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C. E. WENZEL.  
DETONATING TOY.

APPLICATION FILED AUG. 21, 1903.

NO MODEL.

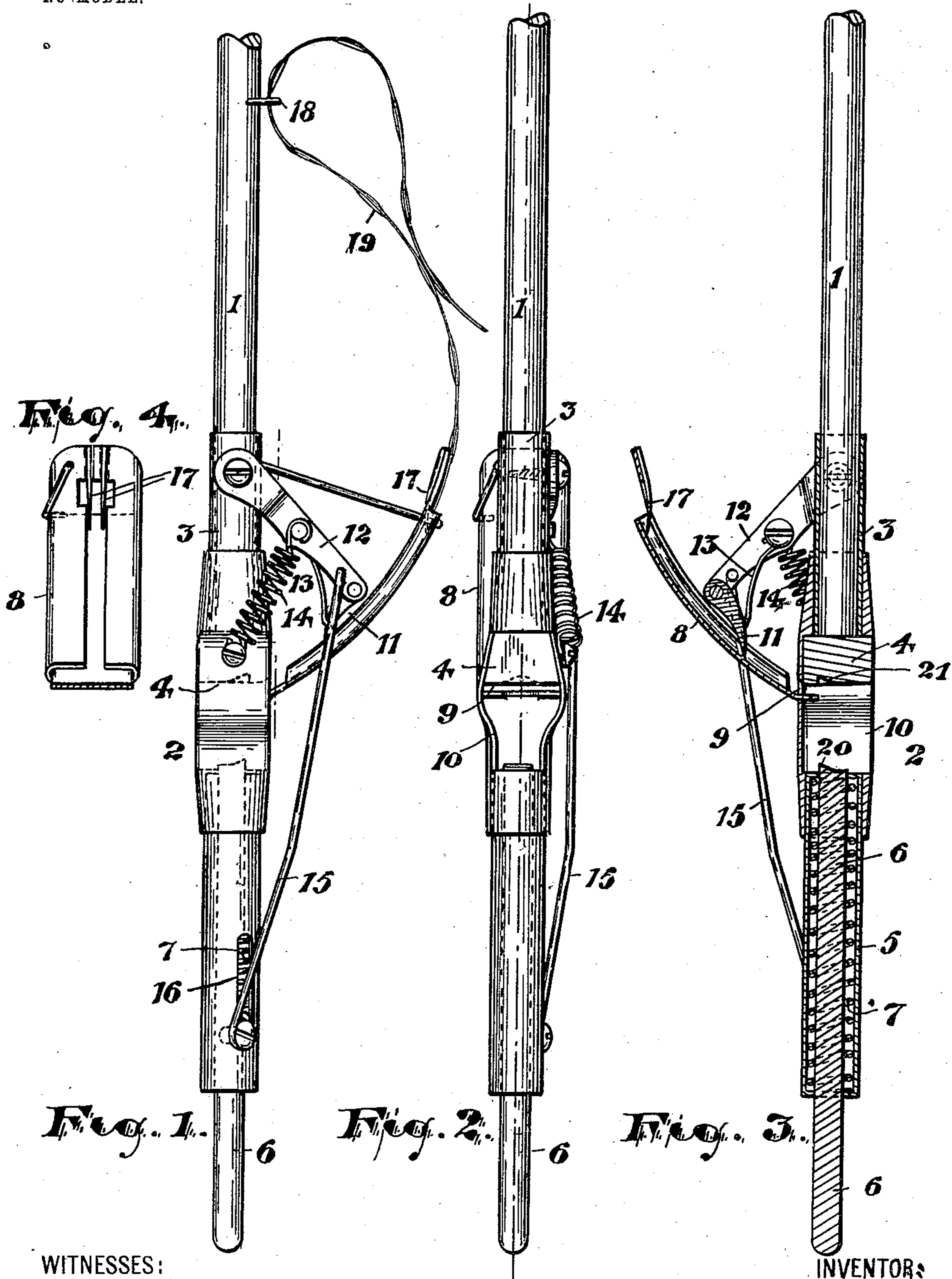


Fig. 1.

Fig. 2.

Fig. 3.

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## UNITED STATES PATENT OFFICE.

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## DETONATING TOY.

SPECIFICATION forming part of Letters Patent No. 742,767, dated October 27, 1903.

Application filed August 21, 1903. Serial No. 170,266. (No model.)

*To all whom it may concern:*

Be it known that I, CARL E. WENZEL, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented and produced a new and useful Detonating Toy; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

The objects of this invention are to provide an improved detonating toy of novel construction, to insure safety by exploding the percussion-caps at a distance from the body of the operator, to secure means for automatically feeding the caps, and to obtain other advantages and results, some of which may be hereinafter referred to in connection with the description of the working parts.

The invention consists in the improved detonating toy and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like figures of reference indicate corresponding parts in each of the several figures, Figure 1 is a side elevation of my improved device. Fig. 2 is a front elevation; and Fig. 3 is a central longitudinal section taken on line *x*, Fig. 2. Fig. 4 is a detail view of a certain feed-guide for the strip of caps.

In said drawings, 1 indicates a rod or staff adapted to be carried in the hand and at the lower end of which my improved detonating apparatus is arranged. Said apparatus comprises a body part 2, having at the top a socket 3 to receive the said staff or handle 1 and having below said socket a downward-facing anvil 4. Beneath said anvil the body portion 2 is open at opposite sides to permit the passage of a strip of caps across the anvil, and at its lower end the body portion carries a tubular slideway 5 in alinement with the socket 3 at the top and with the staff 1. In said slideway 5 is mounted a plunger 6, normally held by a spiral spring 7, coiled around said plunger within the slideway away from

the anvil 4 and projecting at its lower end a considerable distance from the slideway.

In the operation of the device a cap is brought upon the anvil 4, as will be hereinafter set forth, and then when the lower end of the plunger is struck violently against the pavement or other object by a longitudinal movement of the device as it is carried in the hand the plunger 6 is driven inward, causing its upper or inner end to strike a violent blow upon the anvil, thus discharging the cap. Obviously the device can be discharged as rapidly as it can be struck against the pavement and with the utmost safety to the operator, since the whole firing mechanism is distant from his person.

For automatically feeding a strip of percussion-caps to my improved firing device I attach to one of the open sides of the body portion 2 below the anvil 4 an outwardly and upwardly curved guideway 8, flattened into suitable shape to receive the strip of caps and having its lower end directly opposite the opening through the side of the body portion, which opening is preferably only a slit 9 to admit the caps. The opening at the other side of the body portion, however, is large, as at 10, to prevent any confinement of the explosion. The cap-guideway 8 is preferably tubular and longitudinally slotted at its upper side to receive a feed-dog 11, pivoted at its outer end to an arm 12 and having its inner sharp end held against the cap-strip by a spring 13 from said arm. The arm 12 is pivoted upon the body portion 2 of the apparatus in such position that its end having the feed-dog will swing in substantially the curve of the cap-strip guideway 8 and normally held with said end drawn downward or toward the anvil 4 of the apparatus by means of a spring 14, connecting it to the body portion. In order to swing said arm upward and push the dog 11 outward in the guideway 8 for a fresh feed of caps, the same is connected by a rod 15 with the plunger 6, preferably through a slot 16 in the walls of the slideway 7. Thus as one cap is being exploded the feed-dog is being pushed back to slide down another cap. To prevent any possible movement of the cap-strip backward as the dog is retracted, spurs 17 are provided



at the outer end of the slideway which always engage the cap-strip. Preferably a staple or guide 18 is also provided upon an upper portion of the rod or staff 1 to receive 5 and support the upper end of a long strip 19 of caps, as shown in Fig. 1. As the caps are exploded they escape through the open side 10 of the body portion 2, each one being preferably severed from the strip as it is fired. 10 This is done by means of a rib or cutter 20 upon the striking end of the plunger 6 at its edge next the cap-feed guideway 8, and which is adapted to strike into a corresponding groove 21 in the anvil, whereby the paper 15 strip upon which the caps are carried is severed at the same moment a cap is exploded.

Having thus described the invention, what I claim as new is—

1. In a detonating toy, an elongated body 20 portion provided at one end with a handle and at the other end with a longitudinal slideway, and having intermediate of said parts opposite cap-feed and discharge openings in its opposite sides forming a transverse passage for 25 a strip of caps, a spring-plunger and an anvil in said body portion on opposite sides of said cap-passage, and means for feeding a strip of caps through said passage between said anvil and plunger.
- 30 2. In a detonating toy, an elongated body portion provided at one end with a handle and at the other end with a longitudinal slideway, and having intermediate of said parts opposite cap-feed and discharge openings in its opposite sides forming a transverse passage for 35 a strip of caps, a plunger and an anvil in said body portion on opposite sides of said passage, means for reciprocating said plunger and means connected to the plunger adapted 40 to feed a strip of caps through said passage between the anvil and plunger.
3. In a detonating toy, a body portion having tubular portions at opposite ends and opposite cap-feed and discharge openings in opposite sides of itself intermediate of said tubular portions, a rod or staff fixed in one of 45 said tubular ends, a protruding slidable plunger in the other tubular portion, a transversely-disposed anvil in said body at the opposite side of the cap-openings from said 50 plunger, and a spring normally holding said plunger away from the anvil.

4. In a detonating toy, the combination of an anvil, a cap-strip guideway leading to said anvil, a reciprocatory plunger adapted to engage said anvil, and means connected to said plunger for feeding a strip of caps along said guideway. 55

5. In a detonating toy, the combination of an anvil, a cap-strip guideway leading to said anvil, a reciprocatory plunger adapted to engage said anvil, a feed-dog in said guideway, connected to said plunger, and means for reciprocating the plunger. 60

6. In a detonating toy, the combination of an anvil, a cap-strip guideway leading to said anvil, a reciprocatory plunger adapted to engage said anvil, a lever having a fixed fulcrum, a feed-dog on said lever adapted to engage a strip of caps in said guideway, and 65 means connecting said lever to the plunger.

7. In a detonating toy, the combination of a body portion providing an anvil, a slotted cap-strip guideway leading to said anvil, a reciprocatory plunger adapted to engage said anvil, a lever fulcrumed on said body portion, a feed-dog on said lever entering said slotted guideway, a spring normally forcing said feed-dog toward the anvil, and a rod extending from said lever to the plunger. 75 80

8. The combination with an anvil and a reciprocatory plunger, of a slotted cap-strip guideway leading to said anvil, a feed-dog working in the slot of said guideway, means connecting said feed-dog to said plunger, and 85 a stationary spur projecting into said guideway toward the anvil to hold the cap-strip while said feed-dog is retracted.

9. The combination of a rod or staff, an anvil at one end thereof, a reciprocatory plunger adapted to engage said anvil, a cap-strip guideway leading to said anvil, means connected to said plunger for feeding a cap-strip through said guideway, and means upon the rod or staff for supporting the end of the cap-strip. 95

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of August, 1903.

CARL E. WENZEL.

Witnesses:

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