June 21, 1960 R. W. GREENE 2,941,468

FLAME ROCKET

Filed Sept. 29, 1955

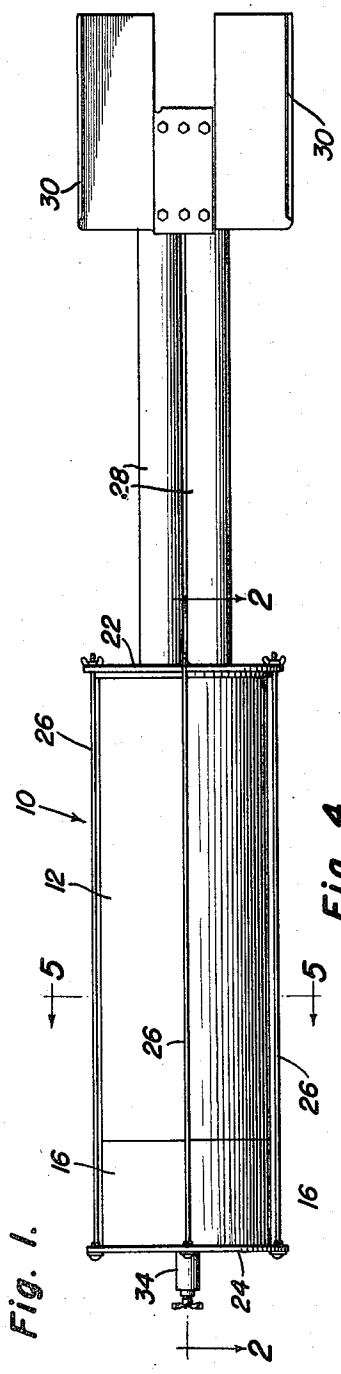


Fig. 1.

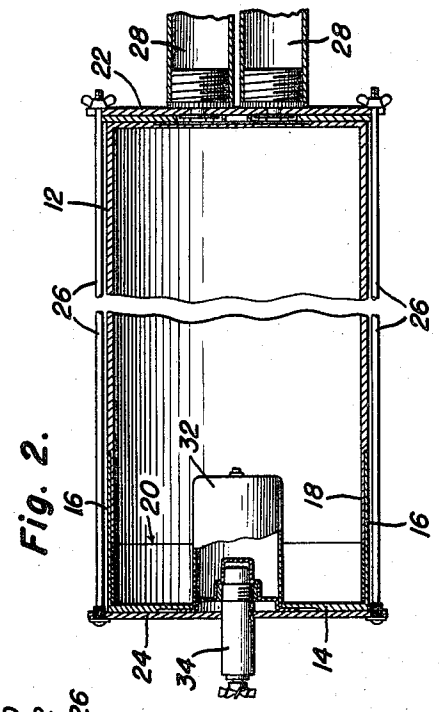


Fig. 2.

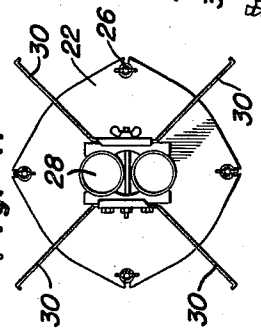


Fig. 4.

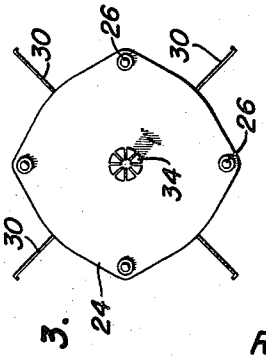


Fig. 3.

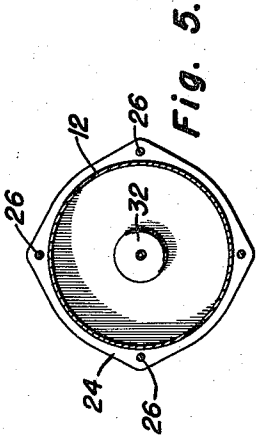


Fig. 5.

INVENTOR.
Robert W. Greene
BY George Rencher
ATTORNEY

United States Patent Office

2,941,468

Patented June 21, 1960

2,941,468

FLAME ROCKET

Robert W. Greene, Redlands, Calif., assignor to the United States of America as represented by the Secretary of the Army

Filed Sept. 29, 1955, Ser. No. 537,594

1 Claim. (Cl. 102—49)

(Granted under Title 35, U.S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment to me of any royalty thereon.

This invention is directed to a rocket for propelling a charge of liquid fuel. More particularly it is directed to a rocket for propelling a charge of gelled gasoline within an easily ruptured container. More specifically, the invention is directed to a rocket having a relatively large charge of gelled gasoline within a cardboard container which is equipped with an impact fuse that is armed while the rocket is in flight.

In the drawings, Figure 1 shows the rocket complete. Figure 2 shows a section through the rocket head at 2—2 of Figure 1. Figure 3 shows a front view and Figure 4 a rear view of the rocket. Figure 5 shows a transverse section of the rocket head at 5—5 of Figure 1.

The rocket head **10** is composed of the container bottom portion **12** and cover **14**. The cover includes long flange **16** which extends down over the container bottom. Both the cover and bottom have stepped down portion **16** and **18** such that the entire assembly has a uniform diameter and include an internal parting line at **20**. When this type of structure is used it is convenient to first assemble the container and to fill it through the igniter opening in the cover.

It is equally possible to construct the cover without the stepped feature with the result that the container bottom extends up to the cover top **14** and the parting line is adjacent said cover. In such case, the container can be completely filled before the cover is applied.

The container **10** is preferably constructed of an impregnated cardboard or other fibrous material that has been made waterproof and resistant to the gelled hydrocarbon filler.

The container **10** is clamped in position between rear plate **22** and front plate **24** by means of tie rods **26**. This produces a structure which is capable of supporting the filled cardboard container in flight yet does not prevent its being ruptured on impact.

Front plate **24** has a central opening through which projects the impact fuse **34**. This fuse projects through the cover **14** into the igniter **32** which may be filled with white phosphorous. Fuse **34** is armed in flight and fires the white phosphorous igniter on impact. The white phosphorous ignites the gelled gasoline at the moment of impact and the cardboard container ruptures due to hydrostatic pressure and spreads the burning fuel over a wide area.

The rocket is propelled by a series of 2¼" Subcaliber Aircraft Rocket motors **28** and has a range of from 200 to 2000 yards depending on the number of motors used and the elevation of firing. Conventional tail surfaces **30** complete the structure. In practice a cardboard container 8" in diameter, 26½" long and holding 5½ gallons gelled fuel has been used.

This rocket fills a void in the range of burning fuel weapons. The typical tank type flame thrower is limited to a range of about 300 yards and aerially dropped fire bombs cannot safely be used at such close range. The result is a range gap which the present rocket is calculated to fill. By increasing the motor power it can be made effective up to at least 2000 yards, which represents a safe marginal distance for dropping aerial fire bombs.

I claim:

In a rocket for delivering ignited, gelled gasoline over a wide area, which rocket comprises a front body portion, an intermediate motor portion and a rear tail portion, the improvement which comprises a cylindrical front body portion comprising two circular plates spaced apart along the axis of said rocket, a sealed cylindrical, gelled-hydrocarbon-filled, rupturable, cardboard container between said circular plates, a plurality of tie rods positioned between said plates about their circumference outside of said cardboard container, said tie rods serving to clamp said cardboard container between said plates and an impact fuze positioned in the forward end of said cardboard container and projecting through the forward circular plate.

References Cited in the file of this patent

UNITED STATES PATENTS

1,325,706	Todisco	Dec. 23, 1919
2,466,752	Uhl	Apr. 12, 1949
2,476,117	Short	July 12, 1949
2,608,931	Lauritsen	Sept. 2, 1952
2,713,768	Livingston	July 26, 1955

FOREIGN PATENTS

498,458	France	Oct. 20, 1919
134,948	Great Britain	Nov. 17, 1919