April 23, 1946. J. A. SIGG 2,399,149

TOY GUN

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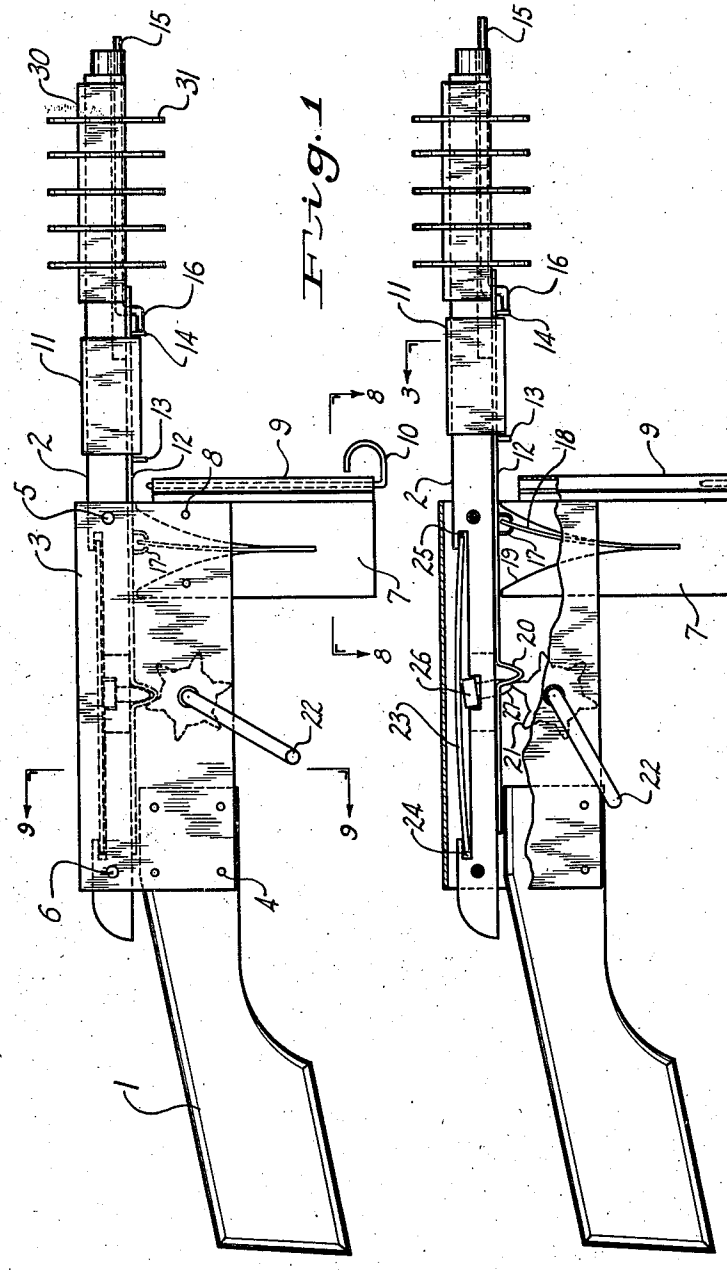


Fig. 1

Fig. 2

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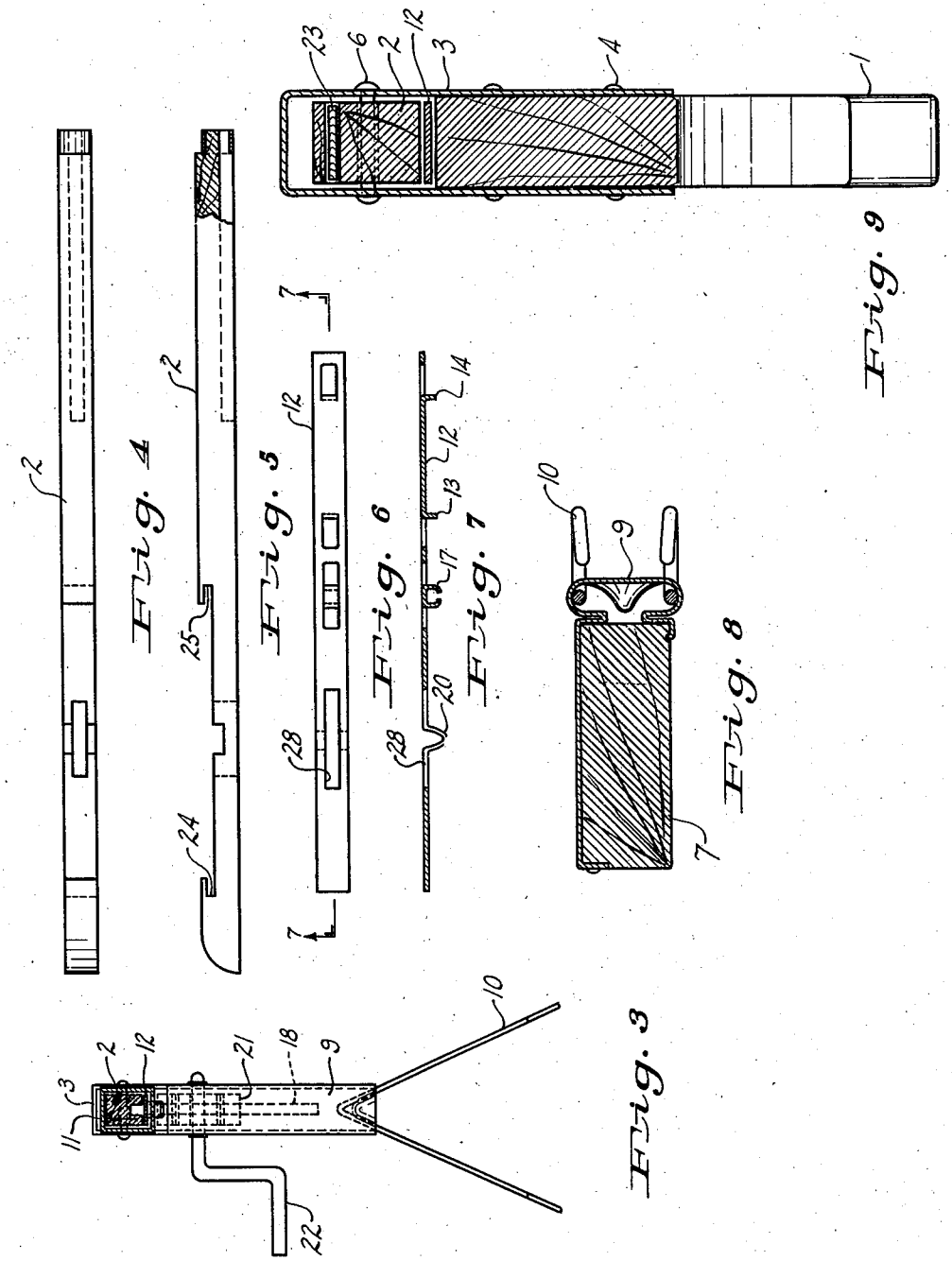


Fig. 9

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 3

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TOY GUN

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Application November 2, 1944, Serial No. 561,533

5 Claims. (Cl. 46—192)

This invention relates to new and useful improvements in toy guns, and it is among the objects thereof to provide a toy gun having a movable barrel portion and a sound producing paddle, both of which are actuated by a common hand crank.

It is a further object of the invention to provide a toy gun of simple and rugged construction simulating in appearance and action modern repeating weapons.

In the accompanying drawings constituting a part hereof, in which like reference characters designate like parts,

Fig. 1 is a side elevational view of a toy gun embodying the principles of this invention;

Fig. 2 a similar view with the side paddle partially cut away;

Fig. 3 a vertical cross-sectional view taken along the line 3—3, Fig. 2;

Figs. 4 and 5 top plan and side elevational views, respectively, of the gun barrel;

Figs. 6 and 7 top plan and cross-sectional views, respectively, of a bottom plate for attachment to the bottom of the barrel;

Fig. 8 a cross-sectional view of the handle member taken along the line 8—8, Fig. 1; and

Fig. 9 a cross-section taken through the stock along the line 9—9 of Fig. 1.

With reference to the several figures of the drawings, the structure therein illustrated comprises a gun stock 1 and a barrel 2, the latter being attached between a pair of side plates 3 that are riveted or otherwise secured to the gun stock 1 by rivets or screws 4, the barrel 2 being secured to the side plates 3 by pins 5 and 6. A handle 7 is riveted to the side plates at 8 and is provided with a bracket 9 in which an extensible bifurcated spring element 10 is slidingly mounted to constitute two legs of a tripod when the toy gun is placed on the floor. Mounted on the barrel is a sleeve 11 that is movable axially by a strap 12 having lugs 13 and 14 for engaging the ends of the sleeve 11, and a rod 15 is disposed in a slot of the barrel 2 and is provided with an offset portion 16 that abuts lug 14 to maintain alignment of strap 12 and be movable thereby.

As shown in Fig. 2, the strap 12 is a sheet metal member and is slidably mounted below the gun barrel 2. It is provided with upstruck members 17 between which is disposed a leaf spring 18 that is secured in the handle member 7, the handle being flared at 19 to provide movement of the spring 18 through a relatively wide angle. The strap 12 is further provided with a depending lug 20 that constitutes a pawl for engaging a ratchet wheel 21 that is operated by a hand crank 22, the spring 18 functioning to yieldingly urge the pawl 20 against the teeth of the ratchet wheel 21. By rotating the wheel 21 the strap 12 is subjected to oscillatory movement axially of the barrel 2, whereby the sleeve 11 is correspondingly moved to create the appearance of recoil of the gun barrel.

A staccato sound is produced by means of a strip 23 of wood or metal having its ends disposed in slotted openings 24 and 25 of the gun barrel. The strip 23 is deflected by a plug 26 having a tooth-shaped end 27 disposed through a slot 28 in the strap 12, the slot extending through the pawl 20 to permit alignment of the tooth 27 inside of the pawl member as shown in Fig. 1. By actuating the hand crank 22 the plug 26 is displaced by engagement of the teeth 21 of the ratchet wheel to flex the paddle strip 23, and when the tooth 27 of the plug is released by a tooth of the ratchet wheel the spring tension on the paddle strip 23 causes it to rebound against the face of the gun barrel 2, thereby producing a sharp sound which is repeated for each engagement of the plug stem 27 with the teeth of the ratchet wheel 21.

For ornamental purposes a sleeve 30 is disposed over the end of the barrel 2 and is provided with radiating disks 31 to simulate an air-cooled machine gun.

In operation, if the gun is to be used as a hand gun, member 10 is collapsed to the position shown in Fig. 1 to furnish a grip on handle 7 and the operator turns crank 22 to rotate the wheel 21 which, as previously explained, actuates a sleeve 11 to subject it to oscillatory movement on the barrel 2. At the same time the paddle strip 23 is flexed and released to produce a snap action on the face of the barrel 2, resulting in a sharp sound that is synchronized with the movement of the sleeve 11. One of the features of the gun is the absence of fastening means of the moving parts and the sound producing paddle member.

Although one embodiment of the invention has been herein illustrated and described, it will be evident to those skilled in the art that various modifications may be made in the details of construction without departing from the principles herein set forth.

I claim:

1. In a toy gun, a stock and a barrel mounted thereon, a sleeve mounted for sliding movement on said barrel, a plate engaging said sleeve, said plate having a pawl extending therefrom, a ratchet wheel engaging said pawl, a spring en-

gaging said plate to normally bias the plate against movement whereby upon rotation of the ratchet wheel the plate is subjected to oscillatory movement to effect corresponding movement of said barrel sleeve.

2. In a toy gun, a stock, a barrel mounted thereon, a strap mounted for sliding movement beneath said barrel and extending beyond the stock, a rod at the end of said gun barrel disposed in a slot of said barrel and engaging one end of the strap to be movable thereby and to maintain alignment of said strap, a sleeve on said barrel engaged by the strap to be movable thereby, said strap having a projection constituting a pawl, a ratchet wheel for engaging said pawl, spring means engaging the strap to maintain the pawl in central alignment with the ratchet wheel, whereby upon rotation of the ratchet wheel the strap and sleeve portion of the barrel are subjected to oscillatory movement.

3. In a toy gun, a stock, a barrel mounted thereon, a strap mounted for sliding movement beneath said barrel and extending beyond the stock, a rod at the end of said gun barrel disposed in a slot of said barrel and engaging one end of the strap to be movable thereby and to maintain alignment of said strap, a sleeve on said barrel engaged by the strap to be movable thereby, said strap having a projection constituting a pawl, a ratchet wheel for engaging said pawl, spring means engaging the strap to maintain the pawl in central alignment with the ratchet wheel, a paddle having its ends disposed in notches of the gun barrel, a plug for engaging said paddle to flex the same, said plug extending through a slot in the pawl of the strap for engagement by the teeth of the ratchet wheel, whereby upon rotation of the ratchet wheel the strap is subjected to oscillatory movement and the paddle is flexed and released to produce sound.

4. In a toy gun, a sound paddle comprising a strap mounted on the gun barrel having its ends disposed in notches of said barrel, means for flexing said paddle and for suddenly releasing the same to cause it to slap against the gun barrel, said flexing means comprising a ratchet wheel and plug disposed in a slot of the barrel for engaging the teeth of the ratchet wheel whereby upon rotation of the wheel said paddle is flexed and released to produce sound.

5. In a toy gun, a stock, a pair of side plates secured to said stock, a barrel fastened to said side plates and a handle member extending beneath said side plates, a plate disposed beneath said barrel consisting of a strap-shaped member extending beyond the side plates, a rod mounted in a slot of the barrel having an offset and interacting with a notch in said strap, a sleeve movably mounted on said barrel engaged by said strap to be movable therewith, a spring disposed in the handle portion of the gun engaging said strap, said strap having a depending pawl for engaging the teeth of a ratchet wheel, and a sound producing paddle comprising a loose strip disposed in notches of the barrel, a plug interposed between the bottom of said strip and barrel and extending through a slot of the barrel for engaging the teeth of said ratchet wheel, and a crank for said wheel.

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