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UPSIDE DOWN FLARE

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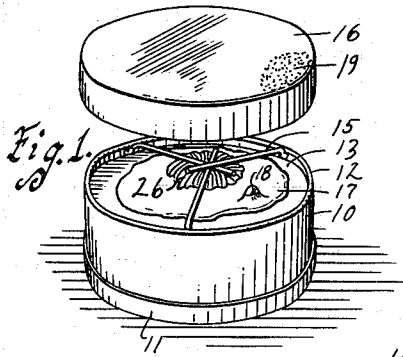


Fig. 2.

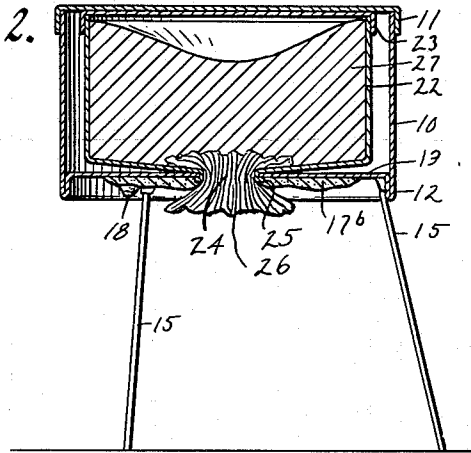


Fig. 3.

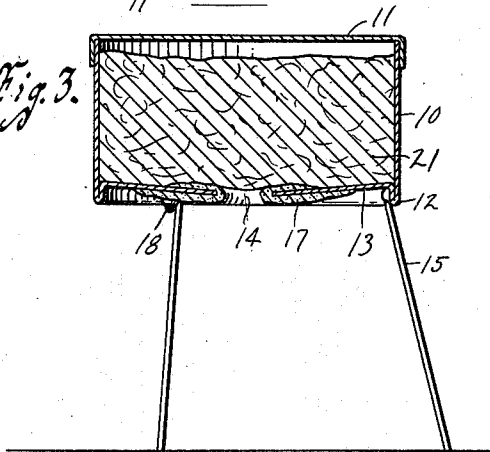


Fig. 4.

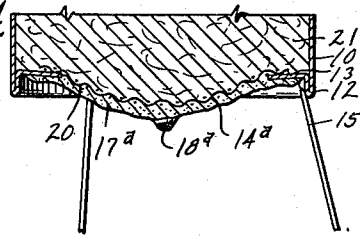


Fig. 5.

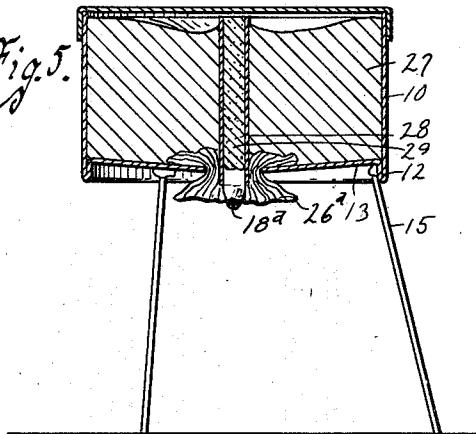
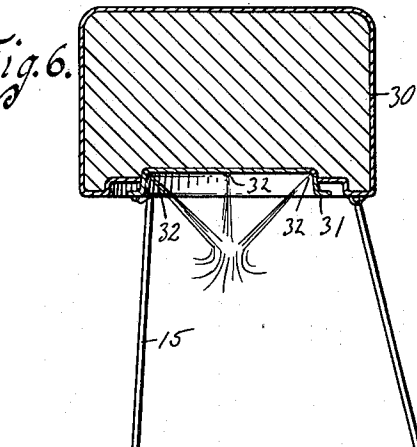


Fig. 6.



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UPSIDE DOWN FLARE

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6 Claims. (Cl. 67—21)

The object of my invention is broadly to provide an upsidedown flare adapted to be used as a highway signal and for other lighting and signal purposes.

It is particularly my object to provide such an upsidedown flare having an opening in its under side spaced from its edge, so that the body of the flare will protect the flame at the point where the fuel emerges from the flare body against rain and the like, the flame also being below the flare body, so as to heat the flare body and the fuel substance contained therein.

It is a further object to provide in such a flare a drip edge or the like to further protect the flare against water.

It is my purpose to provide such a flare having legs made of bendable material, such that they may be folded up under the flare and to provide a cap by which the bottom of the flare and the legs may be covered.

A further purpose is to provide such an upsidedown flare in cases where it seems desirable with an inner container or other insulating means, so that the inflammable contents may be protected from overheating.

Another object is to provide a flare of the kind mentioned which has adjacent its fuel outlet a smear of combustible material and a substance adapted to be lighted by friction.

Still another object is to provide such a flare having means for holding the smear in a relatively large opening, and for thus holding the fuel in the flare body.

Another object is to provide in an upsidedown flare a wick at the under side of the flare.

Still another purpose is to provide a tube projecting into the flare and containing self-oxidizing combustible material having a lighting element on its outer end adapted to be lighted by friction.

Another object is to provide an upsidedown flare having in its under side a series of openings directed toward a common point.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my upsidedown flare, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawing, in which:

Figure 1 is a perspective view of one form of my flare illustrating particularly the bendable legs with a cap for covering them, such as are preferably used in all the forms, the flare being shown in inverted position and not in the position for use.

Figure 2 is a vertical, sectional view through a form in which my flare may be embodied.

Figure 3 is a similar view of a slightly different form of the flare.

Figure 4 is a vertical, sectional view through the lower part of a flare with a larger opening than that shown in Figure 3 and with a means for holding the smear and maintaining the fuel.

Figure 5 is a vertical, sectional view of another form of flare; and

Figure 6 is a vertical, sectional view of still another form in which my flare may be embodied.

In experimenting with upsidedown flares, I have found that they may be made with a considerable number of modifications.

I shall first describe the flare shown in Figures 1 and 3.

In Figure 3, I have shown a flare body or container member indicated at 10, which may be made of any suitable material, for instance, such as metal, which is in the form of an ordinary can having a flanged cover cap 11.

The material at the bottom of the wall of the flare body 10 is bent backwardly and upwardly on itself to form a drip edge or flange 12.

The body 10 has the bottom 13 with the central opening 14.

A flare so made when properly supported will protect the fuel and flame, especially around the opening 14 from rain.

Preferably the flare body in each case illustrated here has three legs 15, preferably made of bendable wire with their upper ends fastened, as by spot-welding to the bottom on the inside of the edge 12. These legs may be bent over as shown in Figure 1, within the extended area of the flare body, preferably being bent at a point spaced from the flare body and then the bottom of the flare can be covered by a flanged cap 16.

It is important to have the cap where the smear or tube and lighting member are used.

By smear, I mean that I paste or place on the underside of the flare adjacent the opening and preferably entirely surrounding it a smear of combustible material. This smear is preferably extended also into the interior of the body around the opening 14. This so-called smear is of any suitable, readily combustible material, which can be made to about the consistency of stiff molasses and plastered in place and will then become hard. A suitable smear may be made of the following ingredients having the proportions mentioned by weight:

Sodium nitrate.....	70
Yellow dextrine.....	5
Charcoal.....	10
Sulphur.....	15

finely ground and mixed with water to form a paste of about the consistency of stiff molasses.

I preferably make a little mound or tee of striking material. This material may be such as is used on the head of safety matches. A striking

material suitably adapted for the purpose is made of the following materials in the proportions mentioned, by weight:

5	Potassium chlorate-----	Parts 33.44
	Ferric oxide-----	7½
	Gum arabic-----	5.625
	Glue-----	5
	Ground glass-----	3.5
10	Potassium dichromate-----	3.5

The striking material is indicated in Figure 3 at 18. The striking material is put on in a lump as shown so that it may be felt and readily discovered and distinguished in the dark.

- 15 For fuel, any material suitable for the purpose may be used, such for instance as oil, alcohols, paraffin, tar, rosin and various absorbent materials with which these others may be mixed.
- 20 For such other materials, I may use sawdust, ground cornstalks, sphagnum moss or other appropriate absorbent material.

One mixture which I use and which is illustrated in Figure 3 at 21, is ground cornstalks impregnated with paraffin.

- 25 In the use of the flare such as that shown in Figures 1 and 3, the bottom cap 16 is removed, the legs 15 are straightened out from their positions shown in Figure 1 to their positions shown in Figure 3.

- 30 It may be mentioned that Figure 1 shows a form of the flare with the wick while Figure 3 shows no wick. A short wick may be used as shown in Figure 1.

- 35 In general I use a wick where the fuel is a liquid or which becomes a liquid when heated and I use a hole or multiplicity of holes where the fuel is of a solid nature which gives off an inflammable gas when heated but does not liquefy.

- 40 Then the lighting material is struck and ignited. The cap 16 may be provided with a section of striking surface 19 such as that used on safety match containers. The striking material lights like the head of a match and the smear then burns like a quick burning fuse. The smear or fuse can be readily applied so as to burn for a minute or more.

- 50 By the time it has burned, the fuel will be heated to the point where it either comes out as liquid or gas, and finally forms a gas, which burns for a considerable length of time.

- 55 The container may be made of paper so that the whole thing will burn up with the exception of the metal legs.

- In Figure 4, I have shown a slight modification of the flare of Figure 3, in which the parts are the same except that the central hole indicated at 14a is larger, and I have placed a piece of woven wire 20 of a little greater area than that of the hole with its edges on the inside of the flare body 10. This provides a large hole and permits the use of certain fuels, which would not supply the flame fast enough for a considerable period of time. The woven wire 20 supports the smear 17a, the striking point 18a, and also tends to hold the fuel 21 in place.

- 70 In Figure 2, I have shown the same flare body and legs as in Figure 3. Where some fuels are used, and where some certain materials are used for the flare body, I find it desirable to provide a little additional protection for the fuel. For this purpose, there may be provided an inside container 22 in the form of a can or the like, hav-

ing a flanged cover 23. This can be made of paper with a metal bottom.

In the bottom of the inner container 22 is a hole 24. The material is extended downwardly from around the edge of the hole and then crimped around the material at the edge of the hole 14, as indicated at 25.

In this form of the flare, I have shown the short wick 26, preferably asbestos, extending into the fuel, which as here shown may be paraffin 27. In this form of the invention, the smear 17b is placed only on the underside of the flare body 10 and is provided with the striking point 18.

The use of this flare is similar to that already described.

Figure 5 illustrates another form of flare having a body 10 similar to that already described, in which a fuel, such as paraffin 27, is used. A wick 26a similar to the wick 26 already described is employed.

In this form of flare, I arrange the lighting material in a different way. A tube 28 which may be made of paper, impregnated with water-glass for example, is extended from the lower part of the wick upwardly well into the upper part of the body 10. The tube 28 is filled with suitable combustible material 29, such for instance as that employed in making the smear 17, while on the lower end of the tube is a striking point 18a. The tube 28 performs a triple function. It is not destroyed when the contents of the tube are burned. It forms a means for holding and supporting the igniting material.

This forms in itself a flare, giving a bright light for a substantial length of time, and until the fuel 27 is heated and in condition to continue to supply burning material to the wick. It heats the fuel from the inside of the flare body or container 10, and after the combustible material in it has burned out, it affords means for equalizing the pressure inside and outside the flare body 10. It may be here noted that where the wick is used, there must be used such a fuel as will flow through it after the fuel has been heated to the proper point.

It is also noted that where the wick is used as in the type of flare illustrated in Figure 3, the covers 11 and 23 may be made sufficiently loose to permit air to enter the container to replace the fuel drawn off through the wick or the edge of the container may be bent to permit the entrance of air.

In Figure 6, there is shown still a different form of the flare. The body 30 is in the form of an ordinary container, having the cap 31 adapted to slip into the central opening.

When used as a flare, the container is upside down.

I preferably provide the cap or closure member 31 with a plurality of holes 32 so punched that the gas from the fuel will be directed toward a common point.

The smear material is placed on the underside of the cap to cover these holes and is provided with an igniting member or portion, such as has been described.

When the smear is lighted, it burns off and leaves the holes open.

It will be obvious that in all cases where this smear is used, a bright light is afforded from the very beginning.

Many flares afford a very poor light for a considerable length of time after they are first ignited.

The type of flare described here lends itself to

many modifications and the use of a great variety of materials. The flare is primarily intended as a safety device in connection with pleasure cars, trucks and the like, but it may be used anywhere that a flare is needed. It has the advantage that it can be made in very compact form, so that it can be conveniently carried.

It has the advantage that it can be lighted quickly with the least inconvenience. The igniting member can be lighted with the prepared side of an ordinary safety match box or with a lighted cigarette, match or with the lighting material 19, such as that shown in Figure 1, placed on the cap 16.

A great object is to produce a certain and bright light and this I have done with my present structure in an efficient and economical way. The flare is one which is safe to carry and use, and which will burn in any kind of wind or weather. It can be made at a cost so low that the flare can be thrown away after it is used once.

From the foregoing, it will be clear that changes will be made in the construction and arrangement of the parts and the materials employed, and it is my purpose to cover by my claims, any such modifications as may be reasonably included within their scope and the scope of my invention.

I claim as my invention:

1. In an upsidedown flare, a hollow body containing combustible fuel, said body having an opening on its underside, a readily burnable smear on the underside of the body adjacent the opening and igniting material adjacent said smear, said body having a peripheral downwardly extending flange to serve as a drip edge and to protect the smear and igniting material, and a plurality of legs, secured to the inside of the flange adapted to be bent downwardly for supporting the flare or to be bent to position overlapping the burnable smear for thus serving to protect such smear.

2. In an upsidedown flare, a body containing combustible fuel and having an opening on its under side, ignitable material adjacent the opening on the outside of the body, a plurality of legs,

each attached to said body on the under side thereof and within the outline of the body and bent to position for overlying and protecting the ignitable material and adapted to be bent to position extending downwardly to serve as a support for the body.

3. In an upsidedown flare, a hollow body containing combustible fuel and having an opening in its under side, a readily burnable smear on the under side of the body, a projecting peak of friction ignitable material spaced from the opening but arranged adjacent to the smear, and supporting means for said flare, said supporting means being foldable into position overlapping said smear.

4. In a flare, a hollow body containing combustible fuel, an opening on the underside of said body, ignitable material adjacent said opening on the outside of the body, said body having a peripheral downwardly extending flange to serve as a drip edge and to protect the ignitable material, and a plurality of readily bendable members attached to said body and adapted to be extended downwardly for supporting the flare, or to be bent to position overlapping said ignitable material to give additional protection to said material.

5. In a flare, a hollow body containing combustible fuel, an opening on the underside of said body, ignitable material adjacent said opening on the outside of the body, and a plurality of readily bendable members attached to said body and adapted to be extended downwardly for supporting the flare, or to be bent to position overlapping said ignitable material to give additional protection to said material.

6. In a flare, a hollow body containing combustible fuel, an opening on the underside of said body, a wick in said opening, ignitable material adjacent said opening on the outside of the body, and a plurality of readily bendable members attached to said body and adapted to be extended downwardly for supporting the flare, or to be bent to position overlapping said ignitable material.

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