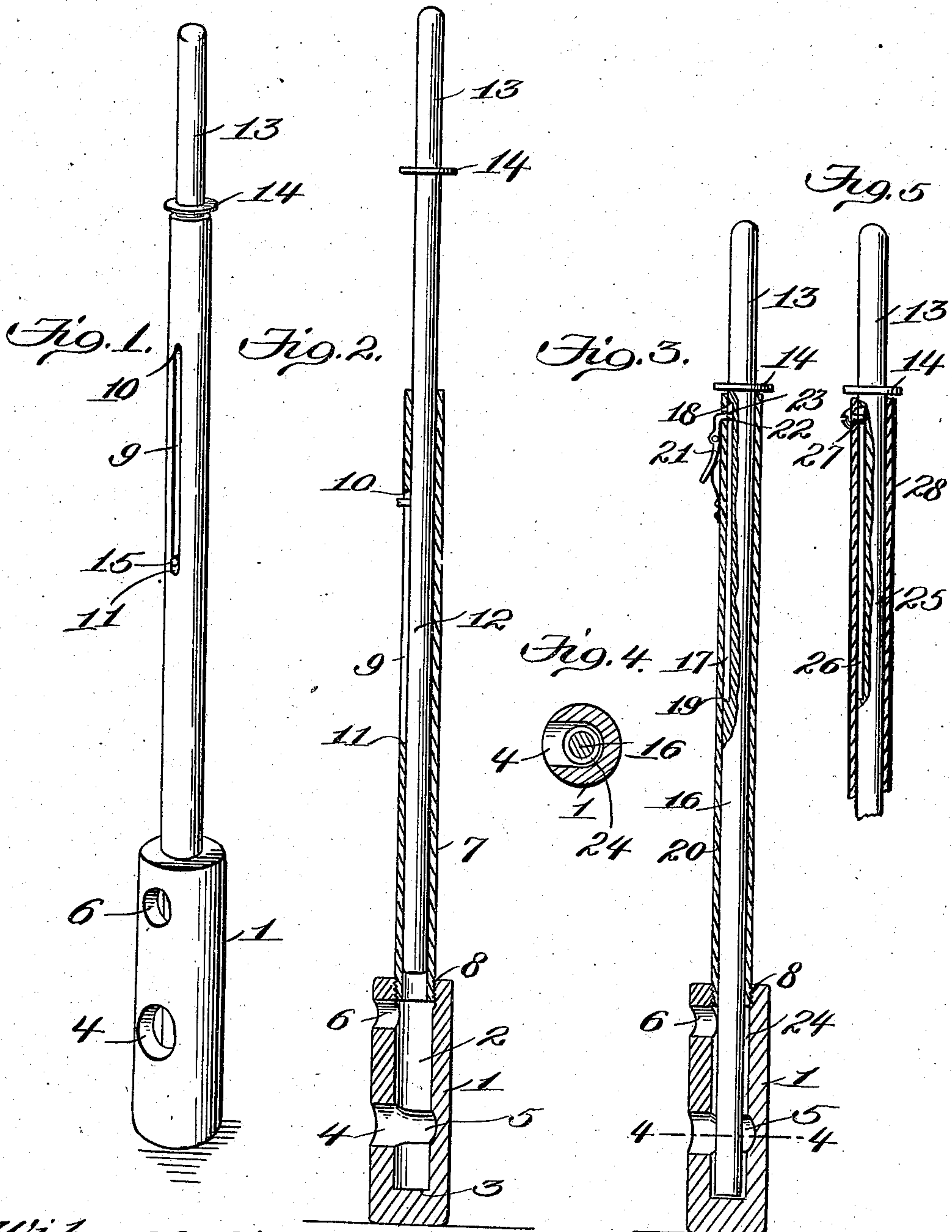


No. 881,702.

PATENTED MAR. 10, 1908.

T. E. MITCHELL.
DETONATING TOY.

APPLICATION FILED AUG. 15, 1907.



Witnesses:
C. D. Kester
J. B. Keeler

Inventor
Thomas E. Mitchell
James L. Norris
Atty.

UNITED STATES PATENT OFFICE.

THOMAS E. MITCHELL, OF AMERICUS, GEORGIA.

DETONATING TOY

No. 881,702.

Specification of Letters Patent.

Patented March 10, 1908.

Application filed August 15, 1907. Serial No. 388,652.

To all whom it may concern:

Be it known that I, THOMAS E. MITCHELL, a citizen of the United States, residing at Americus, in the county of Sumter and State of Georgia, have invented new and useful Improvements in Detonating Toys, of which the following is a specification.

This invention relates to detonating toys, and the object thereof is to provide a toy of such class in a manner as hereinafter set forth with means to allow of the quick escape of the products of combustion after the charge has been exploded, thereby preventing the disrapture of the toy and further-
15 more insuring the safety of the device.

A further object of the invention is to provide a toy of such class with means to cause the quick emission of the sound due to the explosion of the charge thereby obtaining a
20 loud report.

Further objects of the invention are to provide a toy of such class which shall be simple in its construction, strong, durable, conveniently used, insuring safety to the operator,
25 having the parts readily assembled and inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of
30 parts hereinafter more specifically described and illustrated in the accompanying drawings wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within
35 the scope of the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, wherein like characters denote corresponding
40 parts throughout the several views, and in which—

Figure 1 is a perspective view of a detonating toy in accordance with this invention; Fig. 2 is a vertical sectional view; Fig. 3 is a
45 like view showing a modified arrangement to prevent the toy handle and ram being accidentally disconnected from the other parts of the toy, and, Fig. 4 is a section on line 4—4 of Fig. 3. Fig. 5 is a sectional detail showing
50 a modified construction for limiting the upward movement of the ram.

Referring to the drawings by reference characters, 1 denotes a cylinder having a recess 2 which constitutes the explosion chamber. The bottom wall 3 of the chamber 2
55 forms a seat for the explosive charge. The

cylinder 1 is furthermore provided with a combined inlet and outlet port 4 through which the explosive charge is inserted in the cylinder 1 and which also constitutes a
60 means for the exhaust of the products of combustion after the charge has been exploded, as well as allowing the sound to be readily emitted after the charge has been exploded. To further facilitate the emission
65 of the sound and the products of combustion, as well as allowing the latter to expand, the inner face of the cylinder is formed with an annular groove 5 which terminates in the opening 4. The cylinder 1 is furthermore
70 provided with an opening 6 near the top thereof and which forms an additional means for the emission of the sound and also has an outlet for the products of combustion. Projecting from the top of the cylinder 1 is an
75 elongated guide sleeve 7 which may be formed integral with the cylinder, but as shown the sleeve 7 has its lower end provided with a series of peripheral screw-threads engaging with internal threads formed on the
80 inner face of the cylinder as at 8. The sleeve 7 is provided with a vertically-extending elongated slot 9, the end walls 10 and 11 forming abutments for a purpose to be hereinafter referred to.

Arranged within the sleeve 7 is a ram 12 having its upper end terminating in a handle portion 13 and further provided with an annular flange 14 at the lower terminus of the
90 portion 13, the flange 14 constituting means for determining the position of the hand when the operator grasps the handle. The annular flange also constitutes a means to prevent any gases which might pass from the chamber 1 through guide 7, from striking the
95 hand of the operator.

The reference character 15 denotes a pin or lug which projects laterally from the ram 12 and extends through the slot 9. The function of the pin 15 in connection with the
100 abutment 10 is to limit the upward movement of the ram 12. The pin 15, in connection with the abutment 10 further provides means to prevent the accidental withdrawal of the ram 12 from the sleeve 7.

Referring to Fig. 3 of the drawings it will be pointed out that the construction is the same as that shown in Figs. 1, and 2, with the exception of the means to prevent the
110 accidental withdrawal of the ram, as well as to limit the movement of the ram in an upward direction. In Fig. 3 the ram is indi-

cated by the reference character 16 and is formed with a vertically-extending groove 17 the end walls 18 and 19 thereof constituting an abutment. The guide sleeve is indicated 5 by the reference character 20 and carries a spring latch 21. The nose 22 of the latch extends through an opening 23 formed in the sleeve 20 and engages in the groove 17 of the ram 16. Otherwise than that as stated, the 10 construction shown in Fig. 3 is the same as that shown in Figs. 1 and 2 and like reference characters are applied to that portion of the device which is connected to the sleeve 20. It is evident from the arrangement shown 15 that the nose 22 will limit the movement of the ram 16 in an upward direction and that when occasion so requires the latch 21 can be actuated so that the ram 16 can be removed from the guide sleeve.

20 In Figs. 1, 2, 3 and 5 the ram is of the same diameter as the internal diameter of the guide sleeve but the diameter of the ram with respect to the diameter of the recess 2 is such as to form a clearance 24 to allow of 25 the products of combustion to pass around the ram and out through the openings 4 and 6, and furthermore to provide means to allow of the emission of the sound.

The providing of the device with the two 30 outlets 4—6 and the clearance 24 prevents the distorting or disrapture of the cylinder 1 when the charge has been exploded, as it is evident that the products of combustion will be immediately discharged from the 35 cylinder and not confined therein, consequently the necessary space for expansion of gases is obtained so that there will be no likelihood of the operator or other person being injured by a distorting or disrapture 40 of the cylinder which would be the case if the gases were confined.

In Fig. 5 a modified construction is shown for limiting the upward movement of the ram and also to prevent the accidental with-

drawing of the ram from the guide, and in 45 this connection the ram, which is indicated by the reference character 25, is provided with a groove 26, the lower wall thereof constituting an abutment adapted to engage 50 with a pin 27 which is carried by the guide 28 and projects inwardly therefrom and into the groove 26.

What I claim is—

1. A device of the class described comprising a cylinder constituting an explosion 55 chamber having a groove in its inner wall and a pair of outlets, one arranged above the other, said groove terminating in one of said outlets, a guide sleeve projecting from the cylinder and a reciprocatory ram arranged 60 within the sleeve and adapted to operate in the explosion chamber.

2. A device of the class described comprising a cylinder constituting an explosion 65 chamber having a groove in its inner wall and a pair of outlets, one arranged above the other, said groove terminating in one of said outlets, a guide sleeve projecting from the cylinder, a reciprocatory ram arranged with- 70 in the sleeve and adapted to operate in the explosion chamber, and means for limiting the movement of said ram in one direction to prevent the withdrawal of the ram from the sleeve.

3. A device of the class described comprising an explosion chamber having a 75 groove in its inner wall and a pair of outlets and said groove terminating in one of said outlets, and a reciprocatory ram operating in said chamber. 80

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS E. MITCHELL.

Witnesses:

M. M. LOWERY,

GEO. D. WHEATLEY, Jr.