Sept. 8, 1936. L. MARX 2,053,672

SIREN EQUIPPED TOY FIREARM

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Fig. 1.

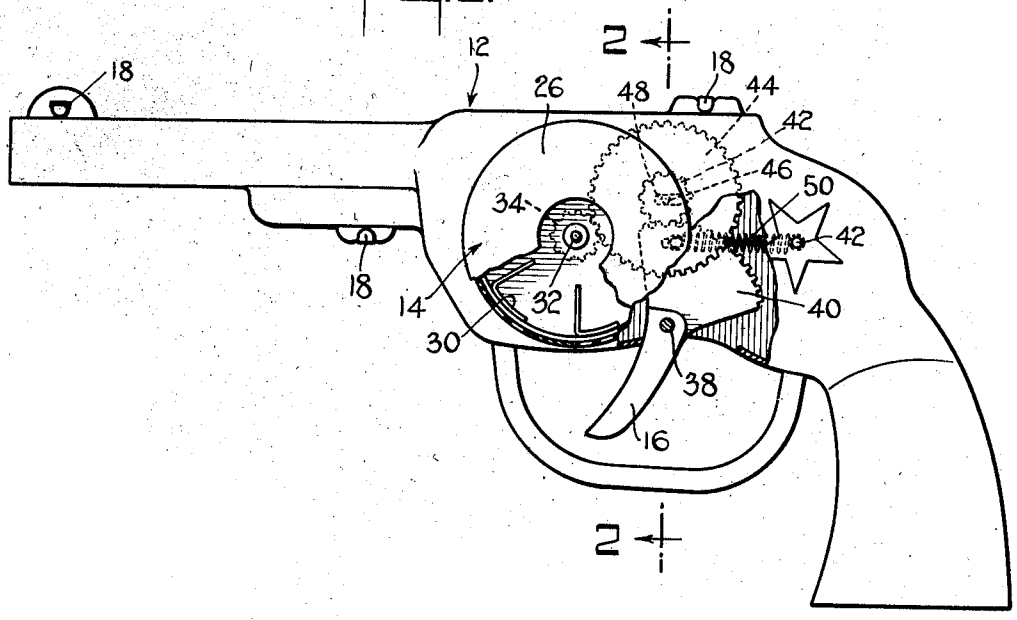
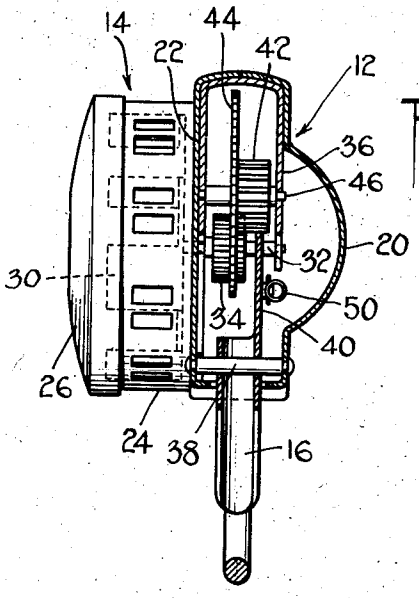


Fig. 2.



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SIREN EQUIPPED TOY FIREARM

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8 Claims. (Cl. 46—179)

This invention relates to toys, and more particularly to a siren equipped toy firearm.

One object of the present invention resides in the provision of a toy which will encourage children to play at being a police officer rather than a racketeer or robber. Another object of my invention is to enhance the play value of a toy firearm by making the same capable of simulating the sound of a police siren, or, differently expressed, an object of my invention is to provide a siren equipped toy firearm. Further objects of my invention center about the mechanism of the aforesaid toy, and are to obtain high speed rotation of the siren in response to actuation of the trigger of the firearm, and to afford free overrunning of the siren rotor upon completion of the trigger stroke.

To the accomplishment of the foregoing and such other objects as will hereinafter appear, my invention consists in the siren equipped toy firearm and the elements thereof and their relation one to the other, as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawing in which:

Fig. 1 is a partially sectioned side elevation of one form of toy firearm embodying my invention; and

Fig. 2 is a transverse section taken in the plane of the line 2—2 in Fig. 1.

Referring to the drawing, the toy comprises a body 12 generally simulating a firearm which in the present case is a revolver but which may equally well be any desired type of firearm, such as a pistol, an automatic, or a rifle. The body 12 has formed integrally therewith or attached thereto a miniature siren 14. The firearm is also provided with a trigger 16 and with appropriate gearing interconnecting the trigger and siren rotor to impart rapid rotation to the rotor upon actuation of the trigger.

Considering the arrangement in greater detail, the body 12 is in the present instance formed of two pieces of sheet metal pressed in opposite directions to desired configuration and joined in edge to edge relation by appropriate tongues and recesses, several of the tongues being indicated at 18. One side of the body 12 may be pressed outwardly in semicylindrical formation 20 to simulate the barrel of a revolver. The opposite side is preferably left flat, as is indicated at 22, and the apertured cylindrical casing 24 of the siren is secured thereto, as by the use of mating tongues and slots. The siren casing is completed by a cap 26.

The siren 14 further includes a sheet metal rotor 30 which may be of conventional type and which is mounted upon a shaft 32 carrying a pinion 34.

The body 12 is preferably provided with a special gear frame 36 which in the present case consists simply of a sheet metal member bent reversely upon itself to form spaced parallel sides, as is clearly evident from inspection of Fig. 2. The frame is appropriately dimensioned to be held securely in place within the revolver body and may be additionally locked in place by appropriate means here exemplified by the trigger spindle 38 which passes through frame 36 as well as through the revolver body. It will be noted from Fig. 2 that the riveting of spindle 38 in place helps join together the sides of the body 12.

The trigger 16 is preferably formed of sheet metal the lower part of which is bent to U or channeled section in order to make the same rigid, and comfortable in use, and the upper part of which is formed into a gear sector 40. This meshes with a pinion 42 which is secured to and rotatable with a gear 44 which in turn meshes with the siren pinion 34, the pinion 42 and gear 44 forming a compound gear intermediate the sector 40 and pinion 34.

This gear train provides a high step-up ratio and suffices to impart the necessary spin to the siren. Overrunning of the siren may be produced by so dimensioning the gear sector 40 that the last tooth passes beyond pinion 42 when the trigger is drawn to rearward position. Such construction necessitates holding of the trigger in drawn position and does not permit acceleration of the siren by successive actuations of the trigger. I therefore prefer to provide the gearing with additional mechanism to afford free overrunning of the siren rotor. This may take the form of a ratchet or a one-way clutch, but more preferably is provided in the following exceedingly simple fashion. The compound gear 42, 44, with its spindle 46, is journaled in elongated bearings 48, the latter being made by horizontally slotting the sides of the gear frame 36, this being best shown in Fig. 1.

Appropriate resilient means is provided to normally urge the trigger to its forward position. This is exemplified in the present structure by a coiled spring 50 tensioned between the gear sector 40 and a stationary rivet 42 extending across the revolver body.

It will be understood that when trigger 16 is actuated, a rapid spinning motion is imparted to the siren rotor due to the step-up gearing therebetween. The gears are maintained in engagement while the trigger is being drawn backward.

When the trigger stroke is completed, the continued rotation of the siren rotor rolls the intermediate gear backwardly out of engagement with the siren pinion, thus affording free overrunning rotation of the siren. This action takes place whether the trigger is held in rearward position or is released, and, in fact, release of the trigger itself operates to move the compound gear away from the siren pinion, with consequent-disengagement of the same. To produce a sustained shriek of the siren, it is simply necessary to actuate the trigger repeatedly. The siren note may be made to rise or fall as desired by appropriately spacing the successive actuations of the trigger.

It is believed that the mode of constructing and using as well as the many advantages of my improved toy firearm will be apparent from the foregoing description thereof. The toy has play value as a revolver or firearm even without actuating the trigger. The toy may also be used merely for the siren effect even if not exposed to view. The combination possesses especial value because the child may use the same to play at being a policeman in a radio car in pursuit of lawbreakers, the child riding a toy automobile, tricycle, or, with more imagination, being simply on foot.

It will also be apparent that while I have shown and described my invention in preferred form, many changes and modifications may be made in the structure disclosed, without departing from the spirit of the invention, defined in the following claims.

I claim:

1. A toy firearm comprising a body having a barrel and handle and simulating a pistol, a siren forming a part of said body in back of said barrel, a trigger reciprocably mounted on said body, step-up gearing between said trigger and the rotor of said siren to impart rapid rotation to the rotor, said gearing including means to permit free overrunning of the rotor upon completion of the actuating stroke of the trigger.

2. A toy firearm comprising a body simulating a pistol and having a barrel and a handle, a siren forming a part of said body between the barrel and the handle, a trigger reciprocably mounted on said body, resilient means normally urging the trigger to forward position, step-up gearing between said trigger and the rotor of said siren to impart rapid rotation to the rotor, said gearing including means to permit free overrunning of the rotor upon completion of the actuating stroke of the trigger.

3. A toy firearm comprising a body generally simulating a pistol having a barrel and a handle, a siren attached to said body between the barrel and the handle, a trigger pivotally mounted on said body, the upper part of said trigger being formed into a gear sector, resilient means normally drawing the gear sector to rearward position, a pinion meshing with said gear sector, a gear rotatable with said pinion and meshing with a pinion on the rotor of the siren, and means affording disengagement of a part of the gear train to permit free overrunning rotation of the siren.

4. A toy firearm comprising a body generally simulating a firearm, a siren attached to said body, a trigger movably mounted on said body, and step-up gearing interconnecting the trigger and the siren rotor, a gear intermediately the trigger and siren being mounted in elongated bearings to permit disengagement of the same from an adjacent gear, the arrangement being such that the intermediate gear is moved into engagement when the trigger is actuated but is moved out of engagement by continued rotation of the siren, thereby affording free overrunning rotation of the siren.

5. A toy firearm comprising a sheet metal body generally simulating a firearm, a siren forming a part of said body, a trigger pivotally mounted on said body, the upper part of said trigger being formed into a gear sector, resilient means normally drawing the gear sector to rearward position, a pinion meshing with said gear sector, a gear rotatable with said pinion and meshing with a pinion on the rotor of the siren, said compound pinion and gear intermediate the trigger and siren being mounted in elongated bearings to permit disengagement of the gear from the siren pinion, the arrangement being such that the intermediate gear is moved into engagement when the trigger is actuated, but is moved out of engagement by continued rotation of the siren or by release of the trigger, thereby affording free overrunning rotation of the siren.

6. A toy revolver comprising a pistol body having a barrel, a handle, and an enlarged cylinder simulating portion, a siren mounted in said pistol body at the enlarged portion thereof, a trigger movably mounted on said body, step-up gearing between said trigger and the rotor of said siren to impart rapid rotation to the rotor, said gearing including means to permit free overrunning of the rotor upon completion of the actuating stroke of the trigger.

7. A toy revolver comprising pieces of sheet metal pressed outwardly and joined in edge to edge relation to form a pistol body having an enlarged cylinder simulating portion, a siren mounted in said pistol body at the enlarged portion thereof, a trigger movably mounted on said body, and step-up gearing interconnecting the trigger and the rotor, a gear intermediate the trigger and siren being mounted in elongated bearings to permit disengagement of the gear from an adjacent gear, the arrangement being such that the intermediate gear is moved into engagement when the trigger is actuated, but is moved out of engagement by continued rotation of the siren or by release of the trigger, thereby affording free overrunning rotation of the siren.

8. A toy revolver comprising two pieces of sheet metal pressed outwardly and joined in edge to edge relation on a vertical plane to form a pistol body having an enlarged cylinder simulating portion, the said halves of the pistol body being joined by appropriate bent tongue connections, a siren mounted in said pistol body at the enlarged portion thereof, a trigger pivotally mounted on said body, the upper part of said trigger being formed into a gear sector, resilient means normally drawing the gear sector to rearward position, a pinion meshing with said gear sector, a gear rotatable with said pinion and meshing with a pinion on the rotor of the siren, said compound pinion and gear intermediate the trigger and siren being mounted in elongated bearings to permit disengagement of the gear from the siren pinion, the arrangement being such that the intermediate gear is moved into engagement when the trigger is actuated, but is moved out of engagement by continued rotation of the siren or by release of the trigger, thereby affording free overrunning rotation of the siren.

LOUIS MARX.