

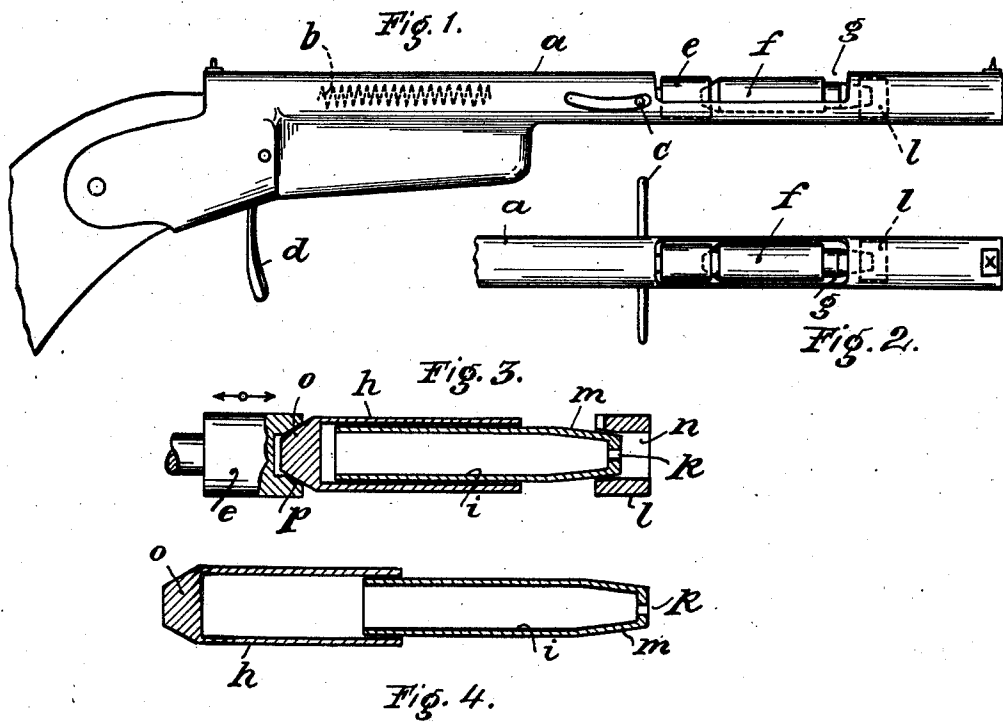
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TOY WEAPON

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Inventor.
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UNITED STATES PATENT OFFICE

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TOY WEAPON

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In all toy weapons known hitherto the projectile is made of solid material so that there is always a danger of persons or objects being injured or damaged when the weapon is fired.

The present invention is concerned with a toy weapon wherein the projectile is constituted by a fine jet of liquid which is projected from the weapon at the target under a comparatively high pressure; the liquid is thus capable of producing an evident effect on the target where it may, for instance, set a suspended ball in motion, knock over a light figure or perform some similar function. If occasion demands it may also be used to kill small insects and the like, such as flies in which case a liquid such as benzine may be employed.

In the weapon a spring is arranged to act on a plunger or piston adapted to move in a cylinder which is filled with water or some other suitable liquid; the plunger has a fine orifice or fine slit through which the liquid is projected in the form of a jet when the spring is released. For this purpose the cylinder and plunger may be inserted as a separate small cartridge in a suitable cut away portion of the barrel of the weapon or one or both of them may form a part of or be integral with the barrel. The same effect may also be obtained by the impact of a cock upon such a cartridge or on a rubber cylinder or ball. The weapon may be constructed in the form of a pistol, gun or as a table cannon or garden cannon.

One embodiment of a weapon according to this invention is illustrated by way of example in the accompanying drawing in which:

Fig. 1 is a side elevation of a pistol,

Fig. 2 a view of the barrel thereof from above,

Fig. 3 a sectional view to a somewhat larger scale of the cartridge and the mounting for the same and

Fig. 4 is a similar view of the same cartridge extended preparatory to firing.

The pistol *a* is furnished with the usual powerful spring *b* which may be compressed by means of the cocking or setting member *c* and released by means of the trigger *d*. The

striker *e* at the front end of the spring impacts, on the release of said spring, on the cartridge *f* which is disposed in a suitably shaped cut out portion of the barrel *g*. As is clear in particular from Figs. 3 and 4 the cartridge *f* consists of a cylinder *h* in which a hollow plunger or piston *i* is guided in a fluid tight manner. At the forward end this plunger has a fine orifice *k* and is adapted to fit in a suitably shaped mounting *l* in the barrel. The end *m* of the plunger is slightly conical and the opening *n* in the mounting *l* is of corresponding conical shape so as to provide for precise centering of the plunger and thus of the orifice *k* for the emerging jet.

At its rear end *o* the cylinder *h* is also conically shaped and is adapted to fit a correspondingly tapered opening *p* in the striker *e*.

The cartridge is first filled with the liquid to be projected by withdrawing the plunger *i* from the cylinder *h* and filling the latter, wholly or partly with the liquid. The plunger *i* is then re-inserted and pushed into the cylinder until all the air has escaped through the orifice *k* and the cylinder and plunger are completely full with liquid up to the orifice *k*. The pistol spring *b* is then stressed by means of the cocking member *c* and the cartridge *f* is placed in the cut out portion of the barrel with the rear end *o* of the cylinder inserted in the conical opening *p* in the striker *e*. If the spring *b* is then released by pulling the trigger *d*, the striker *e* and therewith the cartridge as a whole are projected forwardly. The front conical end *m* of the plunger *i* thus comes to bear on the conical surface *n* of the cartridge mounting *l* and the impact of the striker forces the cylinder *h* over the plunger *i* so that the liquid is driven with great force through the orifice *k* towards the target in the form of a projectile. An ordinary sighting device may be provided.

In certain circumstances the cartridge may be arranged fixed in the rear portion or muzzle of the barrel and may even form part of said rear barrel portion; in this case it is necessary to provide a closable orifice in the cylinder for the purpose of filling the same with liquid.

The plunger *i* need not be hollow but when constructed as a solid plunger the orifice *k* will have to be connected to the rear of the plunger by a suitable passage. Naturally the orifice may also be located in the cylinder in which case the latter must be disposed forwardly of the plunger.

The orifice *k* may be replaced by several similar orifices or one or more slits may be provided.

It is also possible to substitute a compressed air arrangement for the spring; in this modification the compressed air will act on the cylinder or piston or directly on the liquid.

Finally a small tube into which the liquid may be drawn on compressing the spring may be mounted at the forward end of the barrel of an ordinary spring weapon; when the weapon is fired this liquid is forced out again in the form of a projectile.

What I claim is:—

1. A toy weapon comprising a barrel, a firing mechanism, and a collapsible liquid containing cartridge having two telescoping parts one of which has a discharge orifice, whereby the cartridge is collapsed by the firing mechanism to propel the liquid from the cartridge through the barrel.

2. A toy weapon comprising a barrel having a conical cartridge seat, a firing mechanism and a refillable cartridge for liquid consisting of a tubular member and a telescoping discharge tube therein having a discharge orifice and a conical end adapted to fit said seat.

3. A toy weapon comprising a barrel having a conical cartridge seat, a firing mechanism including a firing plunger having a conical cartridge seat, and a refillable cartridge for liquid, comprising a tube having a conical end to fit said plunger seat and a tube telescoping in the first tube having a conical end for seating in the conical seat in the barrel, and an orifice through which liquid is ejected.

In testimony whereof I hereunto affix my signature this 29th day of October, 1927.

WILHELM SADTLER.

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