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J. B. DECKER

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ROCKET ASSEMBLY

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Fig. 1.

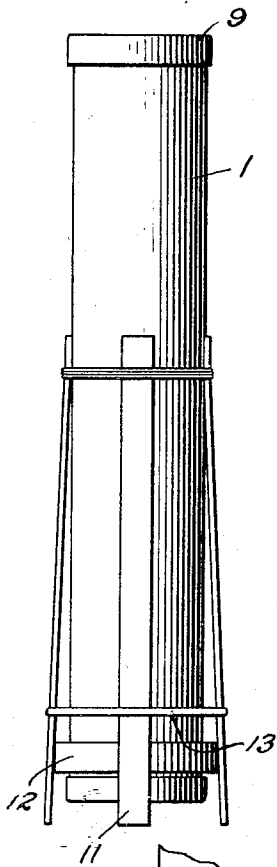


Fig. 2.

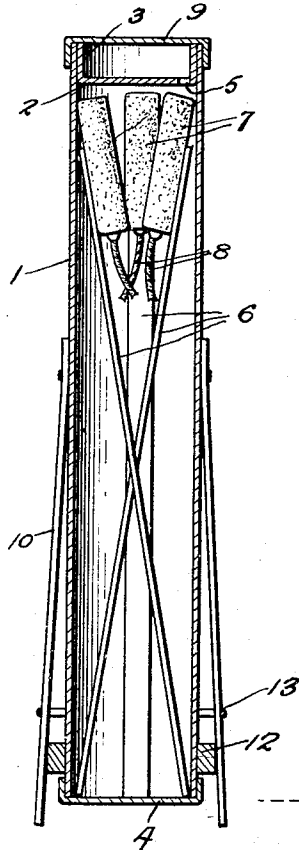


Fig. 3.

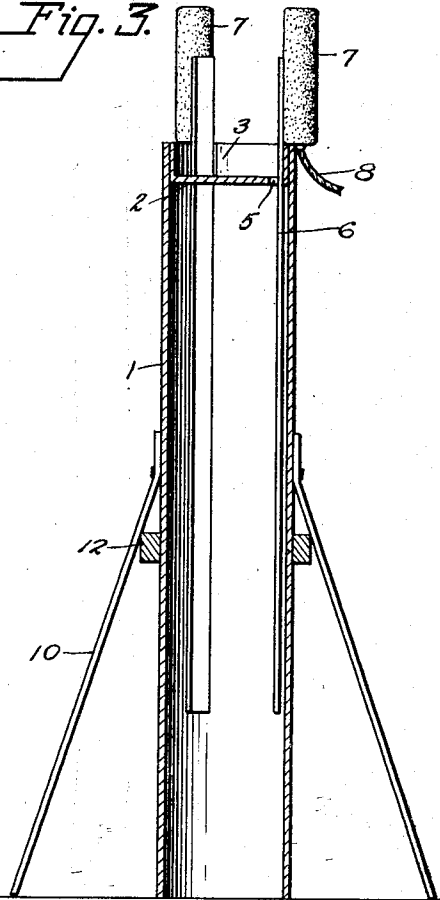


Fig. 5.

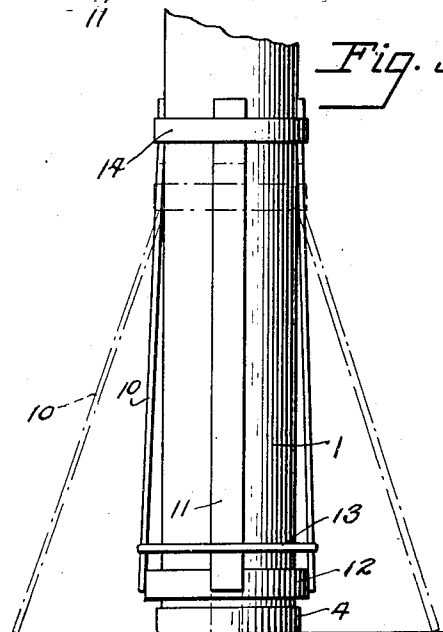
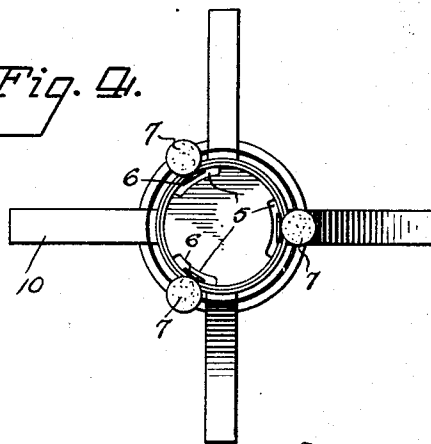


Fig. 4.



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ROCKET ASSEMBLY

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7 Claims. (Cl. 102—23)

This invention relates to special packages. It has for its object the provision of a package for pyrotechnic devices such as sky rockets, roman candles, etc., which shall function alternatively as a shipping container for the pyrotechnic device as well as a support for the rockets, etc., when they are fired.

One of the objects of the invention is the provision of a box or tube serving as a receptacle for the rockets, and having a slot or slots in one end so that the tube may be stood on the opposite ends and one or more rockets supported in firing position by having the shaft of the rocket thrust through one of the slots and the barrel of the rocket resting upon the upper edge of the tube or box with the fuse extending in position to be ignited, the tube or box acting as a support and guide.

Another object of the invention is to provide the container with a plurality of strips or legs normally lying substantially flat against the outside of the container in the interest of conservation of space, with means carried by the container for expanding the legs so that they form a large and stable base or support for the container when it is employed as a rocket guide or stand.

Still another object of the invention is to provide a rocket package of the type described in which the legs are slidable as a unit longitudinally of the tube or box to bring the free ends of the legs within the bounds of the length of the container so that they will not project in shipping, and become broken, the legs being extensible to the required distance and expansible, in the manner previously set forth.

Other objects of the invention will appear as the following description of a preferred and practical embodiment thereof proceeds.

In the drawing which accompanys and forms a part of the following specification and throughout the several figures of which the same characters of reference have been employed to designate identical parts:

Figure 1 is a view in elevation of the rocket package in shipping condition;

Figure 2 is a longitudinal section through the same;

Figure 3 is a longitudinal section through the same package illustrating the legs expanded in supporting condition and rockets placed in position to be fired;

Figure 4 is a plan view of the device as shown in Figure 3; and

Figure 5 is a view in elevation of a modified

form of container, the upper part being broken away.

Referring now in detail to the several figures, the numeral 1 represents a tubular container or receptacle, the shape however being immaterial to the invention, excepting of course that it is an elongated receptacle adapted to contain pyrotechnic pieces such as sky rockets or roman candles. The tube 1 may be made of any suitable material such for example as pasteboard. There is a closure 2 at one end of the receptacle which in the preferred example is of cup-like form defining a surrounding flange 3 extending outwardly from the end of the receptacle. The lower end of the tube is closed by a cap 4. Figure 2 shows that the receptacle thus constituted is adapted to contain a plurality of rockets. Since it is to function not only as a shipping receptacle, but as a support or stand to guide the take-off of the rockets, it is necessarily provided with special features which differentiate it from an ordinary tubular container.

For example, the rockets are intended to be removed from the receptacle by taking off the cap 4, and the closure 2 at the upper end is provided with one or more slots 5 as shown in Figure 4 through which the shafts 6 of the rockets may be thrust as illustrated in Figure 3. The barrels 7 of the rockets being adapted to rest upon the flange 3, the latter preferably engaging the barrels between the shafts 6 and the fuses 8 so that the latter extend peripherally outwardly as shown in the most convenient position to be ignited. Since the closure 2 is perforated by the slots 5, it may be desirable in shipping to provide an outer cap 9, see Figures 1 and 2, in order to seal the contents of the package against the entrance of dampness, dust, or other objectionable substance.

In order to enhance the stability of the tube 1 when it is stood upon end to function as a rocket support and guide, it is provided externally with a plurality of legs 10. These do not have to be very sturdy; strips of pasteboard answer the purpose very well. In that form of the invention shown in Figure 2, the legs 10 are glued or otherwise fixed to the wall of the tube 1 in a zone intermediate the ends of the said tube and are free from said tube throughout the rest of their extent. Normally, they lie substantially flat against the tube and project beyond it at one end as indicated at 11 in Figure 1.

The tube is provided with a relatively thick ring 12 of pasteboard or the like, arranged beneath the three portions of the legs 10 and slid-

able along the tube 1 beneath said legs and being retained against accidental displacement by the presence of the cap 4. When the ring is slipped upward beneath the legs 10, it pries the legs apart so that when it reaches the uppermost position as illustrated in Figure 3, the legs have assumed a divergent relation which defines a broad base of support for the tube 1. Since it is desirable in order to secure the maximum height of flight for the rockets to minimize or completely eliminate any reactive yield of the support, the legs are preferably of such length that when fully distended the end of the tube 1 rests firmly against the ground or whatever surface the support may be resting upon.

In shipping and until it is desired to fire the rockets, it is preferred to hold the legs 10 as close as possible to the body of the receptacle. This is accomplished by means of a rubber band 13 which surrounds the legs under tension. The tension of said band also presses the legs into frictional engagement with the ring 12 constituting an additional safeguard to prevent displacement of the same.

It may be objected to the above construction that the extensions 11 of the legs cause the package to occupy more space than is necessary in shipping, and furthermore, that they may readily become creased or broken preventing the receptacle from standing level. In Figure 5, the whole leg unit is slidable along the tube 1 and in the normal shipping position the ends of the legs rest against the ring 12 where they are completely within the length dimension of the receptacle and shielded from being broken. The upper ends of the legs are free with respect to the tube 1, but suitably secured to a sliding ring or carriage 14 which may be of paper or any other inexpensive material. Sturdiness is not an essential factor for this part of the construction. In this form of the invention as in the form first described, a rubber band 13 surrounds the legs when the receptacle is in shipment or on sale holding them close to the tube, conserving the space which the receptacle occupies in shipment. When it is desired to set the receptacle up as a take-off stand for the fireworks, the rubber band is removed, the paper ring 14 slid downwardly with the legs unitarily associated therewith and the thick ring 12 slid upwardly to expand said legs. The receptacle then has the position identical with that shown in Figure 3.

It will be observed from Figure 3 that the shafts of the rockets lie against the inner wall of the tube 1 and that when the ignition takes place, they will take off with the shafts parallel to the longitudinal dimension of the receptacle. As many rockets as there are slots in the closure 2 may be placed at one time and either fired singly or in multiple. The stability of the container as a guide is amply assured by the extensive base or support afforded by the divergent legs so that the trajectory of the rockets will be a through flight and not an erratic course which may land them in the midst of the on-lookers.

While I have in the above description disclosed what I believe to be a preferred and practical embodiment of my invention, it will be understood to those skilled in the art that the details of construction as shown and described are by way of example and not to be constructed as limiting the scope of the invention as claimed.

What I claim is:

1. Combined rocket package and take-off stand comprising a receptacle adapted to be stood on end with the contents removed, having an upper end closure provided with an aperture adapted to receive the shaft of a rocket and to guide the rocket in its take-off, legs extending longitudinally along said receptacle, secured in close relation thereto at their upper ends and means carried by said receptacle for expanding said legs into a stable base of support for said receptacle.

2. Combined rocket package and take-off stand comprising a receptacle adapted to be stood on end with the contents removed, having an upper end closure provided with an aperture adapted to receive the shaft of a rocket and to guide said rocket in its take-off, legs extending longitudinally along said receptacle, secured in close relation thereto at their upper ends, and a ring mounted upon said receptacle beneath said legs movable upward into the angle between said legs and receptacle for expanding said legs into a stable base of support for said receptacle.

3. Combined rocket package and take-off stand comprising a receptacle adapted to be stood on end with the contents removed, an upper end closure provided with an aperture adapted to receive the shaft of a rocket and guide the rocket in its take-off, legs extending longitudinally along said receptacle, secured in close relation thereto at their upper ends, a ring mounted on said receptacle and slidable into the angle between said legs and said receptacle for expanding said legs into a stable base of support for said receptacle, said legs normally extending a sufficient distance beyond the end of said receptacle to permit the latter to make contact with the surface on which said stand is supported when said legs are in expanded position.

4. Combined rocket package and take-off stand comprising a receptacle adapted to be stood on end with the contents removed, having an upper end closure provided with an aperture adapted to receive a shaft of a rocket and to guide the rocket in its take-off, legs extending longitudinally along said receptacle, secured in close relation thereto at their upper ends, a ring mounted on said receptacle and slidable into the angle between the legs and receptacle for expanding said legs into a stable base of support for said receptacle, and a lid on the lower end of said receptacle retaining said ring against displacement.

5. Combined rocket package and take-off stand as claimed in claim 4, including a rubber band about the free ends of said legs constricting them with respect to said ring.

6. Combined rocket package and take-off stand comprising a receptacle adapted to be stood on end with the contents removed, having a cupped end closure re-entrantly arranged forming a transverse partition with a surrounding flange, the partition having an aperture adapted to receive the shaft of a rocket and to guide the rocket in its take-off, said flange being adapted to engage the rocket between the shaft and fuse, exposing the latter in position to be readily ignited, legs extending longitudinally along said receptacle, secured in close relation thereto at their upper ends, and a ring mounted upon said receptacle and slidable into the angle between said legs and receptacle for expanding said legs into a stable base of support for said receptacle.

7. Combined rocket package and take-off stand comprising a receptacle for rockets adapted to be stood on end with the contents removed, having

an upper end closure provided with an aperture adapted to receive the shaft of a rocket and to guide the rocket in its take-off, leg structure comprising a plurality of legs and a connecting band at their upper ends slidable longitudinally along said receptacle in close relation thereto and normally positioned so that the free ends of said legs are within the bounds of the length of said receptacle, said legs being unitarily slidable to a position in which their free ends extend beyond the receptacle, and a ring slidably mounted on said receptacle beneath said legs and slidable into the angle between said legs and receptacle for expanding said legs into a stable base of support for said receptacle.

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