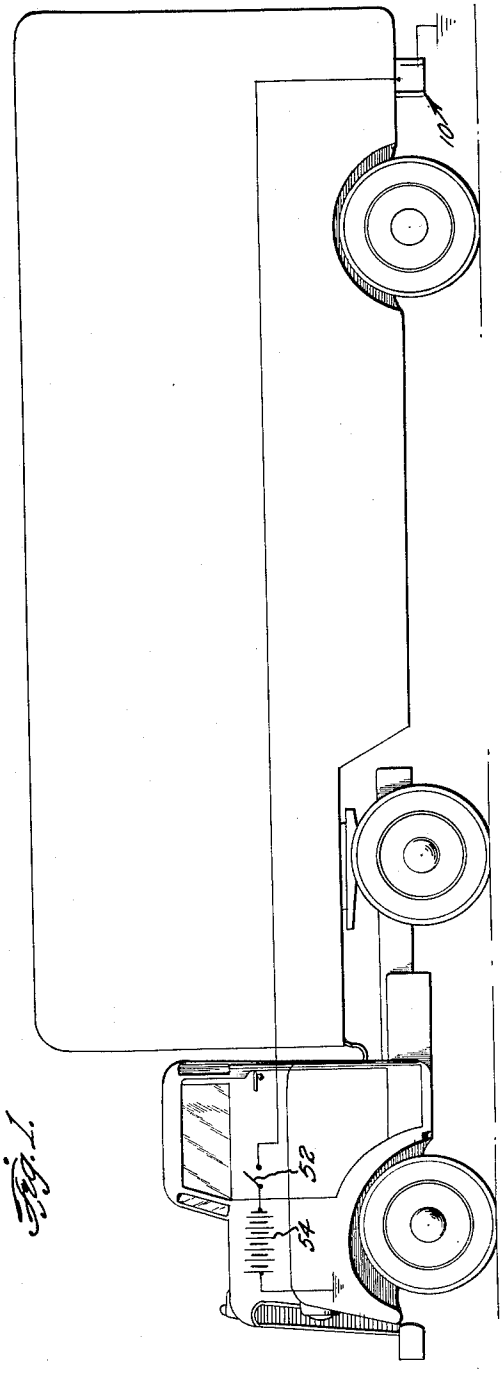
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FLARE IGNITING AND SUPPORTING DEVICE

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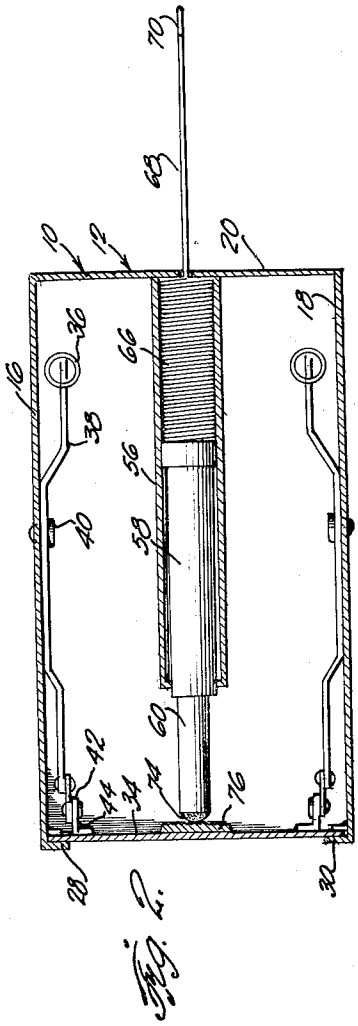


Fig. 2.

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Fig. 3.

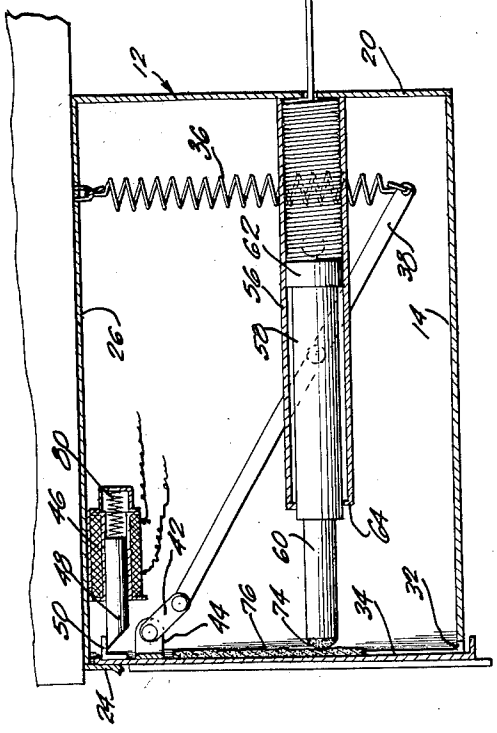


Fig. 4.

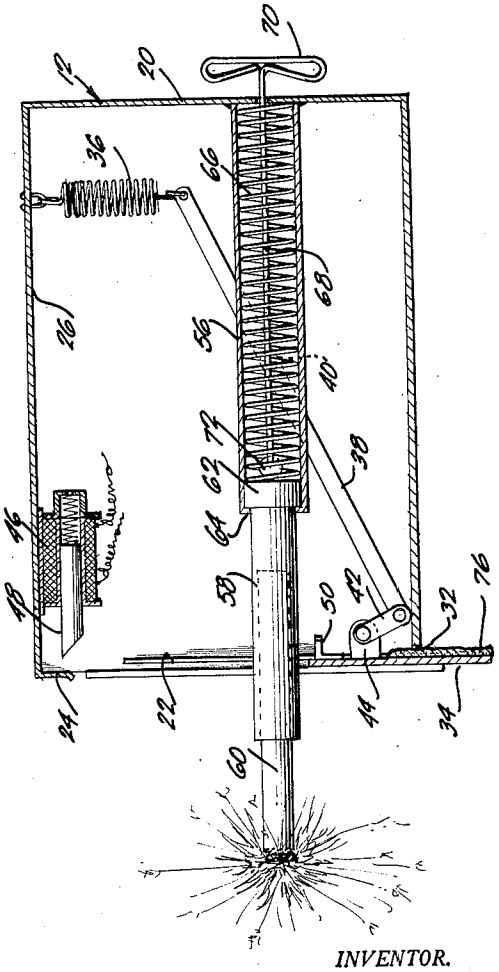
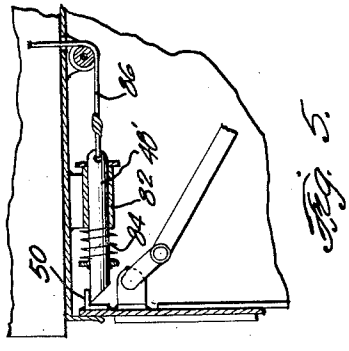


Fig. 5.



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FLARE IGNITING AND SUPPORTING DEVICE

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The present invention relates to a device for igniting and supporting a flare from the side of a truck or other vehicle.

An object of the present invention is to provide an instantaneously acting flare igniting and supporting device for attachment to a vehicle in such a way as to project and hold a lit flare out of the side or rear of the vehicle so that oncoming cars and trucks will be warned by the flare that an emergency has caused the truck or other vehicle carrying the flare device to become immobilized along the highway.

Another object of the present invention is to provide, in a flare igniting and supporting device, electrical means for operating the device.

A further object of the present invention is to provide in a flare igniting and supporting device manually operable means for setting the device into operation.

A further object of the present invention is to provide a flare igniting and supporting device which is with ease and facility attached to a truck body or other support, one which is simple in structure, one sturdy in construction and foolproof in operation, and one which is economically feasible.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawings, in which:

FIGURE 1 is a side elevational view of a truck showing the device of the present invention installed thereon, the wiring of the device being shown schematically,

FIGURE 2 is a view in section as seen from above the device, shown on a larger scale than in FIGURE 1,

FIGURE 3 is a view in section as seen from the side, showing the device in cocked condition,

FIGURE 4 is a view similar to FIGURE 3 showing the device in operating condition, and

FIGURE 5 is a fragmentary sectional view showing a modified form of the latch means of the device according to the present inevntion.

Referring to the drawings in detail in which like numerals indicate like parts throughout the several views, the device of the present invention is indicated generally by the numeral 10 and it consists in a housing 12 having a bottom 14, side walls 16 and 18, a back wall 20, and an open front end at 22. The housing 12 also includes a downwardly depending lip 24 formed integrally with the top 26, as shown most clearly in FIGURE 3.

The side walls 16 and 18 are provided on their forward ends with vertical flanges 28 and 30 which bound the open front 22 of the housing 12. The bottom, as shown in FIGURE 3, is provided with a slot 32 adjacent the forward end so that a door 34 normally held in the closed position by the flanges 28 and 30 and by the lip 24, may be slid downwardly through the slot 32 to the position shown in FIGURE 4.

Spring means is provided urging the door 34 from the normal position to the position out of closing relationship with the open front 22 of the housing 12. This spring means consists in a coil spring 36 having one end affixed to the top 26 and the other end affixed to one end of a lever 38. As shown in FIGURE 2 there are two such levers 38 and two springs 36 operatively connected to the levers 38. As they are identical they will be described with reference to the lever 38 adjacent the side wall 16 in FIGURE 2.

A rivet or other fastening means, as at 40 in FIGURE 2, pivotally connects the lever 38 to the side wall 16 for swinging movement about the rivet 40 as a horizontal axis.

The other end of the lever 38 is connected by a link 42 to a bracket 44 projecting from the door 34.

Releasable electrically operable latch means is provided for holding the door 34 in the closing position and this means consists in a solenoid coil 46 and a plunger 48 within the coil 46 and having an end portion releasably engaging a keeper 50 mounted on the door 34 adjacent the upper end of the latter. The coil 46 is electrically connected in circuit with a switch 52 and the battery 54 of the vehicle on which it is installed, as shown schematically in FIGURE 1.

A tubular support 56 is mounted upon the back wall 20 of the housing 12 and faces the open front 22. A holder 58 for a flare 60 is mounted in the support 56 for sliding movement toward and away from the open front 22 of the housing 12.

An end portion 62 of the holder 58 is enlarged and the support 56 is provided with an inwardly extending flange 64 of a size to engage the enlarged portion 62 of the holder 58 and to prevent the holder 58 from being totally ejected out of the support 56 but permitting its projection, as in FIGURE 4, to a position in which the flare 60 is outwardly of the side of the vehicle on which the housing 12 is mounted.

Spring means is provided biasing the holder 64 to the position in which the flare 60 is outwardly of the side of the vehicle. This spring means consists in a coil spring 66 within the tubular support 56 and having one end bearing against the holder portion 62 and having the other end bearing against the back 20 of the housing 12.

A rod 68 extends through the back 20 and is provided with a handle 70 on the adjacent end. The rod 68 has its other end connected by eye formations 72 to the holder 58 and the rod 68 is employed to hold the spring 66 compressed while the door 34 is shifted to the closed position after loading of a flare 60 into the holder 58.

The flare 60 is provided on its free end with an ignitable substance at 74 and the door 34 is provided with a scratching substance at 76 in FIGURE 2 which when pulled across the free end of the flare 60 ignites the substance 74 and sets the flare 60 into operation.

In use, the door 34 is shifted to the open position by releasing electrically the plunger 48 and permitting the ready access to the holder 58. A flare 60 is inserted into the holder 58 and the rod 68 is pulled so that the holder 58 is moved as far into the support 56 as possible. Next, the door 34 is moved to the closed position and a spring 80 biasing the plunger 48 holds the plunger 48 in the position engaging the keeper 50 and thus holding the door 34 in a closed position. Upon energization of the coil 46 the door 34 will be released and during its sliding movement to the open position the scratching substance 76 will ignite the substance 74 and the flare will come into operation as in FIGURE 4 exteriorly of the housing 12.

In the form of the invention shown in FIGURE 5, the solenoid 46 is eliminated and the plunger 48' is held in a bracket 82 with a spring 84 biasing the plunger 48' to the keeper engaging position. A cable 86 is employed to pull the plunger 48' to the release position, the other end of the cable being accessible to the operator of the vehicle.

While only preferred forms of the present invention are shown and described, other forms or embodiments are contemplated and numerous changes and modifications may be made in the invention without departing from the spirit thereof as set forth in the appended claims.

What is claimed is:

1. A flare igniting and supporting device comprising in combination a housing having one end open, a support within said housing and facing said housing open end, a holder for a flare slidably mounted in said support for movement toward and away from said housing open end, and spring means biasing said holder toward asid housing open end, a sliding door normally closing said housing open end and slide guide means cooperatively connected to said housing for facilitating sliding movement from the normal position to an open position out of closing relation in a transverse manner with respect to said housing open end, lock keeper means carried by said door, other spring means urging said door to the open position, and a releasable lock member connected to said housing and selectively engageable with said keeper means on said door for releasably holding said sliding door in the normal closed position.

2. A flare igniting and supporting device as defined in claim 1, including manually operable lever means for pre-loading said first recited spring means; and spring-operated lever means operably connected with said sliding door and housing for biasing said door to a sliding open movement transversely relative to said housing and flare support responsive to release of said lock member.

3. A flare igniting and supporting device comprising in combination a housing having one end open, a support within said housing and facing said housing open end, a holder for a flare slidably mounted in said support for movement toward and away from said housing open end, and spring means biasing said holder toward said housing open end, a sliding door disposed with its plane transversely of said flare holder and support to normally close said housing open end and slide guide means cooperatively connected to said housing for facilitating sliding movement from the normal position to an open position out of closing relation with respect to said housing open end, a lock keeper plate carried by and projecting transversely of the plane of said sliding door, other spring means urging said door to the open position, and a releasable lock member connected to said housing and selectively engageable with said keeper means on said door for releasably holding said sliding door in the normal closed position, the inner face of said door having friction means thereon adapted to slidably engage and ignite a pyrophoric flare when said door executes sliding movement and when said flare is mounted in said holder.

4. A flare igniting and supporting device as defined in claim 3, including manually retractable lever means for pre-loading the spring means biasing said holder toward said housing open end.

5. A flare igniting and supporting device as defined in claim 3, including spring-operated lever means operably connected to said door and housing for biasing sliding open movement of said door transversely relative to said housing and flare support responsive to release of said lock member.

6. A flare igniting and supporting device comprising in combination a housing having one end open, a support within said housing and facing said housing open end, a holder for a flare slidably mounted in said support for movement toward and away from said housing open end, and spring means biasing said holder toward said housing open end, a sliding door disposed with its plane transversely of said flare holder and support to normally close said housing open end and slide guide means cooperatively connected to said housing for facilitating sliding movement from the normal position to an open position out of closing relation with respect to said housing open end, a lock keeper plate carried by and projecting transversely of the plane of said sliding door, other spring means urging said door to the open position, and a releasable electrically operable lock connected to said housing, said lock including an electrical solenoid having a sliding armature lock member axially movable and engageable with said keeper means on said sliding door for releasably holding said sliding door in the normal closed position, the inner face of said door having friction means thereon operable to engage and ignite a pyrophoric flare when said door executes sliding movement and when said flare is mounted in said holder.

7. A flare igniting and supporting device as defined in claim 6, including manually operable lever means for pre-loading said spring means biasing said holder toward said housing open end.

8. A flare igniting and supporting device as defined in claim 6, including spring-operated lever means connected with said door and housing for biasing said door in a sliding open movement transversely relative to said housing and flare support responsive to release of said lock member.

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