

June 3, 1930.

A. FABRIZIO

1,761,820

SALUTE

Filed Aug. 14, 1928

2 Sheets-Sheet 1

Fig. 1.

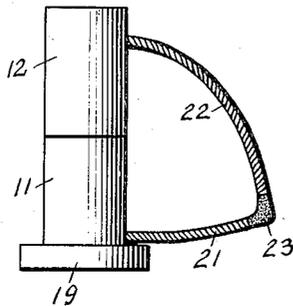


Fig. 2.

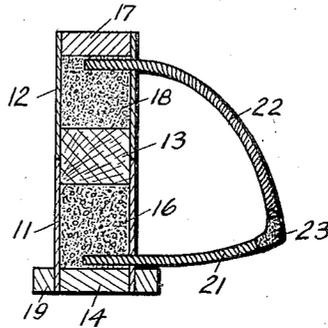


Fig. 3.

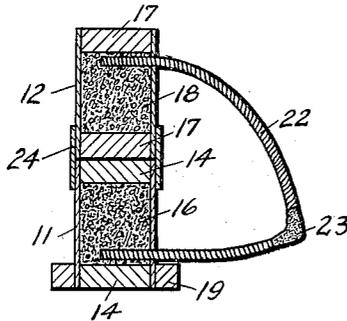


Fig. 4.

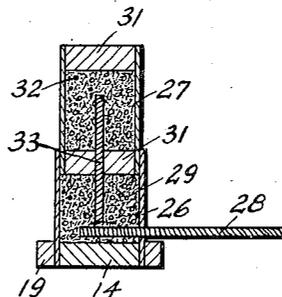
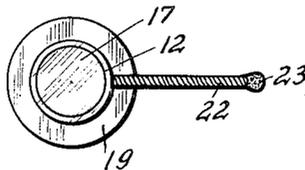


Fig. 5.



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Fig. 6.

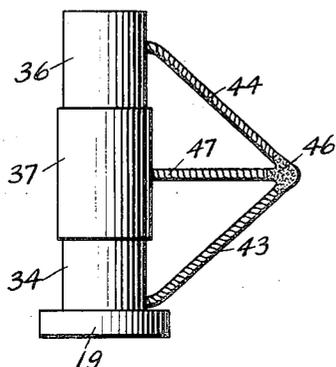


Fig. 7.

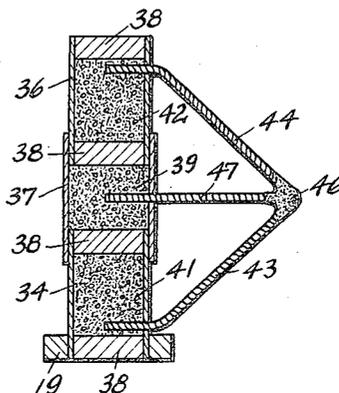


Fig. 8.

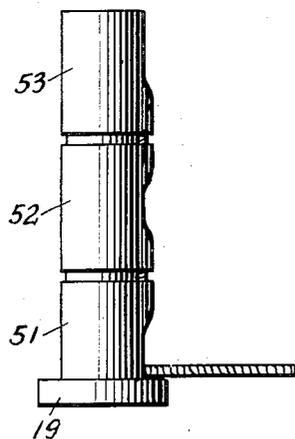
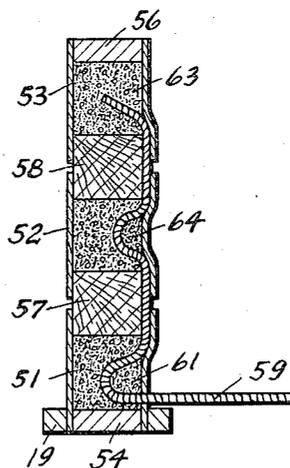


Fig. 9.



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UNITED STATES PATENT OFFICE

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SALUTE

Application filed August 14, 1928. Serial No. 299,503.

This invention relates to pyrotechnic toys or salutes and particularly to plural salutes of the type wherein one, when exploding, will hurl the other into the air for a subsequent explosion.

The object of the invention is to provide a pyrotechnic toy which will give both a ground salute and an air salute.

Another object of the invention is to provide such a pyrotechnic toy wherein the ground salute will hurl the air salute upward for a subsequent aerial explosion.

According to the invention, the pyrotechnic toy comprises two or more casings connected together and one of which is adapted to rest upon the ground; each casing is provided with a charge of explosive mixture and also with a fuse, the fuse of the charge in the lowermost casing being shorter and united with the fuse or fuses of the charges in the other casing or casings so the charge in the lowermost casing will be first discharged, thereby hurling the other casing or casings into the air where they will explode.

The drawings illustrate several embodiments of my invention and the views therein are as follows:

Figure 1 is a side elevation of one form of the pyrotechnic toy,

Figure 2 is a vertical section showing the manner in which the casings are slidably connected and the position of the fuses with relation thereto,

Figure 3 is a vertical section of a modified form of toy,

Figure 4 is a like view of another modification,

Figure 5 is a top plan view of the toy shown in Figures 1 and 2,

Figure 6 is a side elevation of a triplicate salute,

Figure 7 is a vertical sectional view of the same,

Figure 8 is a side elevation of another form of triplicate salute, and

Figure 9 is a vertical sectional view of the same showing the manner in which the fuse is arranged.

Figures 1 and 2 illustrate my invention in

its simplest form wherein two sections of casings 11 and 12 are joined by a wooden or other relatively thick plug 13. The casing 11 has its lowermost end closed by a plug 14 to enclose an explosive charge 16 while the upper casing 12 is also closed by a plug 17 to enclose an explosive charge 18 therein. The casings are preferably made of rolled paper tubes and the plugs 14 and 17 are made of any suitable material, such for instance, as wadding, or paper, and may be glued into the casing, if desired.

Fitting snugly around the lowermost part of the bottom casing 11 is an annular base 19 which rests upon the ground when the toy is in position to be exploded. A fuse 21 passes through the side of the casing 11 and into the explosive mixture 16 while a fuse 22 passes through the upper casing 12 and into the explosive mixture 18.

The upper fuse, however, is much longer than the lower fuse and both have their ends connected at the point 23 so that they are simultaneously lighted by a single application of a flame or spark. As the fuse 21 is considerably shorter than the fuse 22, the explosive charge 16 in the casing 11 will be first exploded and the upper casing 12, together with the plugs 13 and 17 which retain the explosive mixture 18 therein, will be hurled upward by the explosion of the charge 16 and while in the air, the fuse 22 will burn down into the explosive charge 18 and discharge the same in mid-air.

If desired, the plug 13 may be glued to the casings 11 and 12 and the disruption of the casing 11 will free the same so that it will not in any way be hampered or hindered from being blown into the air by the explosive charge 16.

Figure 3 shows the casing 11 having plugs 14 in the bottom and top of the same and the casing 12 with plugs 17 in the bottom and top thereof. The two individual salutes are held together by means of a collar 24 which nests the same. The bottom casing 11 is provided with the annular base 19 and the casings provided with the fuses 21 and 22 joined at 23 as in the toy described above. In this instance, the casings 11 and 12 may

be glued to the collar 24 and the explosion of the charge 16 in the casing 11 will tear the collar away so that the casing 12 containing the explosive charge 18 will be hurled into the air for subsequent exploding.

Figure 4 shows a somewhat different arrangement in which the casing 26 is of greater diameter than the casing 27 so that the casing 27 has a sliding fit with the interior thereof. The casing 26 has a plug 14 in its lowermost end and has a fuse 28 passing through the side of the casing and into an explosive charge 29, and the upper end of the casing 26 is sealed by the casing 27 which has plugs 31 at its upper and lower end between which is an explosive charge 32. Through the lower plug 31 there is a fuse 33 which extends from the explosive charge 32, passes down into the explosive charge 29 in the lower casing 26.

If desired, the upper casing 27 may be glued within the lower casing 26. When the fuse 28 is ignited and the explosive 29 in the lower casing is discharged, the upper casing 27 will be hurled upward and the fuse 33 will be lighted by the explosion of the mixture in the lower casing 26 so that the explosive 32 in the upper casing will be exploded in mid-air.

Figures 6 and 7 illustrate a triplicate salute where a lower complete casing 34 and an upper complete casing 36 are connected by a casing 37 of slightly greater diameter. The casings 34 and 36 are each provided with plugs 38 at their upper and lower ends and between the plugs which pass into the casing 37 there is a charge of explosive mixture 39.

The lower casing 34 has an explosive charge 41 and the upper casing 36 an explosive charge 42. The lower and upper casings 34 and 36 each have a fuse 43 and 44 respectively, passing through the casings into the explosive mixture therein and these fuses are brought together at the point 46 and also at that point connect with a fuse 47 which passes into the explosive mixture 39 in the casing 37, included between the plugs in the casings 34 and 36.

The plugs 38 may be glued into their respective casing and the casings 34 and 36 may also be glued into the casing 37. When the toy is ignited by application of a flame or spark to the point 46, the fuse 47 being considerably shorter than the other fuses, will first reach the explosive mixture 39 in the casing 37 and disrupt the same, whereupon the casing 34 will remain upon the ground, while the casing 36 will be hurled into the air and as the fuses 43 and 44 are of equal length, the second and third explosions will occur practically simultaneously, one upon the ground and the other in mid-air.

Figures 8 and 9 illustrate a toy com-

posed of three casings, 51, 52 and 53. The bottom of the lower casing is closed by a plug 54 while the upper end of the top casing 53 is closed by a plug 56. The upper end of the lower casing 51 and the lower end of the medium casing 52 are closed by a plug 57 which may be of wood and which is considerably thicker than the plugs 54 and 56 while the upper end of the medium casing 52 and the lower end of the upper casing 53 are closed by a similar plug 58.

This toy is provided with a fuse 59 which runs into the explosive mixture 61 of the casing 51 then passes around the plug 57 and into the explosive mixture 62 of the casing 52 and thence around the plug 58 and into the explosive mixture 63 in the casing 53. It will thus be seen that when the end of the fuse 59 is ignited, the charge 61 in the lowermost casing will be first exploded and the casings 52 and 53, together with the plug 57, will be blown into the air where the fuse will continue to burn, igniting the explosive 62 to cause the explosion of the casing 52, and will still continue to burn and will thereafter explode the mixture 63 in the casing 53 so that there will be one ground explosion and two aerial explosions.

Each of the lower casings in the forms shown in Figures 4 and 6 to 9 has an annular base 19.

The pyrotechnic toys or salutes illustrated may be modified in various ways without departing from the invention herein described and hereafter claimed.

The invention is hereby claimed as follows:

1. A plural salute comprising a plurality of abutting closed cylinders a separate coupling member connecting said cylinders in end to end relation, each cylinder having an explosive charge therein and means for igniting the same.

2. A plural salute comprising a plurality of abutting chambers a separate coupling member connecting said cylinders in end to end relation, each cylinder having an explosive charge and a single fuse for successively igniting the said chambers.

3. A plural salute comprising separate abutting casings, a separate coupling member connecting said casings in end to end relation each casing having an explosive charge and a fuse therefor, the explosion of one of said salutes being adapted to hurl the other salute into the air for subsequent explosion.

4. A plural salute comprising abutting casings, partitions disposed in the said casings forming a plurality of chambers therein, a separate coupling member connecting said casings an explosive charge and a fuse for each chamber, the said fuses being

adapted to cause successive subsequent explosion of the chambers.

5 5. A plural salute comprising connected chambers disposed in end to end relation, and couplings for connecting the said chambers having an internal diameter of substantially the same dimensions as the external diameter of the chambers, an explosive charge for each chamber and means for successively igniting the explosive charge in
10 each chamber.

15 6. A plural salute comprising chambers disposed in abutting end to end relation, a separate coupling member connecting said chambers in said relation, each chamber having an explosive charge and means for igniting said charges at pre-determined intervals, the explosion of one of said charges being adapted to hurl one or more of the
20 chambers into the air for a subsequent explosion.

25 7. A pyrotechnic toy comprising a plurality of casings disposed in end to end relation, partitions disposed between each of the said casings for forming chambers, each chamber having an explosive charge therein and means for igniting the same, the said means being adapted to explode the charges at pre-determined intervals, one of the said
30 charges adapted to hurl one or more of the said chambers into the air for simultaneous explosion with another of the said chambers on the ground.

35 In testimony whereof I have signed my name to this specification.

ACHILLO FABRIZIO.

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