

[54] **HARMLESS FIREWORK**  
 [75] Inventor: **Samuel E. Brown, Jr.**, Danville, Va.  
 [73] Assignee: **The Raymond Lee Organization, Inc.**, New York, N.Y.

1,322,980 11/1919 Wale ..... 89/1 F  
 1,269,574 6/1918 Anthony et al. .... 89/7  
 1,806,633 5/1931 MacDonald ..... 42/55  
 1,356,559 10/1920 Rice ..... 42/54

[22] Filed: **Nov. 22, 1971**  
 [21] Appl. No.: **200,683**

*Primary Examiner*—Stephen C. Bentley  
*Attorney*—Richard S. Shreve, Jr.

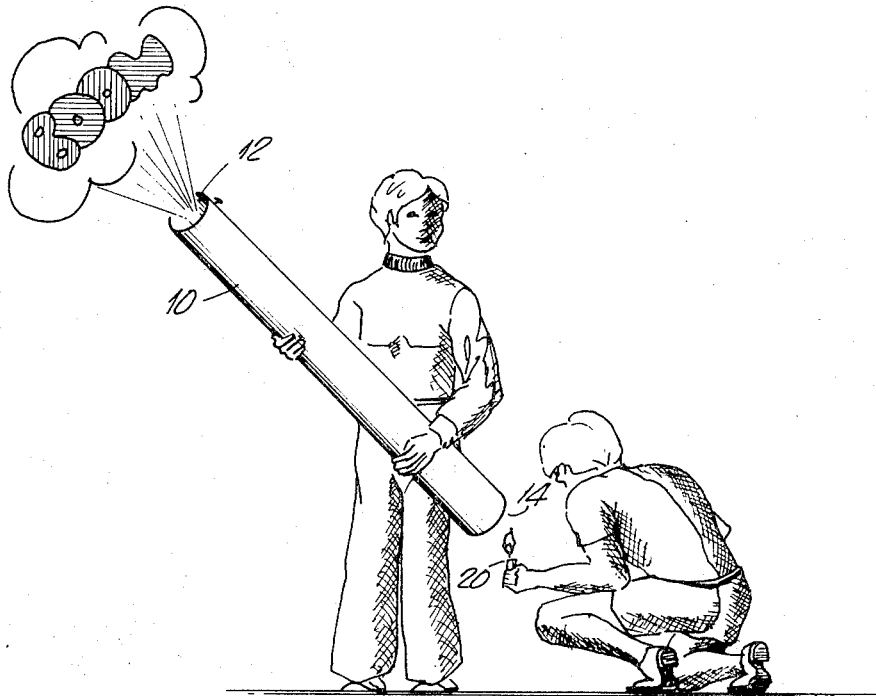
[52] U.S. Cl. .... **42/55, 46/199, 89/7, 181/.5 NC**  
 [51] Int. Cl. .... **F41f 27/00, F42d 7/00**  
 [58] Field of Search ..... **42/54, 55; 46/196, 46/199; 89/1 F, 15, 7; 102/31, 32, 39; 181/.5 R, .5 NC, .5 XL**

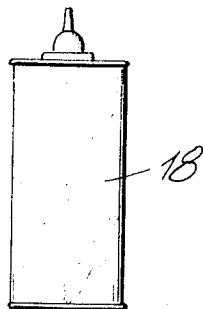
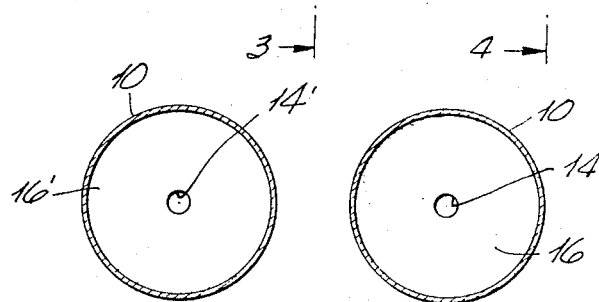
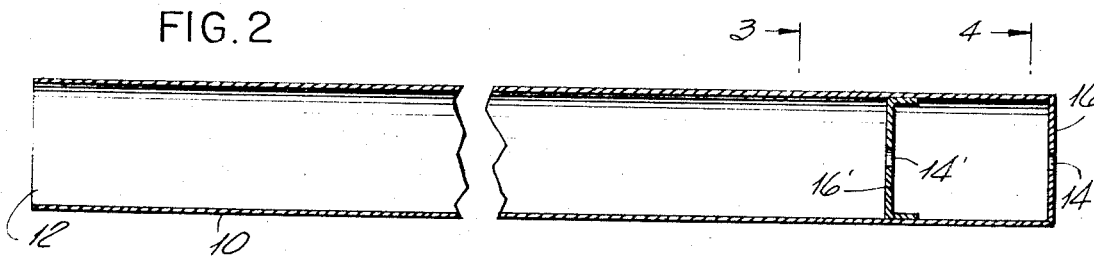
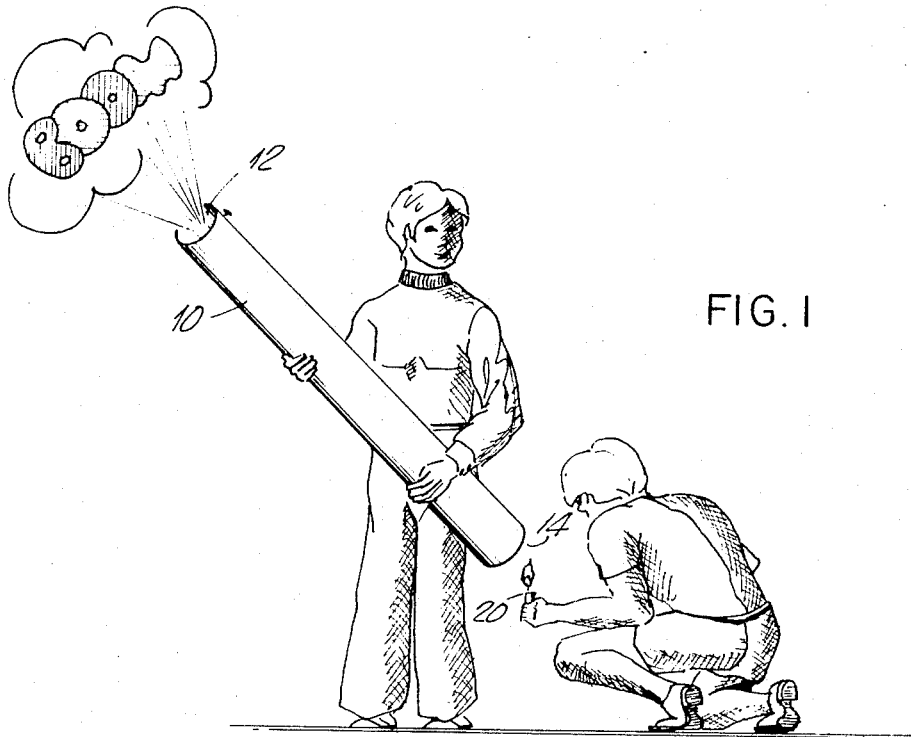
[57] **ABSTRACT**

An elongated hollow tube or cylinder open at one end has a disc with a small central opening sealing off the other end. A second like disc with like opening is disposed in the tube intermediate the ends but much closer to the diaphragm bearing end to the open end. The discs are parallel. Lighter fluid is squirted into the space between the discs. The fluid is ignited whereby a harmless loud noise is produced.

[56] **References Cited**  
**UNITED STATES PATENTS**  
 1,291,674 1/1919 Brannon ..... 89/7

**1 Claim, 5 Drawing Figures**





INVENTOR.  
SAMUEL E. BROWN, JR.

HARMLESS FIREWORK

FIELD OF THE INVENTION

My invention is directed toward a firework which can produce a very loud noise but is completely harmless.

SUMMARY

To this end I employ an elongated hollow tube or cylinder with one open end and a disc with a small central hole sealing the other end and disposed at right angles to the axis of the cylinder. A second parallel disc with a like central hole is disposed in the cylinder adjacent the end disc and remotely spaced from the open end.

The portion of the cylinder subtended between the discs constitutes a combustion chamber. Lighter fluid is squirted into the chamber via the opening in the end disc and the cylinder is shaken a few times to distribute the fluid and allow at least some of it to vaporize. The cylinder is then inclined upward, open end at top and the fluid is ignited by holding a lighted match or lighter adjacent the opening in the end disc. A loud noise is produced in a harmless manner.

If desired, the top portion of the cylinder (that portion which is not the combustion chamber) can be charged with small plastic balls which will be ejected from the cylinder when the fluid is ignited.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings:

FIG. 1 is a perspective of my invention in use;

FIG. 2 is a longitudinal cross section of my invention per se;

FIG. 3 is a cross section taken along line 3-3 in FIG. 2;

FIG. 4 is a cross section taken along line 4-4 in FIG. 2; and

FIG. 5 is an elevation of a can of lighter fluid used in my invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now to FIGS. 1-5, I provide an elongated rigid hollow cylinder or tube 10 which can be about 3 feet long and about 8 inches in inner diameter, or a ratio of 36 to 8. One end 12 is open; the opposite end is sealed by a first rigid disc 14 disposed at right angles to the axis of the tube and having a small central open-

ing 16 which can be one half inch in diameter or a ratio to the inner diameter of one-half to 8. A second disc 14' with like opening 16' and parallel to the first disc is disposed in the tube, for example, being separated from the first disc by a space of about 6 inches in a ratio to the overall length of 6 to 36.

Fluid from lighter fluid can 18 is squirted into the space between the discs via the opening in the end disc. The tube is then shaken several times to distribute the fluid and to allow at least part to vaporize.

The tube is then upwardly inclined at an angle of 45° or larger with respect to the horizontal, open and upward. When a lighted match or lighter 20 is held adjacent the hole in the end disc to produce ignition and the desired noise.

When that portion of the tube between the open end and disc 16 is charged with one or more plastic balls, these will be ejected with speed as the noise is produced.

While I have described my invention with particular reference to the drawings, such is not to be considered as limiting its actual scope.

Having thus described this invention, what is asserted as new is:

1. A harmless firework comprising:
  - an elongated hollow cylinder open at one end;
  - a first disc near the other end and disposed at right angles to the axis of the cylinder and having a small central opening;
  - a second disc of like diameter disposed in the cylinder and parallel to the first disc, the second disc having a small central hole, the second disc being spaced both from the open end and the first disc but being much closer to the first disc than to said open end;
  - lighter fluid squirted through the first disc hole into the region between the discs; and
  - a charge of non metallic projectiles of minimum weight disposed above said second disc;
  - the ratio of the inner diameter to overall length of the cylinder being about 2 to 9;
  - the ratio of the separation between the discs to the overall length of the cylinder being about 1 to 6; and
  - the ratio of the diameter of said central hole to the inner diameter of the cylinder being about 1 to 16.

\* \* \* \* \*

50

55

60

65