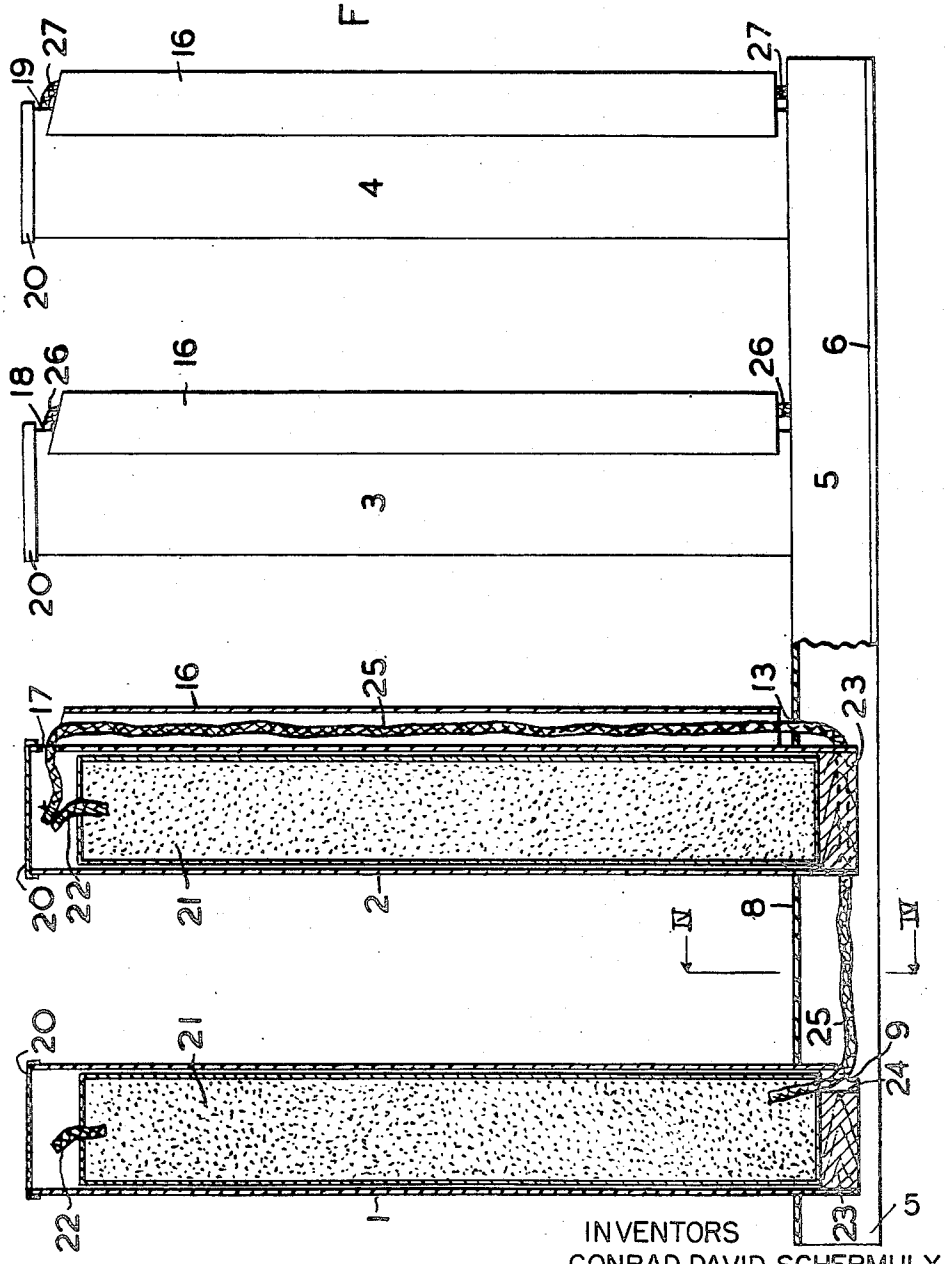
Nov. 14, 1950 C. D. SCHERMULY ET AL 2,530,084

ILLUMINATING FLARE

Filed April 8, 1947 2 Sheets-Sheet 1

FIG. 1.



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ILLUMINATING FLARE

Filed April 8, 1947 2 Sheets-Sheet 2

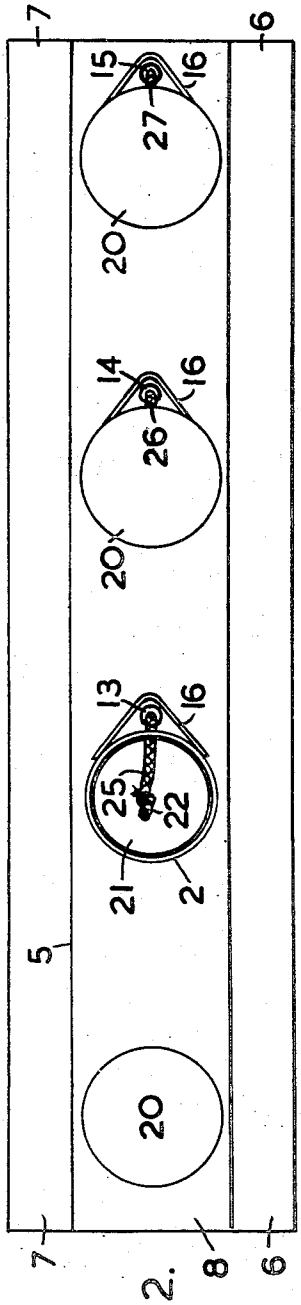


FIG. 2.

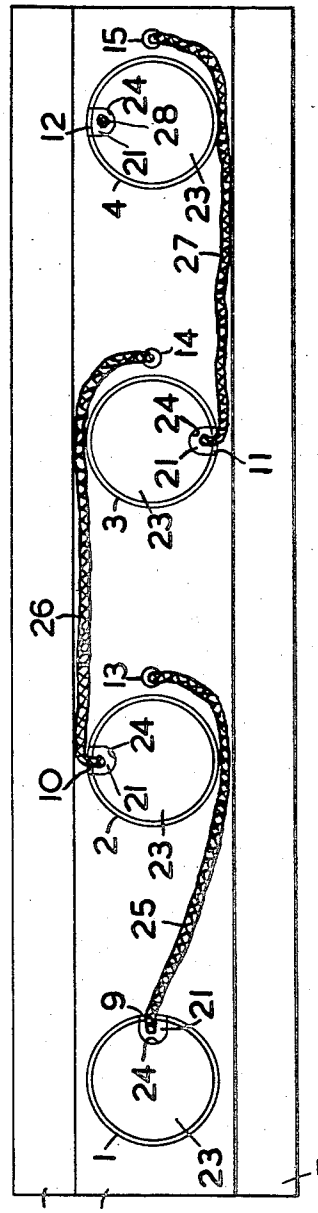


FIG. 3.

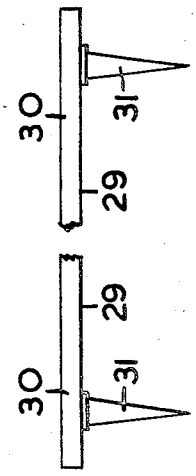


FIG. 6.

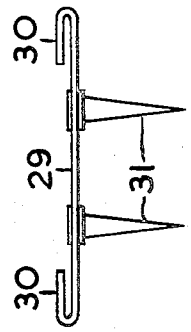


FIG. 5.

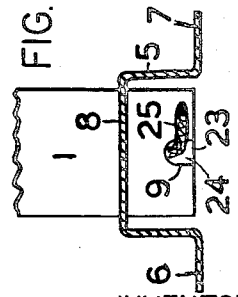


FIG. 4

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2,530,084

ILLUMINATING FLARE

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In Great Britain April 15, 1946

8 Claims. (Cl. 102—37.7)

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This invention relates to illuminating flares and has for its object to provide a flare device which will provide illumination for a prolonged period, for example for a period sufficient to enable an aircraft to land while the flare device is being used to provide an emergency flare-path.

According to this invention a flare device, especially for use for providing an emergency flare-path, comprises a base, a plurality of substantially vertical tubular metal casings mounted on said base, a flare candle in each casing, means for igniting the top of the flare candle in the first casing, and means for igniting the top of the flare candle in each other casing when the flare candle in the next preceding casing has almost burned through.

The means for igniting the first candle may consist of a suitable length of fuze projecting from the top of the candle. The top of each other candle may be connected by means of a length of fuze to a point towards the lower end of the next preceding flare candle.

A convenient embodiment of the invention will now be described with reference to the accompanying drawings in which,

Figure 1 is a side elevation, partly in section, of a flare device according to this invention,

Figure 2 is a plan view of the device of Figure 1, with one of the loose caps removed,

Figure 3 is an underside plan view of the device of Figure 1,

Figure 4 is a section of the lower end of the device taken on the line IV—IV, Figure 1, and

Figures 5 and 6 are an end elevation and side elevation, respectively, of a cover for the base of the device.

Referring first to Figures 1 to 4, four tubular metal casings 1 to 4 are mounted on a base 5 consisting of two horizontal flanges 6, 7 between which is a raised portion 8 through which the lower ends of the casings 1 to 4 project. The lower end of the casing 1 is provided with a slot 9 facing the casing 2, and the casings 2 to 4 have slots 10 to 12, alternatively facing flanges 6 and 7. The raised portion 8 of the base 5 is provided with three orifices 13 to 15 adjacent the casings 2 to 4. A metal channel 16, formed by bending a flat piece of metal into substantially V-shape, is secured to each of the casings 2 to 4, for example by welding, in such a position that

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it extends from near the raised portion 8 to a point near the top of the casings 2 to 4, providing covered passages above the orifices 13 to 15. The casings 2 to 4 are provided with orifices 17 to 19 adjacent the upper end of the channels 16. The casings 1 to 4 may be closed by loose caps 20 for protection of the contents from the atmosphere. Each of the casings contains a flare candle 21 from the top of which projects a short length of fuze 22 for the purpose of igniting the candle. The candles are supported on wooden plugs 23 in the lower end of the casings, each plug 23 being provided with a cutaway portion 24 for the passage of a fuze. A fuze 25, which is embedded in the candle 21 in the casing 1 for a suitable distance from the lower end thereof is led through the cutaway portion 24, through the slot 9, along beneath the base 5 between the lower end of the casing 2 and the flange 7, through the orifice 13, up through the channel 16, through the orifice 17 into the top of the casing 2 where it is tied to the fuze 22 projecting from the top of the flare candle 21 in the casing 2. A fuze 26 leads in a similar manner from the bottom of the flare candle in casing 2 to the top of the flare candle in casing 3, and a fuze 27 leads from the bottom of the latter flare candle to the top of the flare candle in casing 4. The disposition of these fuzes 25—27 beneath the base 5 may be clearly seen from Figure 3. A fuze 28, leading from the bottom of the flare candle in casing 4 may either be cut off, as shown in Figure 3, or it may be tied to the fuze projecting from the flare candle in the first casing of another flare device similar to that shown in the drawing. In this way eight flare candles may be coupled together, instead of four. It will be understood that although the device shown in the drawings consists of four tubular casings 1 to 4, it is possible to use two, three or any other desired number of casings, depending on the time during which it is necessary for the flare device to provide illumination.

After the flare candles 21, the plugs 23 and the various fuzes have been arranged in position, the space beneath the base 5 may be filled with an inert composition, such as clay; this has been omitted from the drawing for the sake of clearness.

When the flare device is to be used on grass-

land or earth, the base 5 may be provided with a cover such as is shown in Figures 5 and 6. This cover comprises a sheet of metal 29 the edges of which are bent over at 30 and which is provided with spikes 31. The edges 30 are adapted to slip over the flanges 6, 7 of the base 5, and the spikes 31 can be pressed into the grassland or earth so that the flare device is held firmly in the desired position.

When the flare device is to be used, the cover 20 is removed from the casing 1 and the fuze 22 ignited. When the flare candle 21 in the casing 1 has nearly burned through, the fuze 25 is ignited and in turn ignites the flare candle 21 in the casing 2, and so on. In this way the flare candles burn one after the other providing illumination for a period four times as long as would be the case with a single flare candle.

We claim:

1. A flare device, for use in providing an emergency flare-path to illuminate air strips, comprising a base, a plurality of substantially vertical tubular metal casings mounted on said base, a flare candle in each casing, and means for igniting the top of the flare candle in the first casing, in combination with means for igniting the top of the flare candle in each succeeding casing when the flare candle in the next preceding casing has almost burned through, whereby continuous illumination is provided.

2. A flare device for use in providing an emergency flare-path for illuminating air strips, comprising a base, a plurality of substantially vertical tubular metal casings mounted on said base, a passage adjacent the top of each casing succeeding the first, a flare candle in each casing, and means for igniting the top of the flare candle in the first casing, in combination with a fuse leading from a point near the bottom of each candle to the top of the next succeeding candle through said passage in its casing, whereby the top of the flare candle in each succeeding casing is ignited when the flare candle in the next preceding casing has almost burned through, thereby providing continuous illumination.

3. A flare device for use in providing an emergency flare-path to illuminate air strips, comprising a plurality of substantially vertical tubular metal casings, a flare candle in each casing, means for igniting the top of the flare candle in the first casing in combination with means for igniting the top of the flare candle in each succeeding casing when the flare candle in the next preceding casing is almost burned through, and a base supporting said casings, said base having two horizontal flanges and a raised portion between said flanges, the lower ends of said casings projecting through said raised portion whereby a firm support for said casings is provided.

4. A flare device for use in providing an emergency flare-path to illuminate air strips, comprising a plurality of substantially vertical tubular metal casings, a flare candle in each casing, means for igniting the top of the flare candle in the first casing in combination with means for igniting the top of the flare candle in each succeeding casing when the flare candle in the next preceding casing is almost burned through, and a base supporting said casings, said base having two horizontal flanges and a raised portion between said flanges, the lower ends of said casings projecting through said raised portion and a cover for the base, said cover having its edges bent over to engage the flanges of the base and

having projecting spikes for engagement in the ground, whereby a firm support for said casings is provided.

5. A weather-resistant flare device for use in providing an emergency flare-path to illuminate air strips, comprising a plurality of substantially vertical tubular metal casings, a removable cap for each casing, a flare candle in each casing, means for igniting the top of the flare candle in the first casing in combination with means for igniting the top of the flare candle in each succeeding casing when the flare candle in the next preceding casing is almost burned through, and a base supporting said casings, said base having two horizontal flanges and a raised portion between said flanges, the lower ends of said casings being adapted to project through said raised portion and a removable lower cover engaging said flanges, whereby a firm support for said casings is provided.

6. A flare device for use in providing an emergency flare-path for illuminating air strips, comprising a base, a plurality of substantially vertical tubular metal casings mounted on said base, a passage through said base adjacent each casing succeeding the first, a passage through and adjacent the top of each casing succeeding the first, a flare candle in each casing, and means for igniting the top of the flare candle in the first casing, in combination with a fuse in the bottom of each candle and leading from a point near said bottom below said base, through the passage in said base adjacent the next succeeding candle, to the top of the next succeeding candle and through the passage in its casing, whereby the top of the flare candle in each succeeding casing is ignited when the flare candle in the next preceding casing has almost burned through, thereby providing continuous illumination.

7. A flare device for use in providing an emergency flare-path for illuminating air strips, comprising a base having a channel and a removable cover below said channel, a plurality of substantially vertical tubular metal casings mounted on said base and extending into said channel, a plug in the lower end of each casing, a passage through said base adjacent each casing succeeding the first, a passage through and adjacent the top of each casing succeeding the first, a flare candle in each casing, and means for igniting the top of the flare candle in the first casing, in combination with a fuse in the bottom of each candle and leading from a point near said bottom into the channel and then through the passage in said base adjacent the next succeeding candle, to the top of said next succeeding candle and through the passage in its casing, whereby the top of the flare candle in each succeeding casing is ignited when the flare candle in the next preceding casing has almost burned through, thereby providing continuous illumination.

8. A flare device for use in providing an emergency flare-path for illuminating air strips, comprising a base having a channel and a removable cover below said channel, a plurality of substantially vertical tubular metal casings mounted on said base and extending into said channel, vertical metal channel outside each casing succeeding the first, a passage through said base adjacent each casing succeeding the first, a passage through and adjacent the top of each casing succeeding the first, a flare candle in each casing, and means for igniting the top of the flare candle in the first casing, in combination with a fuse in the bottom of each candle and leading

from a point near said bottom into the channel in the base and then through the passage in said base adjacent the next succeeding candle, between the casing and vertical channel for said candle and through the passage in the casing, whereby the top of the flare candle in each succeeding casing is ignited when the flare candle in the next preceding casing has almost burned through, thereby providing continuous illumination.

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