

Aug. 24, 1926.

1,597,447

J. KLARKE

GAS OPERATED CANNON

Filed Dec. 6, 1924

2 Sheets-Sheet 1

Fig. 1.

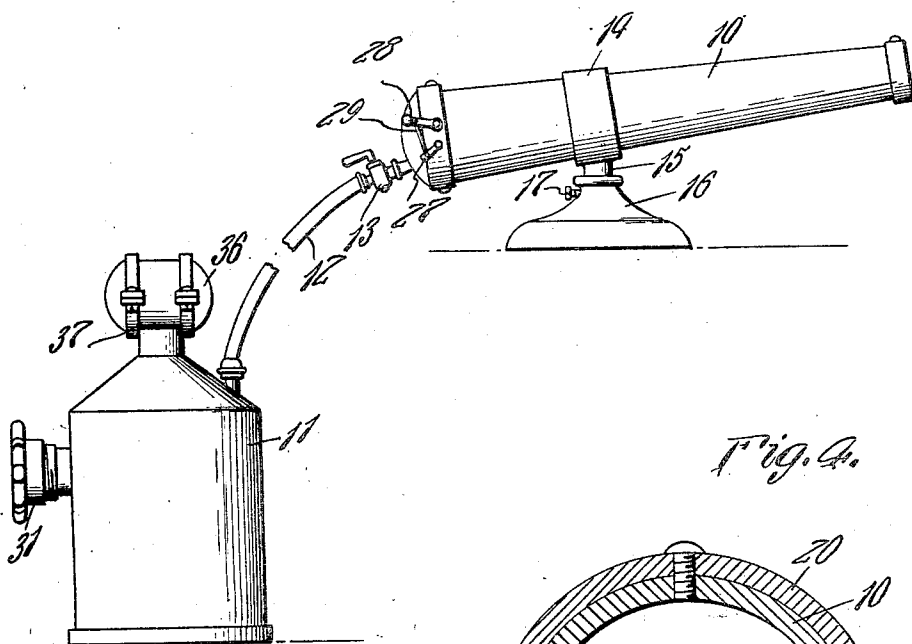


Fig. 4.

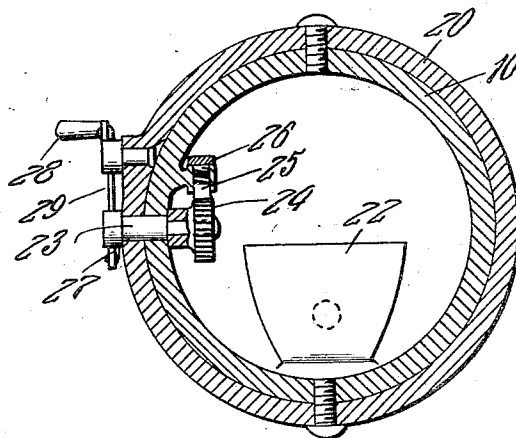
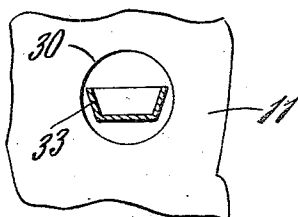


Fig. 5.



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Fig. 2.

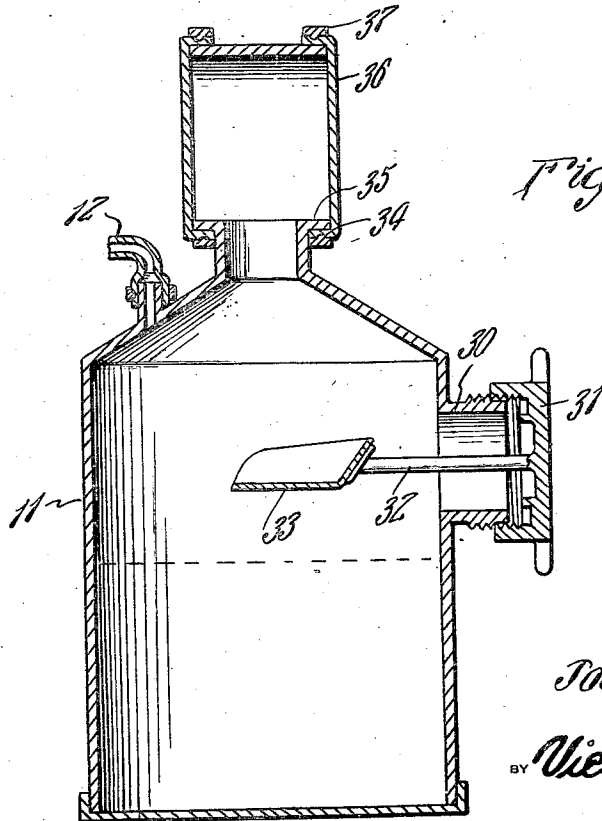
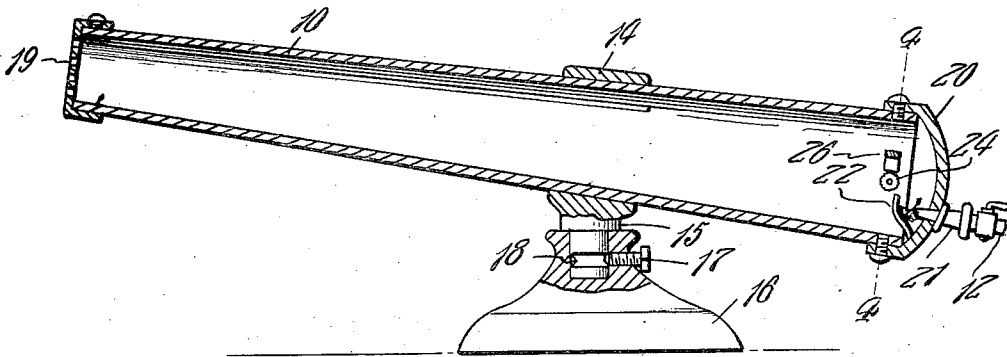


Fig. 3.

Joe Clarke—

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Patented Aug. 24, 1926.

1,597,447

UNITED STATES PATENT OFFICE.

JOE KLARKE, OF MISHAWAKA, INDIANA.

GAS-OPERATED CANNON.

Application filed December 6, 1924. Serial No. 754,403.

It is the purpose of the present invention to provide a toy cannon, wherein use is made of a small gas generator having valve controlled communication with the cannon and a novel construction of means for igniting each charge of gas admitted to the cannon.

The nature and advantages of the invention will be better understood when the following detailed description is read in connection with the accompanying drawings, the invention residing in the construction, combination and arrangement of parts as claimed.

In the drawings forming part of this application, like numerals of reference indicate similar parts in the several views, and wherein:

Figure 1 is a side elevation of the invention.

Figure 2 is a longitudinal sectional view through the cannon and its support.

Fig. 3 is a vertical sectional view through the gas generator.

Figure 4 is a sectional view taken on line 4-4 of Figure 2.

Figure 5 is a sectional view of the carbide holder.

Referring to the drawings in detail, 10 represents a cannon proper, while 11 indicates the gas generator. Communication between these parts is established by means of a flexible tubing or pipe 12, provided with a valve 13 utilized to admit gas to the cannon intermittently. The cannon is supported by an annulus 14 arranged at an angle to a post 15, the latter being rotatably fitted within a base 16. The base is equipped with a threaded element 17 which is adapted to have its inner end received by an annular groove 18 formed in the post above referred to. This construction manifestly allows the cannon to be turned in different directions, and prevented from being casually separated from the base. The forward end of the cannon is closed by a perforated plate 19 to prevent the user from inserting projectiles within the cannon and which may of course result in injury, while the opposite end is closed by a cap 20 which is provided with an opening to receive a nozzle or injector 21 associated with the adjacent end of the flexible tubing 12. Also supported by this cap 20 and arranged directly in advance of the nozzle 21 is a baffle plate 22 which the gas strikes when it is admitted to

the cannon to momentarily confine the charge of gas at the rear end of the cannon, where it can be readily ignited by a manually controlled means of any suitable construction. For this purpose, I preferably make use of a shaft 23 journaled in the cannon, with a portion of the shaft projecting within the latter and supporting an emery wheel or the like 24 which is normally engaged by a spring pressed pin 25 mounted in a suitable holder 26. When the wheel 24 is rotated, the friction between the wheel and said pin causes a spark which ignites the gas and thus results in an explosion. The shaft 23 can be rotated in any manner, but this shaft is preferably provided with a short arm 27 which is connected with a crank handle 28 by means of a rod 29, so that by simply moving the handle in either direction, the wheel 24 will be rotated to cause the spark in the manner described.

The gas generator 11 comprises a receptacle of any suitable size and adapted to be partly filled with water, the receptacle being formed with an offset nipple 30 which is closed by means of a cap 31 which is threaded on the nipple so that it can be partly turned for a purpose to be presently described. Carried by this cap 31 is a rod 32 which projects centrally from the cap through the nipple 30 into the gas generator, the rod supporting on its inner end a carbide container or holder 33. The container is formed with a neck 34 which terminates to provide a ring or annulus 35, the opposite sides of which are closed by flexible diaphragms 36 which are clamped to said ring or annulus 35 by suitable clamping rings 37. When a sufficient quantity of gas is generated within the receptacle, the diaphragms 36 are caused to bulge outwardly as shown in Figure 1.

To use the toy, it is only necessary to close the valve 13, and then remove the cap 31 from the nipple 30 in order to withdraw the carbide container 33 from the generator. A certain amount of carbide is arranged within the container and the latter again positioned within generator. When the cap 31 is turned and associated with the nipple 30, the carbide container is inverted, and its contents deposited within the generator, mixing with the water to generate gas. The valve 13 is now opened to allow the gas to enter the cannon 10, the valve being

opened temporarily this valve controlling the amount of gas admitted to the cannon as will be readily understood. The gas admitted to the cannon strikes the baffle plate 5 22, and is thus confined within the rear of the cannon to be ignited by the spark created by the ignition means above described. The charge of gas is then exploded. The number of explosions which can be 10 caused depends upon the quantity of gas generated and the amount of gas admitted to the cannon upon each opening of the valve 13.

While it is believed that from the foregoing description, the nature and advantages 15 of the invention will be readily apparent, I desire to have it understood that I do not limit myself to what is herein shown and described, and that such changes may be 20 resorted to when desired as fall within the scope of what is claimed.

Having thus described the invention, I claim:

In combination, a cannon, a pipe arranged to convey an explosive charge into one end 25 thereof, a baffle plate arranged directly in advance of the discharge end of said pipe and utilized to confine the charge in a limited space adjacent one end of the cannon, a shaft 30 mounted for rotation, an emery wheel carried by one end of the shaft, and arranged within the cannon, a pin supported in contact and engagement with said wheel, resilient means holding the pin so engaged, a 35 crank handle supported on the cannon, a crank arm carried by the said shaft, and a rod connecting said parts whereby the shaft is rotated upon movement of the crank 40 handle in either direction as and for the purpose specified.

In testimony whereof I affix my signature.
JOE KLARKE.