Dec. 26, 1950 C. N. MARI 2,535,309

ROCKET

Filed March 4, 1947

Fig. 1.

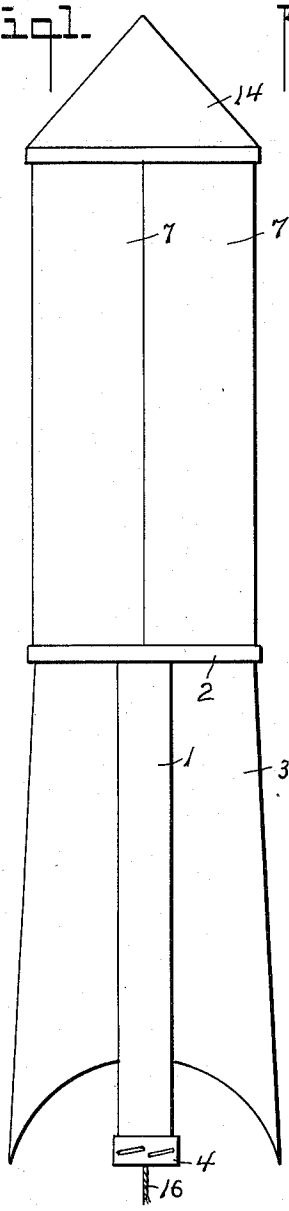


Fig. 3.

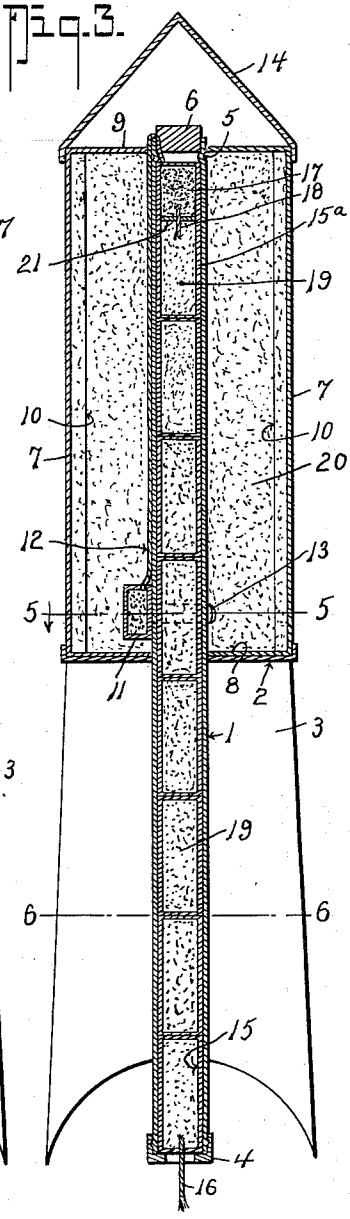


Fig. 4.

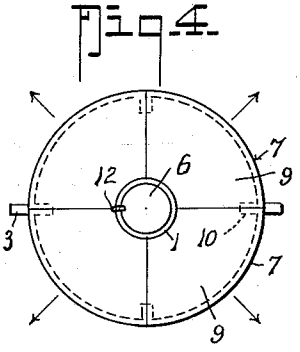


Fig. 5.

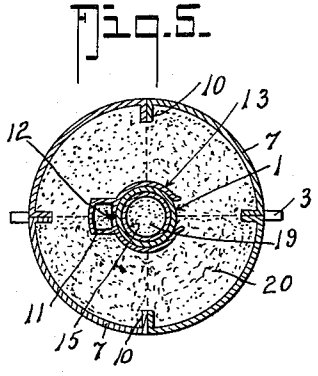


Fig. 6.

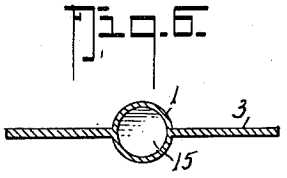


Fig. 7.

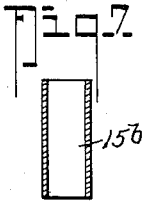
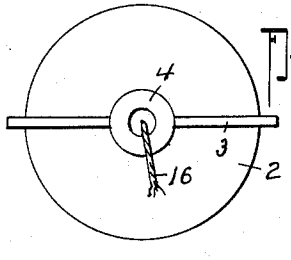


Fig. 2.



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UNITED STATES PATENT OFFICE

2,535,309

ROCKET

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7 Claims. (Cl. 102—34.4)

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My present invention has for its objects:

1. To provide a novelty in pyrotechnic displays for public enjoyment.

2. To provide a means of defense against airborne invasions, etc.

In its generic nature my invention consists of a dust carrying rocket which opens at the desired height discharging dust of flammable pulverized materials to form a dust cloud which can be ignited by the rocket itself or by other exploding rockets carrying incendiaries or compressed inflammable gases.

In its more detailed nature the invention resides in those novel details of construction, combination and arrangement of parts which will hereinafter first be described in detail and then be specifically pointed out in the appended claims, reference being had to the accompanying drawing in which:

Fig. 1 is a side elevation of preferred embodiment of my invention.

Fig. 2 is a bottom plan view of the same.

Fig. 3 is a longitudinal section.

Fig. 4 is a top plan view of the invention, the cap being omitted.

Fig. 5 is a cross section on the line 5—5 of Fig. 3.

Fig. 6 is a cross section on the line 6—6 of Fig. 3.

Fig. 7 is a detail longitudinal section of a blank cartridge hereinafter specifically referred to.

In the drawing in which like numerals of reference indicate like parts in all the figures, 1 represents the barrel of the rocket, the upper end of which has a construction 5 serving as a stop for the fuel cartridges 15 and stopper or plug 6 while the lower end of which is provided with a quick-screw flanged ring 4 that prevents the fuel cartridges falling out and permits passage of the cartridge fuse 16.

At a suitable location along the barrel 1 is secured a flanged disc 2 beneath which vanes 3 are mounted for the usual purpose. Above the disc 2 and resting thereon is a dust container composed of cylindrical segments 7 having bottom segments 8 and top segments 9 so designed that when closed together around the barrel (Figs. 1 and 3) they will form a cylindrical container for dust 20. The container fits the flanged disc 2 whose flange retains the bottom segments together in closed position.

A conical flanged cap 14 placed over the upper end of the container holds that end closed together. Each segment 7 has radially inwardly projecting side flanges 10 which fit close together when the container is loaded and in place.

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An explosion cartridge 11 is provided with a clip 13 by means of which it is secured to the barrel 1 within the container (Figs 3 and 5); a fuse 12 leads from the cartridge to the upper end of the barrel 1.

A suitable number of fuel cartridges 15 filled with fuel 19 of any suitable kind and fuse-connected together are placed in the barrel, the first cartridge 15a having two chambers, one for the fuel and one for an explosive 17, separated by a partition 21. The number of fuel cartridges used will depend on the height to which the rocket shall attain.

A fuse 18 connects the fuel chamber of the cartridge 15 with the explosion chamber (Fig. 3).

When the barrel is not to be filled with fuel-charged cartridges 15 cylinders or dummy cartridges 15b (Fig. 7) may be used as fillers below the string of fuel cartridges, in which event the starting fuse 16 will be long enough to pass through the cylinders 15b and through the ring 4 as will be obvious.

Operation

On igniting fuse 16, the fuel cartridges (well known) will be successively consumed, propelling the rocket upwardly. When the desired height is reached fuse 18 will be ignited and in turn set off the explosive 17 which will blow out stopper 6 and blow off cap 14, whereupon the segments 7, 8, 9 will fly open as indicated in the direction of the arrows in Fig. 4, releasing the dust 20 and igniting fuse 12.

The dust container, released at the top of the barrel by the force of the wind and weight of the dust, opens up umbrella like scattering the dust to the wind. Explosive cartridge 11 will then act to ignite the released dust producing a silent explosion or flame.

By firing a sufficient number of these rockets a large cloud can be formed through which the unsuspecting enemy would go and envelope itself. Almost any kind of pulverized materials can be used such as flour, talcum powder, resins, coals, pyrotechnics, explosives, etc. A mixture of fine materials is preferred; the fine dust would envelope every part of the plane and in exploding interfere with the motor carburation slowing down its regular function. Aerial navigation is also interfered with by the giant air pockets created by the giant flames, also by disturbing and demoralizing the crews which can be affected by the gases produced by the explosions.

This is particularly effective in the case of airborne invasions; the sky can be converted into a gigantic wall of fire through which a parachutist would have difficulty to escape and the

fire can be fed and maintained by rockets indefinitely.

Various modifications of the rocket will readily occur to those skilled in the art, without departing from the invention as defined by the appended claims.

What I claim is:

1. A rocket including a barrel, a series of rocket propelling cartridges in said barrel having provisions for igniting the same one at a time, a dust container carried by said barrel and including cylindrical segments having top and bottom segments shaped to fit said barrel and means to hold the same assembled, an explosive in said barrel located in cooperative relation to said segment-holding means for releasing the same when the explosive is ignited to release said segments to free the dust, and means to ignite said explosive from the last cartridge of the series.

2. A rocket including a barrel, a series of rocket propelling cartridges in said barrel, a dust container carried by said barrel and including cylindrical segments having top and bottom segments shaped to fit said barrel and means to hold the same assembled, an explosive in said barrel located in cooperative relation to said segment-holding means for releasing the same when the explosive is ignited to release said segments to free the dust, and means to ignite said explosive from the last cartridge of the series.

3. A rocket including a barrel, a series of rocket propelling cartridges in said barrel, a dust container carried by said barrel and including cylindrical segments having top and bottom segments shaped to fit said barrel and means to hold the same assembled, an explosive in said barrel located in cooperative relation to said segment-holding means for releasing the same when the explosive is ignited to release said segments to free the dust, means to ignite said explosive from the last cartridge of the series, and explosive means ignited by said explosive after release of said segments for igniting said dust.

4. A rocket including a barrel, an impelling fuel within the barrel, a flanged disc on the barrel, a tubular container through the ends of which said barrel passes, said container comprising segments each having an outer wall and two end walls, said container segments resting on said flanged disc and being held in assembled relation at the bottom by the flange of said flanged disc, a flanged cap fitted over the upper ends of said container segments to hold them assembled about said barrel, means within said barrel which when ignited will throw off said cap and permit said segments to drop apart and free the contents of said container, and means for igniting said last-named means.

5. A rocket including a barrel, an impelling fuel within the barrel, a flanged disc on the barrel, a tubular container through the ends of which said barrel passes, said container comprising segments each having an outer wall and two end walls, said container segments resting on said flanged disc and being held in assembled relation at the bottom by the flange of said flanged disc, a flanged cap fitted over the upper ends of said container segments to hold them assembled about said barrel, means within said barrel which when ignited will throw off said cap and permit said segments to drop apart and free the contents of said container, and means for igniting said last-named means, said impelling fuel comprising a succession of explosive cartridges in said barrel and means by which the same may be progressively ignited.

6. A rocket including a barrel, an impelling fuel within the barrel, a flanged disc on the barrel, a tubular container through the ends of which said barrel passes, said container comprising segments each having an outer wall and two end walls, said container segments resting on said flanged disc and being held in assembled relation at the bottom by the flange of said flanged disc, a flanged cap fitted over the upper ends of said container segments to hold them assembled about said barrel, means within said barrel which when ignited will throw off said cap and permit said segments to drop apart and free the contents of said container, means for igniting said last-named means, said impelling fuel comprising a succession of explosive cartridges in said barrel and means by which the same may be progressively ignited, an ignitable dust within said container, and means for igniting said dust after said cap has been thrown off.

7. A rocket including a barrel, an impelling fuel within the barrel, a flanged disc on the barrel, a tubular container through the ends of which said barrel passes, said container comprising segments each having an outer wall and two end walls, said container segments resting on said flanged disc and being held in assembled relation at the bottom by the flange of said flanged disc, a flanged cap fitted over the upper ends of said container segments to hold them assembled about said barrel, means within said barrel which when ignited will throw off said cap and permit said segments to drop apart and free the contents of said container, means for igniting said last-named means, said impelling fuel comprising a succession of explosive cartridges in said barrel and means by which the same may be progressively ignited, an ignitable dust within said container, means for igniting said dust after said cap has been thrown off, said last-named means comprising an explosive cartridge held on said barrel within said container, and a fuse from the cap-throwing-off means to said cartridge by virtue of which when the cap-throwing-off means is ignited it will in turn ignite said fuse.

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