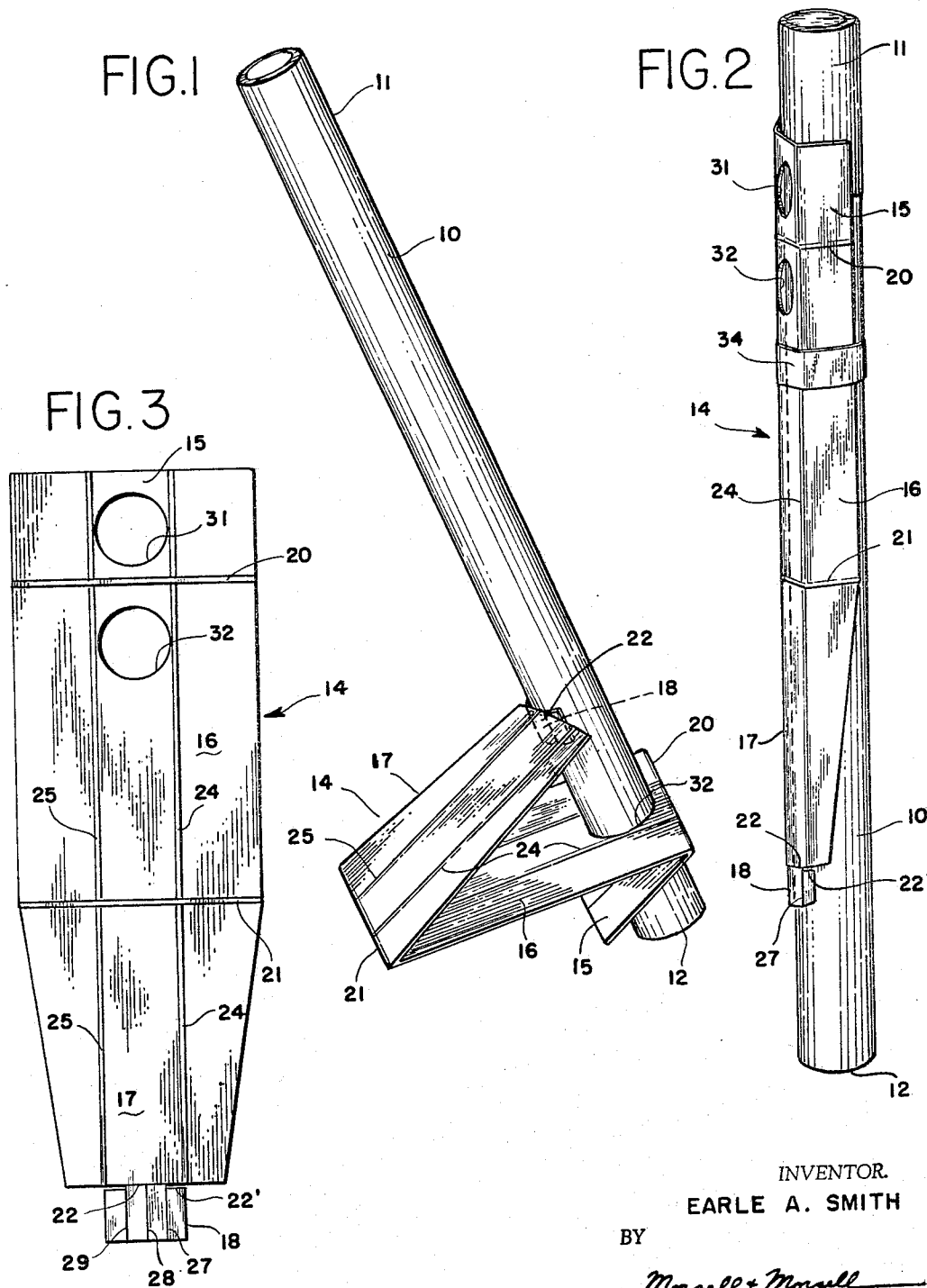


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SUPPORT FOR FUSEES
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SUPPORT FOR FUSEES

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This invention relates to an improved support for fusees, and more particularly to an integral fusee support which is simpler and less expensive in design, easier to assemble, and which is more stable than the devices heretofore used.

Warning flares, or so-called fusees, of the type herein concerned are used to alert approaching motorists of a stalled or parked vehicle on a highway, or other emergency, as well as by railway crews and others. Such fusees include an elongated tubular body, and many have a support or stand device attached thereto which is ordinarily carried in a collapsed condition folded against said body to permit the convenient storage of the unit, and which stand is adapted to be set up to support the fusee in a substantially upright position when it is desired to utilize the same as a signal torch. Unfortunately, the devices heretofore employed to support such flares are relatively complex and expensive in design, and many of said prior supports are difficult and time-consuming to assemble, which can be dangerous when a warning flare is required quickly for a highway emergency, and wherein the set-up time can be critical.

With the above considerations in mind, the principal objects of the present invention are to provide an improved fusee stand which is simpler and less expensive than prior supports, and which improved device can be more easily and quickly assembled than said prior units.

A further important object is to provide an improved fusee support characterized by continuous flat areas of substantial width, thus providing a more stable support than the devices heretofore used, and one which will not sink down in the snow, and which relatively large and sturdy supporting structure is better able to withstand the damaging affects of the elements.

A further object is to provide an improved fusee support which is so designed that the possibility of the lighted fusee being rolled off the highway by the wind is substantially eliminated, thus minimizing the possibility of said fusee starting a fire.

A further object of the present invention is to provide a novel and improved fusee support which is so designed that it will not obstruct the instructions or other printed material on the body of said fusee.

A still further object of the invention is to provide a novel and improved fusee stand which is adapted to support the fusee in a non-vertical position, thus permitting molten material and spatter to fall directly to the ground, rather than running down the body of said fusee and destroying said support.

With the above and other objects in view, which other objects and advantages will become apparent hereinafter, the invention comprises the improved fusee support described in the following specification and claims, and all equivalents thereof.

In the accompanying drawing, illustrating a preferred embodiment of the invention, and wherein the same reference numerals designate the same parts in all of the views:

FIG. 1 is a perspective view showing a fusee being supported in an operative position;

FIG. 2 is a perspective view showing the support device folded partially around and against the fusee body for compact storage or shipment; and

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FIG. 3 is a plan view of the blank from which the novel fusee support is formed.

With respect now more particularly to FIGS. 1 and 2 of the drawing, a conventional signal torch, or fusee, of the type herein concerned includes an elongated cylindrical body 10 of any desired length or diameter formed of paperboard or other consumable material, and which body is filled with a slow-burning combustible chemical substance, there being means for igniting said material in the upper end 11 of said body, as is well known in the art. In the use of such a warning signal device, if a trucker or motorist should become stalled on or adjacent a highway, or be involved in an accident, or is stopped in a highway right of way for any reason, one or more of said fusees are placed out in the road and ignited to warn approaching vehicles, and to thereby minimize the possibility of collision. Ordinarily it is desirable to arrange the fusees at an angle from the vertical so that the molten material emitted thereby will not run down the fusee body and prematurely destroy the flare-supporting stand, and it has also been found that said fusees burn much better when inclined somewhat. Such flares burn with a bright fluorescence which is readily visible for a considerable distance.

In the past, some fusees were provided with steel spikes in their lower ends which could be driven into the ground to maintain said fusees in an upright position, or they were provided with metal supporting stands. In addition to the fact that such supports were relatively expensive, however, it was not infrequent that a passing vehicle would run over the discarded fusee and puncture or severely damage its tires. As a result, the laws in some States now prohibit the use of fusees with metallic spikes or wire supporting devices. For this reason, a number of collapsible supports have been designed in recent years to permit the upright positioning of a fusee on the highway or ground without the use of metal spikes or the like, but, unfortunately, such supports are either relatively complex or expensive in design, or they are difficult and time-consuming to set up, which can be dangerous in the event of a highway emergency. It is with these shortcomings of such prior non-metallic fusee supports in mind that the present invention has been designed. As hereinabove mentioned, and as will become apparent in the following description, the present invention is not only simpler and less expensive than prior supports, but it can be more quickly assembled when it is necessary to use the fusee as a warning signal, as well as having several other important advantages, as will be seen.

In accordance with the present invention, and referring now more particularly to FIG. 3 of the drawing, the support 14 is formed of a blank of inexpensive, suitably stiff material having a degree of resiliency, such as paperboard or cardboard (although numerous other materials can also be utilized without departing from the invention), and said blank includes an end section 15, adjacent intermediate sections 16 and 17, and a relatively small end portion 18, said sections being defined by grooved or creased transverse fold lines 20, 21 and 22, respectively, formed therein. As is illustrated in FIG. 3, the intermediate section 17 is tapered toward the end 18, and the latter is of substantially less width than the blank proper.

Said blank 14 also includes a pair of spaced longitudinal grooved fold lines 24 and 25, and the small end section 18 is provided with a plurality of parallel fold lines 27, 28 and 29. With respect to the latter section, the aforementioned transverse line 22 defining said end member includes scored portions 22' extending inwardly from the outer edges thereof to the fold lines 27 and 29, thus permitting said end portion to be partially separated and de-

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flected relative to the blank to form a tab for the attachment of the support to a fusee body. Formed in the central portion of the blank end section 15 is an aperture 31, and formed in the adjacent section 16 an equal distance from the transverse crease line 20 separating said sections is an aperture 32, said apertures being of approximately the same diameter as the fusee body 10, and being designed to frictionally slidably receive the same when the blank is set up to support said fusee, as will be described.

In the manufacture and assembly of a fusee incorporating the novel support device comprising the invention, the end section or tab 18 is first bonded, stapled or otherwise permanently secured to the fusee body at a fixed point spaced above the lower end 12 of said fusee, and with the main portion of the blank extending thereabove. Due to the plural fold lines 27, 28 and 29 therein, said tab 18 can be readily arranged in a position partially surrounding said cylindrical fusee body, to provide maximum surface contact therebetween, but it is important that said tab does not completely surround the fusee and obscure the instructions and other printed material thereon, as do some prior fusee supports utilizing slidable collars, and the like.

With the tab 18 attached to the fusee as described, the main portion of the support blank is formed around said fusee by folding said blank along the aforementioned longitudinal crease lines 24 and 25. Thus the blank is arranged in a compact condition closely partially surrounding the fusee body, as shown in FIG. 2, and it may be removably secured in said position by any suitable retaining means, such as the illustrated tape 34. With the support 14 thus compactly arranged, a number of fusees can be packed in a relatively small space, for convenient and economical storage or shipment.

When it is desired to use the fusee, the motorist or police officer, or other user, first pulls the tape 34 or other retaining member off the fusee upper portion, and the support device is swung downwardly about the hinge line 22 connecting the same to the tab 18, said device being positioned with the intermediate section 17, hereinafter referred to as the brace member, extending downwardly and outwardly at an angle, as shown in FIG. 1, the resiliency of the blank material causing said support to flatten out, from its prior, longitudinally-folded condition. The intermediate section 16, hereinafter called the first leg, is then swung upwardly and inwardly beneath said brace about the hinge line 21, and the section 15, or second leg, is swung downwardly and outwardly on the hinge 20. When said brace and leg portions are thus arranged, the aforementioned apertures 31 and 32 in said legs are in substantial alignment with each other, and the lower end 12 of the fusee is then inserted into and through said apertures so that the support assumes the general position illustrated in FIG. 1. As hereinabove described, said apertures 31 and 32 are of a diameter to closely slidably surround the cylindrical fusee body 10, thus permitting said support device lower portion to be slidably adjusted on the fusee body as desired.

As appears in FIG. 1, when the fusee, together with the assembled support 14, is rested on the ground the interconnected brace and leg members 17 and 16 form a downwardly and outwardly directed element which engages the ground along the outer edge 21 thereof, thus cooperating with the fusee bottom 12, or the lower edge of the leg 15, to provide a stable support which is adapted to maintain said fusee in an inclined, generally upright position. As mentioned, it is desirable to mount the fusee at an angle from the vertical in order to promote the burning thereof, and also to allow the molten material to fall to the ground without running down the fusee body and onto the support, which can destroy said support before the flare has fulfilled its purpose. Due to the slidably-adjusted nature of the support leg members 15

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and 16 on the fusee lower end, said support can be readily shifted to obtain any desired fusee angle of inclination. Moreover, the natural resiliency of the blank material tends to bias said legs apart, thus urging the apertures 31 and 32 out of alignment and yieldably locking said support lower portion against inadvertent sliding movement on the fusee body once said legs have been set as desired.

In actual practice, it has been found that a trucker or other user can assemble the fusee support comprising the present invention in less than five seconds, thereby conserving valuable time in the event of an emergency. This is particularly important, of course, in case of a breakdown or accident at night on a busy highway.

The relatively wide, flat design of the present fusee-supporting device provides an unusually stable and rigid stand, thereby minimizing the possibility of said warning signal being upset by the wind, or by air currents created by passing vehicles. In addition, the continuous, wide, flat surfaces characterizing said stand permit the same to be rested on snow or the like without sinking down therein, unlike many conventional fusee supports. Another important advantage of the present structure is that because the upper, tab portion 18 of the assembled stand is permanently secured to the fusee body, and cannot shift or slip off of the same in the event the fusee should be tipped over, said support effectively prevents the wind from rolling the lighted fusee off the road, where it could start a serious fire.

From the foregoing detailed description it will be seen that the present invention provides a novel and improved fusee support having a number of advantages over prior devices intended for the same general purpose. Not only can said improved support be compactly arranged on the fusee body for convenient storage of said flares when they are not in use, but said device can be set up to support the fusee in an operative position in a minimum of time. Moreover, the present device is adapted to be formed from a blank of inexpensive material, and the simplicity of its design permits said support to be die cut in a single operation, thus further reducing manufacturing costs. Still other advantages of the invention, as hereinabove described, are that it is more stable than prior non-metallic fusee supports, it is less susceptible to the damaging affects of rain and snow, it is designed to minimize the possibility of the burning fusee being blown off the road, it does not obstruct the written material on the fusee body, and said novel device can be readily adjusted to support the fusee at any desired angle.

It is to be understood, of course, that while a preferred form of the invention has been illustrated and described herein, numerous modifications or variations therein will undoubtedly occur to those skilled in the art, and it is intended to cover herein not only the exact structure disclosed, but also any and all modified forms thereof as may come within the spirit of said invention and within the scope of the following claims.

What I claim is:

1. A support for an elongated, cylindrical fusee, comprising: a tab member secured to said fusee at a point spaced above the lower end thereof; a brace member hingedly connected to said tab and swingable to a position extending downwardly and outwardly therefrom; a first leg hingedly connected to and along the outer edge of said brace member and swingable to a position extending upwardly and inwardly therebeneath, said leg having an aperture through which the lower end of said fusee can be removably slidably projected; and a second leg member hingedly connected to and along the inner edge of said first leg and swingable to a position extending downwardly and outwardly therebeneath, said second leg having an aperture therethrough also adapted to removably receive the lower end of said fusee.

2. A fusee support as recited in claim 1, and said brace and leg members having longitudinal fold lines formed therein, whereby when said members are swung about their hinge connections to a raised position above said tab they can be folded therealong to closely surround said fusee.

3. A support for an elongated cylindrical fusee, comprising: a tab member secured to and partially surrounding said fusee at a fixed point spaced above the lower end thereof; a flat brace member hingedly connected to the upper edge of said tab and swingable to a position extending downwardly and outwardly therefrom, said brace being engageable with the ground when said fusee is rested on the ground in an upright, non-vertical position; a flat first leg hingedly connected to and along the outer edge of said brace member and swingable to a position extending upwardly and inwardly therebeneath, said leg having an aperture through which the lower end of said fusee can be removably slidably projected; a second leg member hingedly connected to and along the inner edge of said first leg and swingable to a position extending downwardly and outwardly therebeneath, said second leg having an aperture therethrough to removably receive the lower end of said fusee; and said leg and brace members having longitudinal fold lines formed therein, whereby when said apertured members are removed from the lower end of the fusee and swung to a position above said tab they can be folded therealong to partially surround said fusee body.

4. A support for a fusee having an elongated cylindrical body with an upper end and a lower end, said support being formed of a blank of resilient material, comprising: a tab portion secured to and partially surrounding said fusee body at a fixed point spaced above the lower end thereof, said tab having partially-scored, creased fold lines therein permitting said tab to be arranged on and partially surrounding said fusee body; a flat brace member hingedly connected to the upper edge of said tab and swingable to a position extending downwardly and outwardly therefrom at an angle, the outer, lower edge of said brace being engageable with the ground when said fusee is positioned at an angle to the vertical, and said brace member being of substantially greater width than said tab; a flat wide first leg hingedly connected to and along the outer edge of said brace member and swingable to a position extending upwardly and inwardly there-

beneath, said leg having an aperture through which the lower end of said fusee body can be removably slidably projected; a second flat, wide leg member hingedly connected to and along the inner edge of said first leg and swingable to a position extending downwardly and outwardly therebeneath, said second leg having an aperture therethrough alignable with said first leg aperture and also being adapted to slidably receive the lower end of said fusee, the resiliency of said material biasing said first and second legs apart to cause the same to frictionally engage said fusee body and lock said support in position thereon.

5. A fusee support as recited in claim 4, and said brace and leg members having longitudinal fold lines formed therein, whereby when said members are swung about their hinge connections to a raised position above said tab they can be folded therealong to closely partially surround said fusee body.

6. A support for an elongated, cylindrical fusee, comprising: an attachment portion secured to said fusee at a point spaced above the lower end thereof; a brace member hingedly connected to said attachment portion and swingable to a position extending downwardly and outwardly therefrom; a first leg hingedly connected to and along the outer edge of said brace member and swingable to a position extending upwardly and inwardly therebeneath; a second leg member hingedly connected to and along the inner edge of said first leg and swingable to a position extending downwardly and outwardly therebeneath, and means associated with said leg members for adjustably engaging said fusee.

7. A fusee support as recited in claim 6, and said brace and leg members having longitudinal fold lines formed therein, whereby when said members are swung about their hinge connections to a raised position above said attachment portion they can be folded along said fold lines to closely surround said fusee.

References Cited by the Examiner

UNITED STATES PATENTS

1,923,794	8/1933	Noland	248—48
2,612,866	10/1952	Abbott	248—174 X
2,795,387	6/1957	Elsey	248—46

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