

Jan. 17, 1950

O. A. ALBRECHT

2,494,605

TOY FIREARM

Filed March 6, 1944

2 Sheets-Sheet 1

Fig. 1.

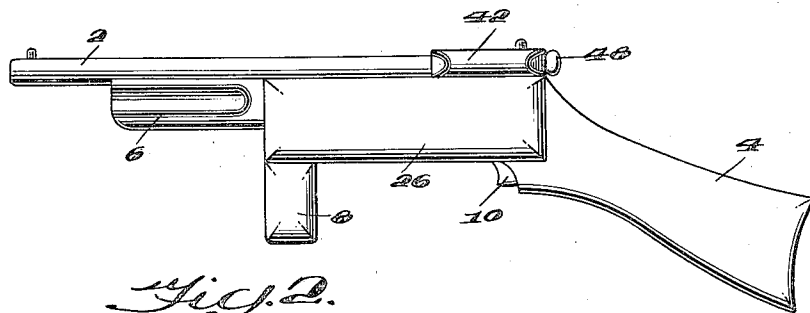


Fig. 2.

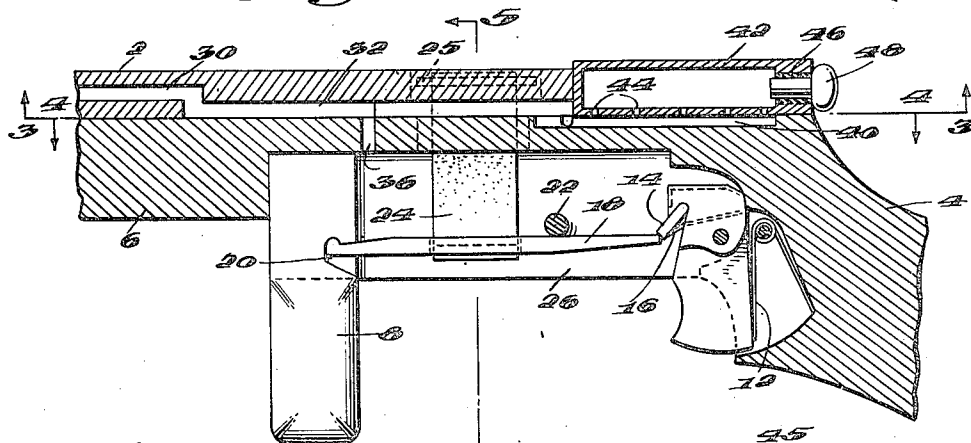


Fig. 3.

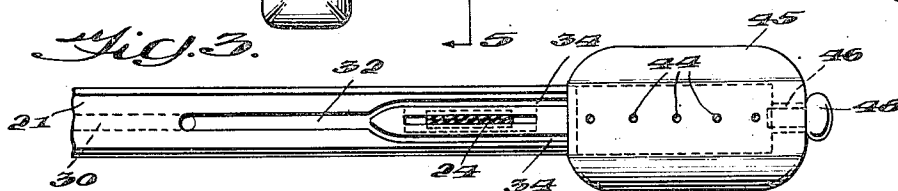
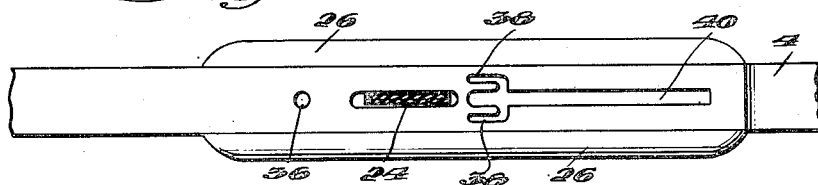


Fig. 4.



Inventor

Oscar A. Albrecht

By

H. Hamlin Hodges

his Attorney

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Fig. 5.

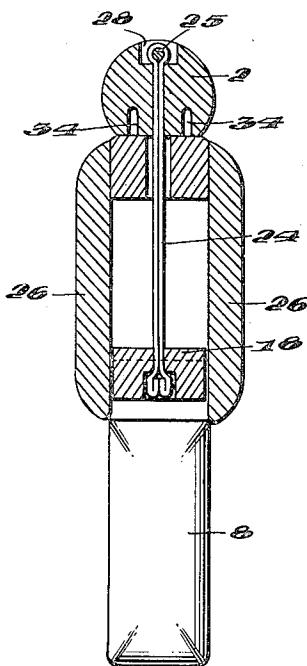


Fig. 6.

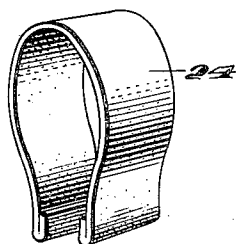


Fig. 7.

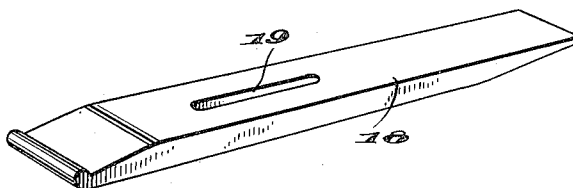
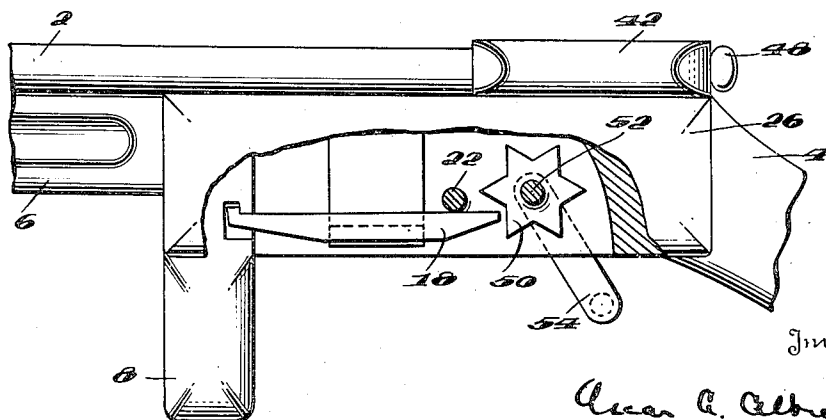


Fig. 8.



Inventor

Oscar A. Albrecht

By *H. Hamilton Hodges*

his Attorney

UNITED STATES PATENT OFFICE

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TOY FIREARM

Oscar A. Albrecht, Omaha, Nebr.

Application March 6, 1944, Serial No. 525,237

3 Claims. (Cl. 46—1)

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My invention relates to a toy firearm of the "tommy gun" type.

An object of my invention is to provide a toy "tommy gun" which will simulate the sound of a rapid fire gun by pulling the trigger.

A further object of my invention is to provide a gun which is sturdy in construction and having parts which may be readily replaced in case of breakage or wear.

A further object is to provide a toy gun which produces a noise realistically simulating an explosion.

A still further object is to provide a toy gun which will expel powder to simulate smoke from the explosion of a firearm.

A still further object is to provide a toy firearm which appears similar to an actual gun of its type, makes a similar explosive noise, and emits powder which simulates smoke in the manner ordinarily expelled from the muzzle of a firearm.

In the drawings:

Fig. 1 is a side elevation of my toy "tommy gun";

Fig. 2 is an enlarged vertical cross-section through the main portion of the gun, parts of the barrel and the stock having been removed;

Fig. 3 is a horizontal view on the line 3—3 of Fig. 2, looking in the direction of the arrows;

Fig. 4 is a horizontal cross-section on the line 4—4 of Fig. 2 looking in the direction of the arrows;

Fig. 5 is a vertical cross-section on the line 5—5 of Fig. 2 looking in the direction of the arrows;

Fig. 6 is an enlarged perspective view of the rubber band or spring to be tensioned between the clapper and the gun barrel;

Fig. 7 is an enlarged perspective view of the clapper; and

Fig. 8 is an enlarged fragmentary side elevation partly in section showing a modified form of toy "tommy gun."

Fig. 1 is a side elevation of my toy "tommy gun," which is made relatively conventional in form and is provided with customary barrel 2, stock 4, horizontal hand-grip 6, vertical hand-grip 8, and a trigger 10. The trigger 10 is pivoted within the forward end of the stock 4 and is held in its cocked or ready for firing position, as shown in Figs. 1 and 2, by the spring 12, which pushes against the rear face of the trigger to hold the trigger normally in its advanced or cocked position ready for immediate firing. The trigger 10 is provided with a pawl 14 which is pivoted to the

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body of the trigger positioned within the gun stock, and which is spring-pressed to its advanced position, as shown in Fig. 2, by the spring 16. The pawl 14 when held in its advanced position, as shown, is in position to engage the free end of a clapper 18, which clapper is provided with a bearing which provides a fulcrum point in the notch 20 within the conventional vertical handle 8 of the "tommy gun." Preferably the clapper 18, the pawl 14, and the bearing on the end of the clapper remote from the pawl are relatively wide to provide lasting wearing surfaces.

The clapper 18, after the fulcrum thereof has been positioned within the notch 20, is held in engagement with the anvil 22, which is supported by side walls 26, by tension of the elastic spring 24, which is adapted to be engaged by the clapper 18 and the barrel 2, and which will be explained more fully hereinafter.

The clapper 18 after it has been positioned as described above will be mounted within the forward end of the gun stock approximately beneath the rearmost end of the gun barrel within a concussion chamber which is covered on the outer sides thereof by the side walls or faces 26. The clapper 18 practically fills the space between the faces or side walls 26 at the lower edges thereof, as can be more clearly seen in Fig. 5. Sufficient clearance is provided so that the clapper may freely travel downwardly between the faces 26 at the time the trigger is pulled, and may return upwardly between the faces 26 under the tension of the elastic or spring 24 when the trigger pawl disengages the end thereof.

The form of elastic or spring which I have utilized to urge the clapper 18 upwardly and into engagement with the anvil 22 is a piece of rubber stock, the ends of which have been folded over upon themselves, and secured to themselves in folded condition by cementing, vulcanizing, or being held together by other suitable means, so that the two ends of the elastic 24 may be positioned together as shown in Fig. 5 to make a relatively thick portion which can not pass through the slot 19 provided in the clapper 18. The under side of the clapper 18 is provided with a groove extending partially through the clapper so that the folded-over or enlarged portions of the elastic 24 may be properly engaged therein and yet may not pass through the slot 19 which is provided for the main portion of the elastic to pass through and extend upwardly to become engaged and held in position by a suitable pin or dowel 25 positioned between and over which the loop of the elastic passes at a point above the barrel 2.

of the gun. The upper side of the gun barrel 2 is provided with a suitably depressed or milled portion 28 within which the pin or dowel 25 and the loop of elastic 24 may be held when they are in their adjusted position as shown in Fig. 5.

With the clapper 18 arranged as described above and held in tight engagement with the anvil 22 by the elastic or spring 24, and with the pawl 14 mounted on the trigger 10 held in the position in which it is shown in Fig. 2 by the spring 16 while the trigger 10 is held in its advanced position by the spring 12, it will be understood that then by pulling the trigger 10 toward the gunstock 4, or toward the right as shown in Fig. 2, the trigger will pivot on its pivot point 11, and thereby the pawl 14 will urge the clapper 18 downwardly until such time that the clapper 18 comes out of contact with the end of the pawl 14 as the latter moves in its arcuate path downwardly, after which time the clapper will be urged rapidly upwardly by the elastic or spring 24 until it comes in sharp engagement with the anvil 22, making a percussive noise.

The forward end of the barrel 2, is provided with a central bore 30, which bore extends therethrough to approximately the point of attachment of the vertically positioned handle 8. From that point to the extreme rear of the barrel 2, the under side thereof is flattened for proper alignment upon the gun stock and is provided with a milled channel 32, which extends from the end of the bore of the barrel 2 to a point slightly in advance of the point where the elastic or spring member 24 extends through the barrel. From that point, the milled channel 32 is divided into parallel channels 34, one on each side of the opening through which the elastic or spring 24 extends to the upper edge of the barrel.

At a point approximately beneath the point of division where the channels 34 meet to join the channel 32 in the gun barrel 2, I provide a vertical opening 36 in the gunstock which extends from the flattened surface of the stock and barrel into the concussion chamber in which the clapper, anvil, spring, and trigger are located. The parallel and spaced-apart channels 34 on the under and flat surface of the barrel 2 align with the outer channels 38, which are fork-like extensions of the channel 40 in the upper and flattened surface of the forward end of the gunstock 4.

Positioned directly above the channel 40, cut in the upper flattened surface of the gunstock 4, I provide a breech magazine chamber 42 which is provided in its lower face with a plurality of holes or perforations 44 aligned with the channel 40 cut in the gunstock. In the end of the chamber 42 remote from the barrel I provide a hole which is preferably lined with a suitable flexible or elastic material 46 such as a rubber or the like, and which hole is adapted to receive a convenient plug or stopper 48.

With this arrangement it will be understood that by removing the plug or stopper 48 from the opening in the chamber 42, a suitable pulverized or powdered material, preferably a white powder, such as talcum, corn-starch, or powdered magnesia, may be placed within the chamber 42. With the chamber 42 thus loaded with suitable powdered material, portions of the powder may filter downwardly through the holes 44 into the channel 40 and the channels 38. From the channels 38, the powdered material may enter the channels 34 and the channel 32 on the

under side of the barrel 2, and hence to the bore 30 thereof.

By virtue of the hole 36 cut between the concussion chamber, wherein the clapper 18 is worked up and down by its spring tension and the action of the trigger 10, a slight amount of air pressure will extend upwardly from the concussion chamber through the hole 36 and into the channel 32 and bore 30 with each hammer blow of the clapper 18. Only a very small percentage of the resulting compression will move backwardly through the channels 34, 38 and 40, and hence into the chamber 42.

Thus with every sudden release of the clapper 18 powder will be shaken from the chamber 42 into the channel 40 because of the body jolt produced by the clapper, and a slight amount of air compression will be exerted and will extend into the opening 36 and thence to the channel 32 and bore 30, and will carry therewith a slight amount of the powdered material which had been positioned within the chamber 42 and has seeped downwardly through the holes 44 into the channel 40 and its related channels as described above, so that it may be forced outwardly through the muzzle of the gun.

In actual practice in using the toy "tommy gun," a rapid and repeated pulling of the trigger will force the clapper 18 downwardly and it will be pulled sharply upward until it comes into collision with the anvil 22 causing a sharp pounding or cracking noise, and creating a sufficient amount of compression to force powder outwardly through the muzzle of the gun. The powder coming out of the muzzle of the gun tends to form rings as it emerges from the muzzle, and which rings slowly expand in size as they float away.

In the modified form of my toy "tommy gun" which I have shown in Fig. 8, the construction is substantially the same with the exception of the trigger mechanism which is described above. In the modified form, the clapper 18 is pulled downwardly from the anvil 22 by the cam action of the several points of the star-wheel 50 which is mounted on a shaft 52 extending through the concussion chamber in which the clapper and trigger mechanism are mounted. The shaft 52 has secured thereto on the outside of the gun a suitable crank 54 which may be grasped by the operator and turned so that the various points of the star-wheel 50 may engage and release the clapper 18 allowing the same to reseat itself rapidly on the anvil 22, effecting a percussive noise and creating sufficient compression within the concussion chamber to force powder out of the muzzle end of the gun, as described above in connection with my preferred form.

I claim:

1. In a toy firearm, a barrel, a stock, a refillable powder magazine, approximately in alignment with said barrel, said magazine forming a storage space for powdered material, a resounding anvil, a clapper impinging on said anvil, and means relieving said impingement, the said barrel having a central bore communicating through reducing channels with said magazine chamber.

2. In a toy firearm, a barrel, a stock, a powder chamber approximately in alignment with said barrel, and a concussion chamber having an air escapement port; the barrel having a central bore through its forward end, the stock providing space for a trigger pivoted therein, the powder chamber being in communication through reducing

channels with the said bore of the barrel, and

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the concussion chamber enclosing a resounding anvil and a spring-actuated clapper adapted to impinge on the said anvil.

3. In a toy firearm, a barrel, a stock, a refillable powder magazine chamber and a concussion chamber having an air escapement port; the barrel having a central bore in communication with the said powder magazine chamber and the concussion chamber through reducing channels and the escapement port, the clapper within the said concussion chamber adapted to impinge upon a resounding anvil therein, motion of said clapper creating air pressure within the said concussion chamber, the powder magazine chamber and barrel-bore, causing air to escape through only the barrel-bore at the nozzle and ejecting powdered material stored in the said powder magazine chamber.

OSCAR A. ALBRECHT.

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