

Sept. 9, 1952

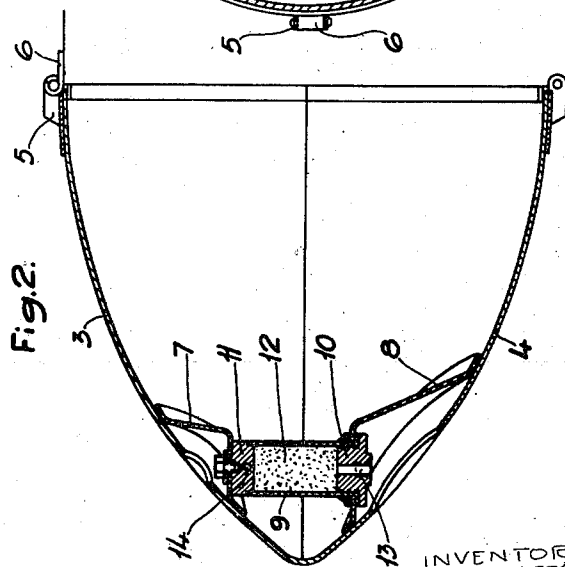
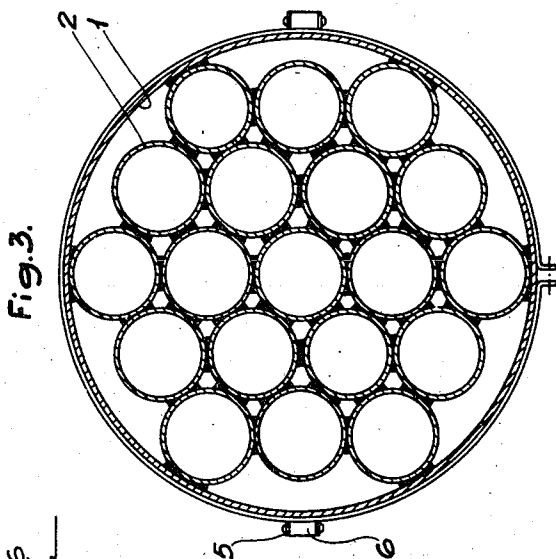
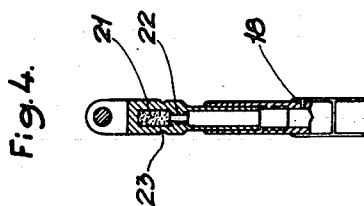
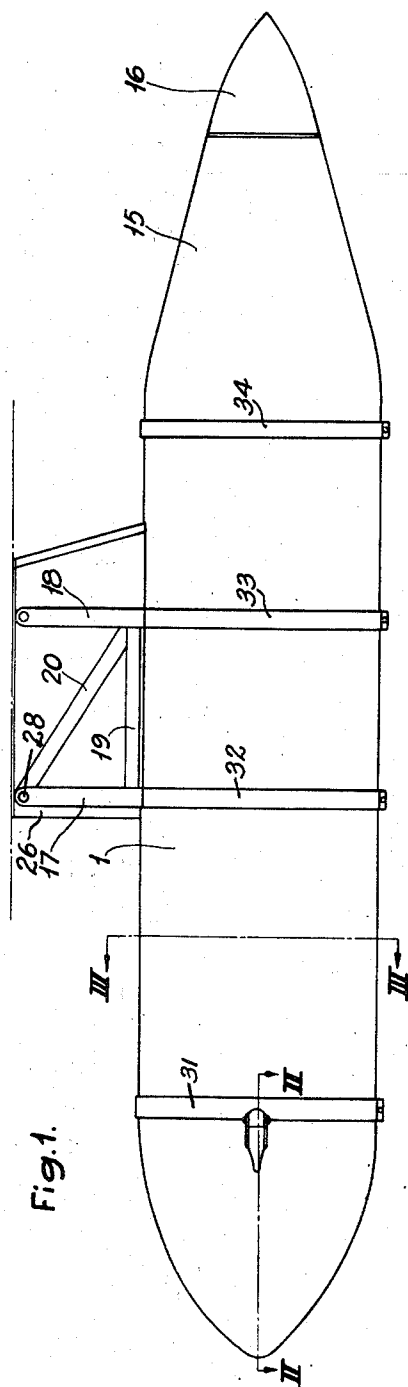
L. O. BERGSTRÖM

2,609,730

ROCKET DISCHARGER

Filed Nov. 2, 1948

3 Sheets-Sheet 1



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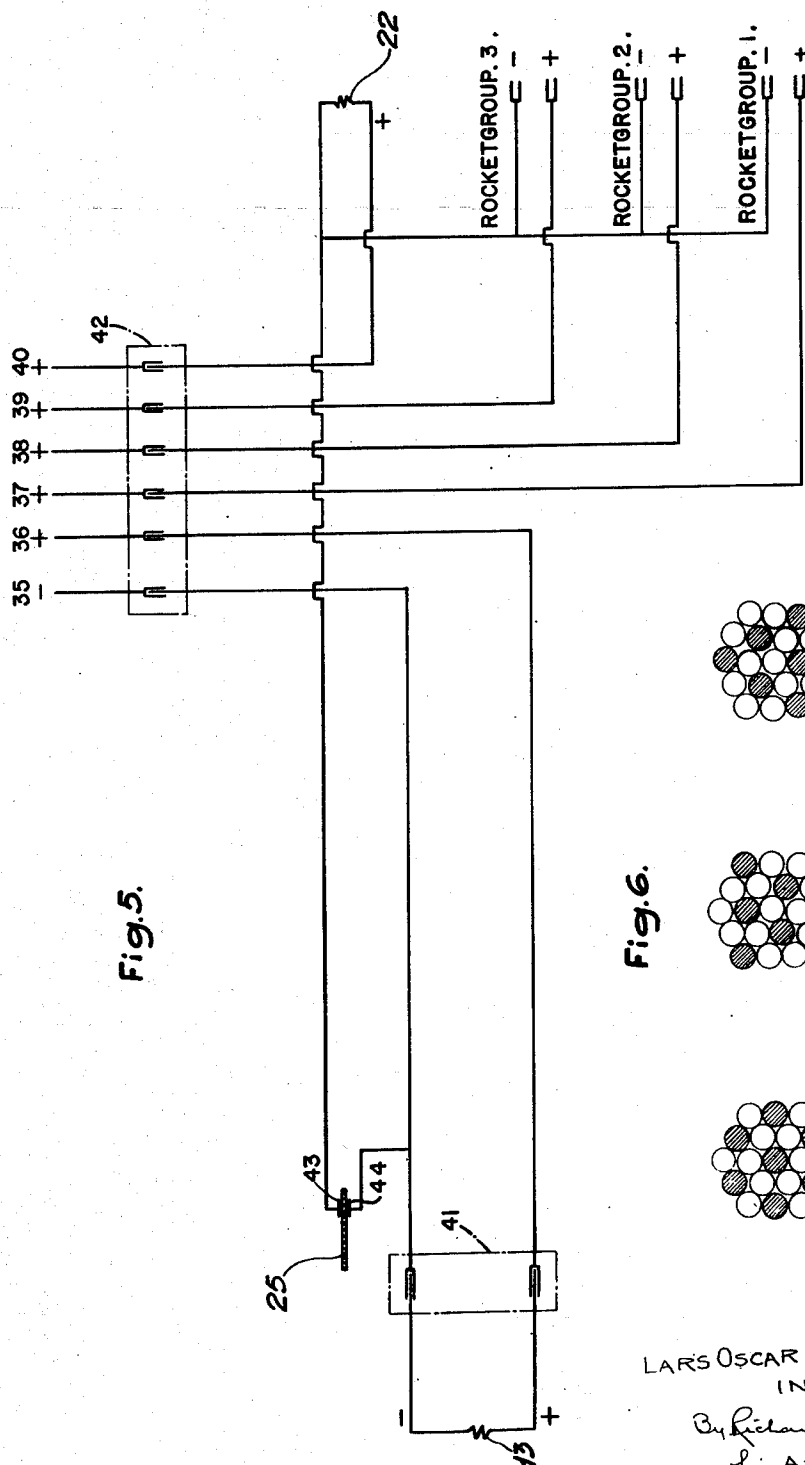
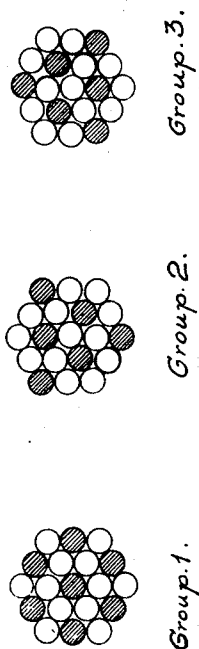


Fig. 6.



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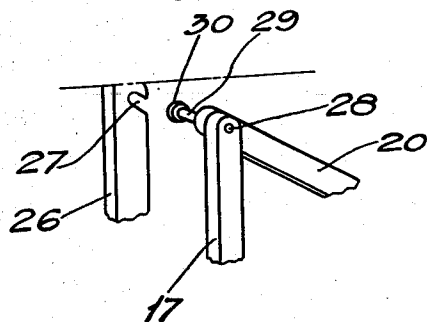
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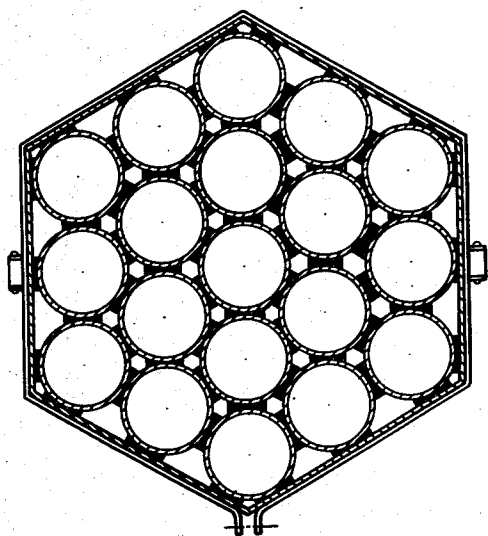
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*Fig. 7.*



*Fig. 8.*



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## UNITED STATES PATENT OFFICE

2,609,730

## ROCKET DISCHARGER

Lars O. Bergström, Bofors, Sweden, assignor to  
Aktiebolaget Bofors, Bofors, SwedenApplication November 2, 1948, Serial No. 57,971  
In Sweden November 7, 1947

2 Claims. (Cl. 89—1.7)

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The present invention relates to a device suitable for attachment on aircraft, and comprises a cylindrical or similar container housing a plurality of rockets capable of being discharged simultaneously or in groups through electric ignition.

According to the present invention the container comprises a series of independent compartments or tubes each adapted to receive a rocket and is provided with a detachable nose piece or front end capable of detachment prior to release of the rockets.

In carrying out the invention the nose is preferably constructed in two separable portions, means such as explosive charge being provided for detaching them from the container.

The invention is illustrated on the accompanying drawings, in which Figure 1 is a view in side elevation of the discharge device of this invention.

Figure 2 is a section along the line II—II in Figure 1.

Figure 3 is a section along the line III—III in Figure 1 and

Figure 4 is a detail sectional view of the rear stay with electric ignitor.

Figure 5 is a circuit diagram of the electric means for discharging the rockets and

Figure 6 three different groupings of rockets.

Fig. 7 is a detail of the suspension means according to Fig. 1;

Fig. 8 is a section of another embodiment of the container according to Fig. 1.

Referring to the drawings, the rocket container comprises a casing 1 which preferably as shown is in the form of a cylinder, and contains a plurality of discharge tubes 2 for housing the rockets to be fired, the tubes 2 being rigidly fixed within the cylinder and to one another. At its front end, the cylinder is closed by means of a torpedo-shaped end or nose piece, which is in two diametral halves 3, 4. Each half cage 3, 4 is connected to the cylinder 1 by means of a loop 5 which hooks on to a corresponding hook 6 on the cylinder 1, and is united to each other by means of a lock device consisting of two brackets 7 and 8 secured to the respective half cages. The brackets 7—8 are rigidly interconnected by a cylinder 9, which is closed at both ends by the cap pieces 10, 11 respectively. The cylinder is filled with an explosive charge, for instance black powder 12. One of the covers, 10 is threaded on to the cylinder 9 and is provided with a hole in which an electric ignitor is arranged while the other cover 11 is fastened to the cylinder by means of a comparatively weak pin 14. At its rear end the con-

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tainer 1 is closed by means of a torpedo-shaped cage 15, fixed to the cylinder through a screw connection, the tip or nose 16 of the rear cage 15 being loose so that it may easily be removed. The cylinder 1 is shown as secured to an aeroplane indicated by the dotted lines by means of vertical arms 17, 18, which are interconnected by a horizontal stay 19 and diagonal stays 20. As shown in Figure 4, a blasting charge 21 and an electric ignitor 22 are placed in the rear stay 18 for cutting off the stay when the rockets have been dropped. In order to facilitate this, the stay is provided with an annular groove 23.

Fig. 5 shows the electric diagram of the electric means for discharging the rockets which is not shown. In this diagram 41 and 42 are connection bars. Furthermore 25 is an insulating tongue, which is arranged between two spring contacts 43 and 44. The tongue 25 is fixed at one of the cage parts e. g. the one designated by 3, and the contacts 43 and 44 are fixed at the cylinder 1. When the cage is separated from the cylinder 1 the two contacts 43 and 44 are connected with each other. 22 is the previously-mentioned ignitor arranged in the stay 18. 35—40 are terminals which through a control means, which is not shown, are connected to an electric current source also not shown. The control means is so constructed that the terminal 35 always is connected to the negative terminal of the source and that the terminals 36—40 separately in the order named are connected to the positive terminal of the source. When the terminal 36 is connected to the source the circuit for the ignitor 13 is closed. The charge 12 will thereby be ignited. The pressure which then sets up in the interior of the cylinder 9 removes the pin 14. The effect of this is that the two cage parts are released from each other and fly out in opposite directions whereby they go off the hooks 6 at the same time, and separate from the cylinder. The tongue 25 goes with the cage part 3. After this, the terminals 37—39 are connected to the source in the order mentioned with time intervals of for instance 0.06–0.1 second whereby the rocket group 1, 2, and 3, respectively is discharged. Lastly the terminal 40 is connected to the source. The circuit for the ignitor 22 is then closed. The blasting charge 21 is ignited. This causes the arm 18 to be bursted off. The whole cylinder 1 will now drop away, as the arm 17 is provided with a pivot 28, 29, 30 shown in Figure 7, the pivot being geared in the trace 27 of the arm 26.

Figure 6 shows how the rocket groups are se-

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lected. At the selection regard is taken to a minimum of disturbances being obtained by the discharge of an adjacent rocket.

On discharge of the first rocket, the top 16 is blown off by the rocket gases, followed by the bursting off of cage 15.

The rocket discharge tubes may also serve to house folding wings located on the rockets.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device for discharging rockets from aircraft comprising a container rupturably supported by the aircraft, said container having a plurality of rocket discharge tubes, a rupturable nose piece for said container comprising a pair of substantially similar cooperating halves, parabolic in cross section when joined, each half being detachably hooked to the container at one end, said nose piece halves being joined at the nose thereof by an explosive connection, and means for igniting said explosive connection to rupture the joint of said nose piece at the nose and to unhook said sections from the container.

2. A device for discharging rockets from aircraft comprising a container rupturably supported by the aircraft, said container having a plurality of rocket discharge tubes, a rupturable nose piece for said container comprising a pair of substantially similar cooperating halves, parabolic in cross section when joined, each half being detachably hooked to the container at one end, said nose pieces being joined at the nose thereof by an explosive connection, said connection comprising a bracket permanently affixed to the in-

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ner forward end of each nose piece section, a tubular member connecting said brackets, an explosive mixture within said tubular member and means for igniting said explosive mixture to rupture the connection between said nose piece halves and to cause them to become unhooked from said container.

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#### REFERENCES CITED

The following references are of record in the file of this patent:

#### UNITED STATES PATENTS

Number	Name	Date
44,631	Hull	Oct. 11, 1864
1,672,163	Krammer	June 5, 1928
2,071,594	Trimbach	Feb. 23, 1937
2,206,777	Kee	July 2, 1940
2,271,700	Martin	Feb. 3, 1942
2,302,280	Warren	Nov. 17, 1942
2,398,871	Turnbull et al.	Apr. 23, 1946
2,421,893	Lambert et al.	June 10, 1947
2,438,924	Kramer et al.	Apr. 6, 1948
2,451,476	Darnall	Oct. 19, 1948
2,453,869	Slate	Nov. 16, 1948
2,470,120	Walker	May 17, 1949
2,481,910	D'Ardenne	Sept. 13, 1949

#### FOREIGN PATENTS

Number	Country	Date
875,292	France	June 15, 1942

#### OTHER REFERENCES

Time magazine, page 70, November 1, 1948.