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A. CIMOROSI

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SALUTE AND METHOD OF MAKING SAME

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Fig. 1.

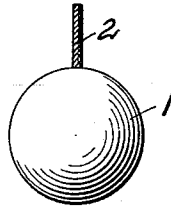


Fig. 2.

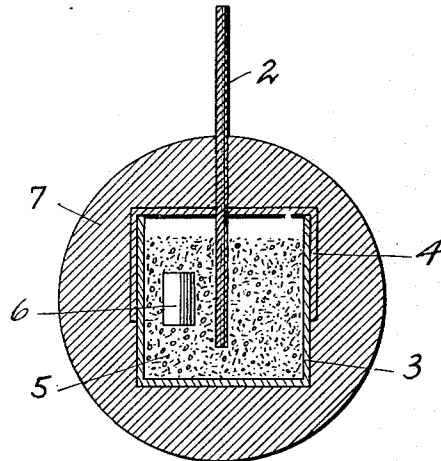
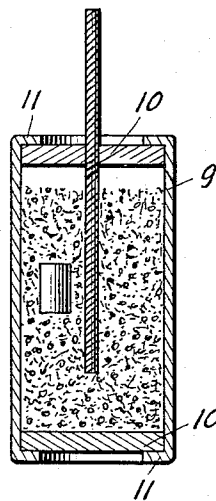


Fig. 3.



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SALUTE AND METHOD OF MAKING SAME

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The usual method of making salutes is to mix a quantity of the explosive ingredients in the required proportions, charge the containers with the required quantity of the mixture, insert a fuse and seal the container. As the separate ingredients of the explosive charge are not explosive, mixing them as the first step in the manufacture involves a considerable amount of direct handling of the explosive mixture. Further the salute as heretofore made, is merely a noise-making device.

Objects of my invention are, first, to provide an improved method of making salutes;

Second, to provide a method of making salutes which obviates the necessity of directly handling the explosive mixture;

Third, to provide an improved salute;

Fourth, to provide a salute which, as it explodes, will produce a display of colored light, and

Fifth, to provide a salute which will be superior in its detonation qualities to known salutes.

In the drawings,

Figure 1 is a perspective view of a salute made in accordance with my invention,

Figure 2 a central vertical section of the salute, and

Figure 3 a like section showing a modified form of container.

The construction of one form of the salute is clearly illustrated in Figures 1 and 2. This salute as shown is globular in shape, comprising a container in the nature of a capsule or cup 3, which may be of thin pasteboard and which is closed by the cap 4 of the same material. 5 indicates an explosive mixture confined within the capsule and which comprises a number of ingredients each of which may be non-explosive except in the mixture. Many well known substances are available for this purpose, among which are perchlorate of potash, powdered aluminum and sulphate of antimony; neither of which is explosive by itself but which, when mixed together, form an explosive mixture. It will be understood that other explosive materials may be used in the salute, but for convenience of manufacture

a mixture of the above character has certain advantages which will later appear.

Within the capsule may be placed coloring matter, which may be in any suitable form but for certain purposes I prefer that it should be in the form of a tablet or tablets one of which is designated in Figure 2, by the numeral 6. These tablets may be composed of substances which either reflect the light of the explosion or which will burn with the light desired. The color will depend on the chemicals used.

The specific chemical or chemicals used depends on the effect to be produced and may be varied to suit the taste. Numerous well known substances are on the market and need not be set forth here in detail. While I prefer that the coloring matter should be in the form of tablets for certain purposes, it may be in the form of granules, powder or any other suitable form according to the substances used and depending on the speed of burning thereof and other considerations that may arise.

The visible effect of the explosion of a mixture of the above character will depend among other things upon the chemical used, and upon the form thereof; that is whether granular, powder, or tablets and in the latter case whether one or a plurality of such tablets are employed.

The use of a single tablet of burning chemicals will produce a column or streak of colored fire, a granular colored material would tend to produce a flash at the point of discharge and other effects may be produced by varying the physical properties of the coloring substances and by varying the nature of the compounds comprising the same.

The capsule or cup with the explosive and coloring matter enclosed therein is enclosed in a coating of comminuted material, such as "wood flour" or finely divided sawdust, confetti, a mixture thereof, or any other suitable material held together by a binder of adhesive as glue and the like. This coating may be applied so as to produce a globular shape as represented in Figure 1 and designated by the numeral 1.

The effect of this construction is to confine

the gases formed by the combustion of the materials within the capsule until a sufficient pressure has been developed to violently disrupt the walls with a consequent violence of detonation.

The final shape of the form of the salute as shown in Figures 1 and 2 is important not only from the point of superiority of construction but also on account of the facility with which it may be manufactured.

The manufacture of this form of the salute is as follows:

The explosive, as stated above, may consist of perchlorate of potash, powdered aluminum and sulphate of antimony, neither of which is explosive by itself. Instead of mixing these ingredients as the initial step in the manufacture and then charging the containers with the explosive mixture, I place the ingredients in the cups or capsule, preferably in layers. The cups being preferably of a size sufficient to hold a complete charge of the explosive and leave sufficient unfilled space to permit the several ingredients to mingle freely when agitated. A tablet of coloring matter is inserted and the cap placed over the cup; the diameter of the cap being such as to grip the wall of the cup with sufficient friction to hold it against removal except by a direct and intentional pull. The loaded containers are then placed in a tumbling device, which may be of the rotary type in which is carried a liquid adhesive.

The containers are then tumbled until they have acquired a coating of adhesive. Finely comminuted material, as a quantity of confetti, sawdust, a mixture thereof, or other suitable material is then placed in the tumbler and the cups or capsules again tumbled until they have acquired a substantial coating of comminuted material and preferably until they have acquired a substantially globular shape which will result from a continued tumbling thereof. The ball-like structures are then dried, and may be drilled to receive a fuse, the fuse being inserted and the salute is complete.

In Figure 3 I have shown the container as constructed of an open ended tube 9 adapted to be closed at top and bottom by disks 10 which are held in place by crimping the ends of the tubes inward to form flanges 11. One end of the tube is crimped and a disk inserted to serve as the bottom of the container, the container charged as before, a tablet of coloring matter inserted, the other disk inserted, the end of the tube crimped thereover, and the container tumbled to mix the explosive ingredients.

When the salute is exploded, the flash is accompanied by a pillar or column of illuminated colored smoke, or by any other appearance according to the condition of the coloring matter in the capsule as outlined

above, whereby the salute appeals to the eye as well as to the ear.

The salute may be manufactured with or without the coloring matter and may otherwise be modified within the scope of the appended claims.

I do not therefore wish to be limited in the scope of my invention, except as I shall be limited by said claims.

I claim:—

1. The herein described method of making salutes, consisting in disposing the ingredients which are to constitute the explosion in a container in distinct layers; adding a tablet of coloring matter to be mixed with the other ingredients; closing the container; tumbling the container in an adhesive and a comminuted substance to form a coherent coating enclosing the container, drying the object thus produced and inserting a fuse.

2. A salute consisting of a closed container carrying a charge of explosive material and a charge of coloring matter within the explosive charge, and provided with a fuse.

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

ALBERTO CIMOROSI.