E. R. IVES

Toy.

No. 201,678. Patented March 26, 1878.

Fig 1.

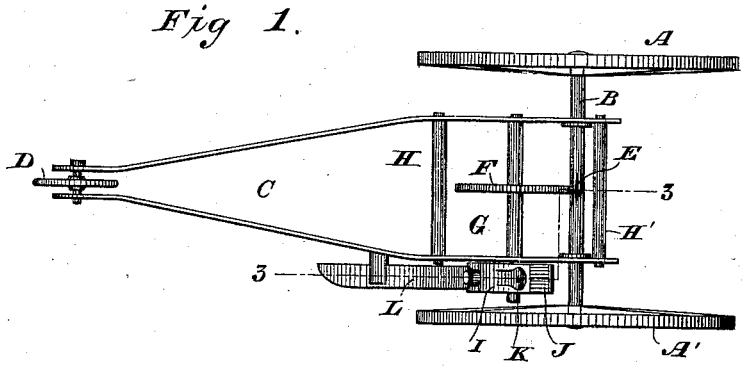


Fig 2.

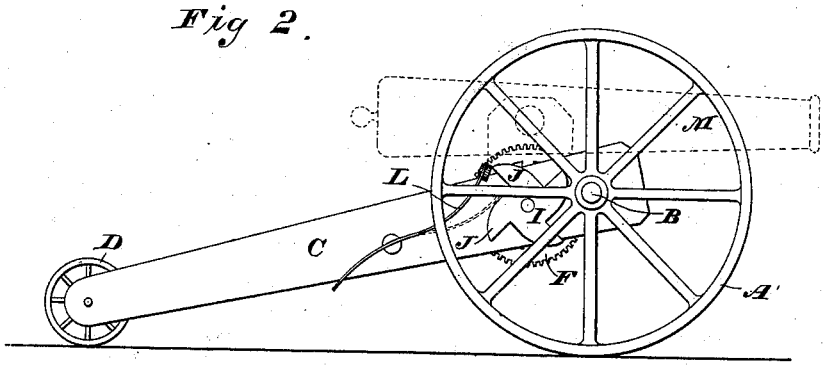
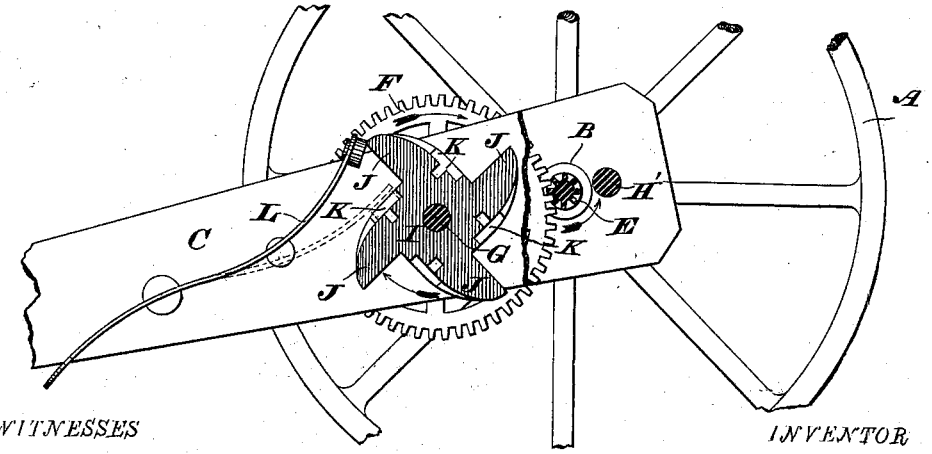


Fig 3



WITNESSES

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UNITED STATES PATENT OFFICE.

EDWARD R. IVES, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO IVES, BLAKESLEE & CO., OF SAME PLACE.

IMPROVEMENT IN TOYS.

Specification forming part of Letters Patent No. **201,678**, dated March 26, 1878; application filed January 19, 1878.

To all whom it may concern:

Be it known that I, EDWARD R. IVES, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Toys, of which the following is a specification:

My invention relates to a toy for exploding caps of fulminating material; and my object, mainly, is automatically to cause the explosion of the caps.

The improvements claimed consist in certain novel constructions of parts and in combinations of devices hereinafter first described, and then specifically designated by the claims.

In the accompanying drawings, Figure 1 is a plan or top view. Fig. 2 is a side elevation, showing a slight modification; and Fig. 3, an enlarged view, partly in section, of portions of the toy.

A suitable carriage is provided—shown, in this instance, as consisting of main supporting-wheels A A′, an axle, B, and elongated open frame C, and a small supporting-wheel, D, at the outer end of the frame. The axle revolves freely in the frame, and the wheels are fast to and revolve with the axle.

A driving-pinion, E, shown as formed by cutting-teeth upon the axle, meshes with and revolves a larger pinion, F, fast on a shaft, G, revolving in the supporting-frame C. The frame is braced by transverse rods H H′, or in other suitable way.

A rotating cap-carrier, I, is secured to the shaft G, in this instance outside of the frame, and is set in motion by the revolution of the supporting-wheels, through the axle and gearing E F.

The cap-holder is provided with arms or tappets J, in any suitable and desired number, (one would answer,) and with receptacles K, corresponding in number to the tappets, for the caps, which are of any suitable kind—such, for instance, as the ordinary paper disk explosive caps. In some cases nipples may be used for metallic caps.

A spring arm or lever, L, is secured at or near one end to the frame, and at its opposite end is formed or provided with a suitable hammer.

A cannon, M, is preferably mounted on the carriage, as shown by dotted lines in Fig. 2.

In operation, a cord may be attached to the outer end of the frame, which otherwise may of itself alone serve as a tongue or handle for drawing the toy, and the carriage drawn along the floor or ground, or upon a table, to set in motion the cap wheel or carrier, the arms or tappets of which, in turn, elevate the outer end of and strain the spring-hammer, so that, as the carrier continues to revolve, the hammer descends with force upon the caps in succession and explodes them.

By the employment of the pinions E and F or equivalent gearing, the revolution of the cap-carrier is so timed relatively to the revolutions of the supporting-wheels that a number of turns of the latter take place to one revolution of the former, in this way admitting of a comparatively long distance being traversed by the carriage before exploding all the caps.

Obviously my improvements may be modified in some respects without departing from the spirit of my invention. For instance, the cap-carrier may be mounted directly upon the axle, and the gearing omitted. Instead of a carriage being employed, the supporting-wheels might be dispensed with, and a crank to turn the axle by hand be employed to automatically explode the caps at intervals, the extension or outer end of the frame serving as a handle by which to support the toy; and differential gearing may be employed to allow of the caps being exploded at shorter or longer intervals, according to the adjustment of the gearing. The carriage might be weighted to increase traction; the exploding-hammer and cap-carrier be mounted inside the frame; the cap-carrier might be rotated by suitable gearing driven from one of the supporting-wheels, instead of from the axle, or be actuated by a simple crank-and-pitman connection with one of the wheels or the axle. I prefer, however, the construction shown by the drawings.

I claim as of my invention—

1. The revolving cap-carrier constructed with arms or tappets and cap-receptacles, substantially as and for the purpose set forth.

2. The combination, substantially as hereinbefore set forth, of the supporting-frame, the revolving cap-carrier having tappets, and the spring-hammer.

3. The combination, substantially as hereinbefore set forth, of the supporting-frame, the revolving axle, the gearing, the cap-carrier, and the hammer.

4. The hereinbefore-described toy, consisting of the elongated frame, the supporting-wheel, the axle, the gearing, the cap-carrier, and the spring-hammer.

In testimony whereof I have hereunto subscribed my name.

EDWARD R. IVES.

Witnesses:

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ISAAC L. FERRIS.