Oct. 31, 1944. G. A. HEALY 2,361,841

SMOKE TRAIL BATON

Filed July 24, 1943

Fig. 1.

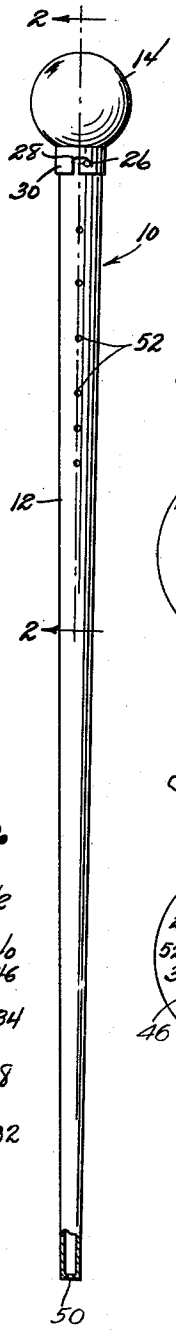


Fig. 2.

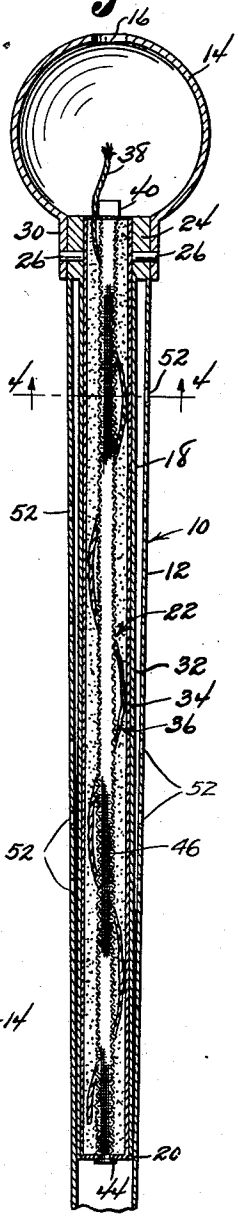


Fig. 5.

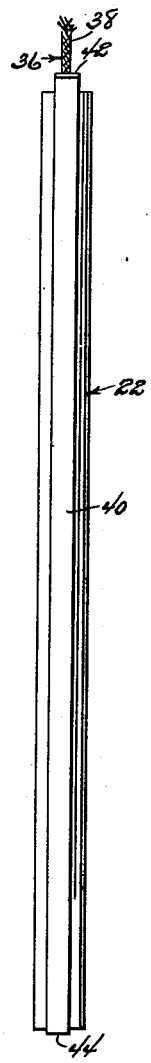


Fig. 3.

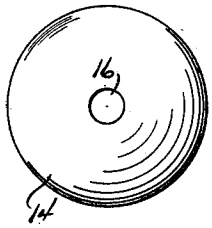


Fig. 4.

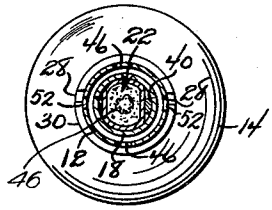
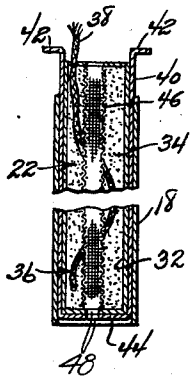


Fig. 6.



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ATTORNEYS

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SMOKE TRAIL BATON

George A. Healy, Aurora, Ill.

Application July 24, 1943, Serial No. 496,089

8 Claims. (Cl. 84—477)

My invention relates to exhibition devices for parades and the like, and includes among its objects and advantages the provision of an improved smoke trail baton.

In the accompanying drawing:

Figure 1 is an elevational view of a baton in accordance with my invention;

Figure 2 is an enlarged sectional view along the line 2—2 of Figure 1;

Figure 3 is a plan view of the top end of the baton;

Figure 4 is a sectional view on the line 4—4 of Figure 2;

Figure 5 is an elevational view of a smoke cartridge; and

Figure 6 is a fragmentary sectional view of the smoke cartridge illustrating a U-shaped steel strap for removing the cartridge from its containing barrel.

In the embodiment selected to illustrate my invention, the baton 10 comprises an outer shell or tube 12 of tapered contour. To the top end of the tube 12 is mounted a hollow ball 14 having a smoke hole 16 through which the smoke issues. Inside the tube 12 is positioned an inner tube 18 of uniform diameter and of such size as to fit snugly at its inner end with the tube 12, as at 20. This inner tube contains the smoke cartridge 22.

A ring 24 is fixed to the upper end of the tube 18 and is provided with two pins 26 receivable in bayonet slots 28 in the neck 30 of the ball 14. This neck fits snugly on the ring 24 but the ball 14 may easily and quickly be removed by reason of the bayonet slots 28.

The smoke cartridge 22 includes a paper shell 32 and a composition 34 which, when it burns, emits thick smoke. Such composition may be similar to that employed in smoke bombs of the kind which emit black smoke and need not be described in detail. Since the cartridge 22 extends through the ring 24, the smoke may enter the ball 14 and pass to the atmosphere by way of the smoke hole 16. A fuse 36 is incorporated in the cartridge 22 and its end 38 is accessible for lighting purposes through mere detachment of the ball 14 from the ring 24. Replacement cartridges are also easily placed in position when the ball 14 is removed. The paper shell 32 is treated so as to render it fire-resistant to the end that the shell may be removed intact after the composition 34 has burned, thereby facilitating insertion of the replacement cartridge.

To facilitate removal of the paper shell 32, a U-shaped member 40 is provided which fits snugly inside the inner tube 18 and is fashioned with ears 42. The ears 42 are manually accessible when the ball 14 is detached from the ring 24 so that a good grip may be had on the member 40. The member 40 is preferably formed of a relatively thin steel strap and has its bight 44 engageable with the inner end of the paper shell 18 so as to constitute an effective lift for the shell.

A metallic mesh tube 46 is positioned axially of the smoke cartridge 22. Thus the tube 46 is surrounded by the composition 34, and one end of the tube 46 is in communication with the openings 48 in the bight 44 and the bottom of the paper shell or tube 32. The small end of the tube 12 is provided with an opening 50 to place the metallic mesh tube 46 in communication with the atmosphere. Thus the metallic mesh tube 46 provides air distribution for the burning composition so as to insure effective combustion thereof.

Rows of openings 52 are provided in the tube 12 for cooling purposes. While the inner tube 18 fits snugly inside the tube 12 for support, the upper end of the tube 12 may be welded to the ring 24 so as to support the tubes 12 and 18 in concentric relationship at their upper ends. Both the tubes 12 and 18 are formed of relatively thin sheet metal for weight reducing purposes.

Without further elaboration, the foregoing will so fully illustrate my invention, that others may, by applying current knowledge, readily adapt the same for use under various conditions of service.

I claim:

1. A smoke trail baton comprising a tubular shaft-like member, a smoke cartridge inside said shaft-like member, a hollow head communicating with said shaft-like member and having a smoke hole, and means detachably connecting said head with said shaft-like member, with said smoke cartridge insertable in said shaft-like member when said head is removed therefrom.

2. A smoke trail baton comprising a hollow, tapered, shaft-like member, a tube located inside said shaft-like member and having one end fitting snugly against the shaft-like member but otherwise spaced therefrom, means for fixedly relating the other end of said tube and said shaft-like member, a hollow ball detachably connected with said means and communicating with said tube, a smoke generating cartridge inside said tube, said ball being provided with a smoke hole, and said shaft-like member being provided with perforations placing the space between the tube and the shaft-like member in communication with the atmosphere.

3. A smoke trail baton comprising a hollow, tapered, shaft-like member, a tube located inside said shaft-like member and having one end fitting snugly against the shaft-like member but otherwise spaced therefrom, a ring means fixedly relating the other end of said tube and said shaft-like member and having a pin, a hollow ball having a neck embracing said ring means and communicating with said tube, said neck having a bayonet slot for receiving said pin for detachably connecting the ball with said ring means, a smoke generating cartridge inside said tube, said ball being provided with a smoke hole, said shaft-like member being provided with perforations placing the space between the tube and the shaft-like member in communication with the atmosphere, said smoke generating cartridge comprising a combustible composition enclosed in a containing shell and a fuse accessible for lighting when the ball is detached from said ring means, and a pull means located between said shell and said tube and accessible when said ball is detached for withdrawing the shell from the tube.

4. A smoke trail baton comprising a hollow, tapered, shaft-like member, a tube located inside said shaft-like member and having one end fitting snugly against the shaft-like member but otherwise spaced therefrom, a ring means fixedly relating the other end of said tube and said shaft-like member and having a pin, a hollow ball having a neck embracing said ring means and communicating with said tube, said neck having a bayonet slot for receiving said pin for detachably connecting the ball with said ring means, a smoke generating cartridge inside said tube, said ball being provided with a smoke hole, said shaft-like member being provided with perforations placing the space between the tube and the shaft-like member in communication with the atmosphere, said smoke generating cartridge comprising a combustible composition enclosed in a containing shell and a fuse accessible for lighting when the ball is detached from said ring means, a pull means located between said shell and said tube and accessible when said ball is detached for withdrawing the shell from the tube, said pull means comprising a U-shaped member inserted between said containing shell and said tube and having its bight extending across the inner end of the cartridge, and grip ears formed at the ends of the legs of said U-shaped member.

5. A smoke trail baton comprising a tubular shaft-like member, a smoke cartridge inside said shaft-like member, a hollow head communicating with said shaft-like member and having a smoke hole, means detachably connecting said head with said shaft-like member, with said smoke cartridge insertable in said shaft-like member when said head is removed therefrom, and a perforated air inlet member extending through said smoke cartridge.

6. A smoke trail baton comprising a hollow, tapered, shaft-like member, a tube located inside said shaft-like member and having one end fitting snugly against the shaft-like member but otherwise spaced therefrom, means for fixedly relating the other end of said tube and said shaft-like member, a hollow ball detachably connected with said means and communicating with said tube, a smoke generating cartridge inside said tube, said ball being provided with a smoke hole, said shaft-like member being provided with perforations placing the space between the tube and the shaft-like member in communication with the atmosphere, said shaft-like member having an air inlet opening, and a perforated metallic tube extending through said smoke generating cartridge and having communication with said air inlet opening.

7. A smoke trail baton comprising a hollow, tapered, shaft-like member, a tube located inside said shaft-like member and having one end fitting snugly against the shaft-like member but otherwise spaced therefrom, a ring means fixedly relating the other end of said tube and said shaft-like member and having a pin, a hollow ball having a neck embracing said ring means and communicating with said tube, said neck having a bayonet slot for receiving said pin for detachably connecting the ball with said ring means, a smoke generating cartridge inside said tube, said ball being provided with a smoke hole, said shaft-like member being provided with perforations placing the space between the tube and the shaft-like member in communication with the atmosphere, said smoke generating cartridge comprising a combustible composition enclosed in a containing shell and a fuse accessible for lighting when the ball is detached from said ring means, a pull means located between said shell and said tube and accessible when said ball is detached for withdrawing the shell from the tube, said hollow, tapered, shaft-like member being provided with an air inlet opening, and a metallic mesh tube extending through said smoke generating cartridge and communicating with said air inlet opening.

8. A smoke trail baton comprising a hollow, tapered, shaft-like member, a tube located inside said shaft-like member and having one end fitting snugly against the shaft-like member but otherwise spaced therefrom, a ring means fixedly relating the other end of said tube and said shaft-like member and having a pin, a hollow ball having a neck embracing said ring means and communicating with said tube, said neck having a bayonet slot for receiving said pin for detachably connecting the ball with said ring means, a smoke generating cartridge inside said tube, said ball being provided with a smoke hole, said shaft-like member being provided with perforations placing the space between the tube and the shaft-like member in communication with the atmosphere, said smoke generating cartridge comprising a combustible composition enclosed in a containing shell and a fuse accessible for lighting when the ball is detached from said ring means, a pull means located between said shell and said tube and accessible when said ball is detached for withdrawing the shell from the tube, said pull means comprising a U-shaped member inserted between said containing shell and said tube and having its bight extending across the inner end of the cartridge, grip ears formed at the ends of the legs of said U-shaped member, said hollow, tapered, shaft-like member having an air inlet opening, and a metallic mesh tube extending through said smoke generating cartridge and communicating with said air inlet opening.

GEORGE A. HEALY.