March 7, 1950 L. M. STEVENS, JR 2,499,794

TOY

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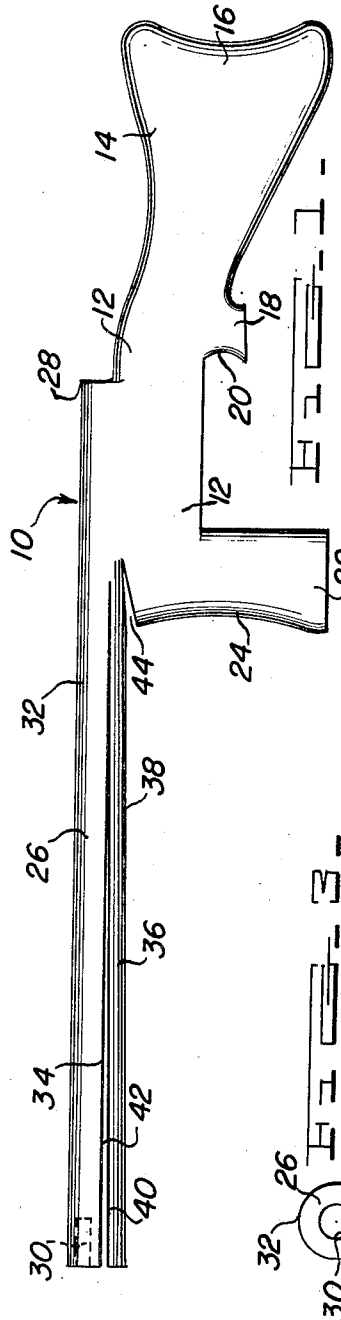


FIG. 1

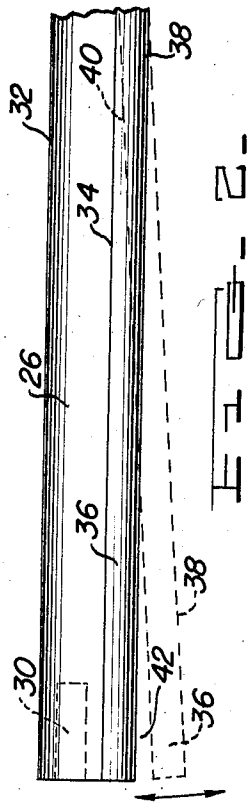


FIG. 2

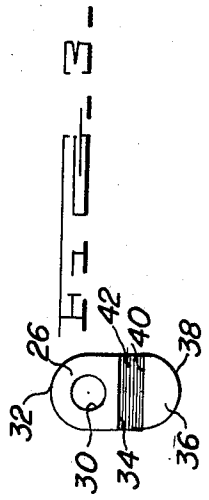


FIG. 3

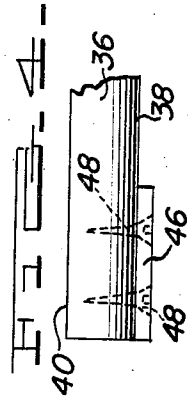


FIG. 4

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2 Claims. (Cl. 46—191)

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The present invention relates generally to toys.

More particularly this invention relates to certain new and useful improvements in toy weapons of the type having an external shape simulating that of a machine gun or the like.

The principal object of the present invention is to provide a toy weapon of the type described capable, upon rapid manual oscillation through an arc of relatively small amplitude, of realistically simulating the explosive noise produced by the firing of cartridges in a real machine gun.

Another object of the invention is to provide a toy weapon of the type described which may be readily and inexpensively manufactured by simply sawing the outline of the shape of the gun from a single block or panel of wood.

Additional objects of the invention are to provide a toy weapon of the type described which may be firmly grasped by both hands of the operator, which is not easily susceptible to breakage, and which embodies a minimum number of working parts requiring substantially no adjustment or repair during normal usage.

The foregoing as well as other and further objects and advantages of the invention together with a clearer understanding of the precise nature thereof will become more readily apparent to one skilled in the art from a consideration of the following detailed specification taken in conjunction with the accompanying figures of drawing wherein:

Figure 1 is a side elevational view of a preferred form of toy weapon in accordance with the present invention;

Figure 2 is a fragmentary side elevational view of a portion of the gun barrel of Figure 1 illustrating two different operating positions of the parts in full and dotted lines, respectively;

Figure 3 is a front end elevational view of the barrel of the gun of Figure 1; and

Figure 4 is a fragmentary detail elevational view illustrating a modified form of noise producing mechanism.

Referring now in more detail to the various figures of the drawing and in particular to Figure 1 thereof, my improved toy weapon is designated generally by reference numeral 10 and is seen to have an outline roughly similar to that of the well-known Thompson sub-machine gun. In the preferred embodiment illustrated in Figure 1, the entire toy weapon is formed by suitably sawing the outline of the shape of the gun from a single block or panel of wood so that no assembly operations are required, the complete gun being formed in one operation as a single unitary structure. Although I may employ metal or any number of different types of plastic material in the manufacture of the gun, I prefer to use a suitable close-grained wood such as oak, ash, birch, hickory, or the like, as I have found that these natural materials possess adequate strength and at the same time produce highly realistic noise effects during operation of the device in a manner to be hereinafter more fully set forth.

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Referring again to Figure 1, the gun is seen to comprise a stock 12 terminating at its rear end in a smoothly curved shoulder piece 14 which in turn is provided with a generally concave butt 16 adapted to snugly engage the shoulder of the user. A relatively small boss 18 is formed integral with the stock 12 depending from the lower surface intermediate the front and rear ends of the latter and is provided with a generally concave forward edge 20 shaped and positioned in such manner as to simulate the trigger or trigger guard of a real gun. A handgrip 22 depends from the front end of the stock 12 and is provided with a generally concave forward edge 24 providing a smoothly curved surface adapted to be firmly grasped by the hand of the user.

A barrel 26 extends forwardly from the front end of the stock 12 and is slightly elevated in such manner as to provide a sharp corner 28 permitting a line of sight along the barrel when in use. At its front end the barrel 26 is provided with a blind hole 30 substantially circular in cross section and having the appearance of the usual gun bore when viewed from the front as in Figure 3. It will also be noted in Figure 3 that the upper surface of the barrel 26 is smoothly curved in convex form as indicated by reference numeral 32 while the lower surface of the barrel 26 is entirely flat as indicated by reference numeral 34.

A percussion member 36 of approximately the same length as the barrel 26 is also preferably formed integrally with the stock 12 and extends forwardly from the front end of the latter. As shown particularly in Figure 3, the percussive member 36 is substantially straight and is provided with a convex lower surface 38 and a flat upper surface 40 lying directly beneath the lower surface 34 of the barrel 26 throughout substantially the full length of the latter. In actual practice, as indicated above, the barrel 26 and percussive member 36 are formed at the same time by making of a single saw cut longitudinally from the left-hand end of the gun in Figure 1 towards the stock 12 thereby providing a tapered groove 42. It will also be noted in Figure 1 that I have provided a relatively narrow V-shaped notch 44 extending upwardly and rearwardly from the front edge 24 of the handgrip 22 adjacent the juncture of the percussive member 36 and the stock 12. Although it is not absolutely essential to the operation of the device in accordance with the present invention, I have found that the notch 44 materally improves the functioning of the percussive member 36, probably by increasing the resilience of the latter, to obtain a more realistic noise effect.

As indicated above and as illustrated in Figure 1, the percussive member 36 normally sags

down slightly toward its extreme outer end due to its weight thereby causing the groove 42 to normally assume a tapered appearance. In Figure 4, there is illustrated a slightly modified form of percussive member 36 wherein a suitable weight in the form of a flat strip 46 of metal or the like is secured to the end of the member 36 in any convenient manner as by means of a plurality of screws 48. The use of the additional weight 46 is dependent upon the material of which the weapon is made and where an extremely stiff wood or similar material is employed such weight may materially improve the noise producing characteristics of the gun. I have found, however, that where a suitable close-grained wood of the type referred to above is employed, additional weights such as 46 are not required. Thus, to cite a specific example by way of illustration, I have found that no additional weights are required where the relative dimensions of the larger elements of the gun are as follows: over-all length of gun, 37 inches: length of barrel, 23¾ inches; length of notch, ½ inch.

Although the operation of the device will be largely apparent from the foregoing description, it may be briefly set forth as follows: The user grasps the gun by placing one hand about the stock 12 in such manner that one or more of the fingers extend around the concave forward edge 20 of the boss 18. The handgrip 22 is then grasped by the other hand of the user with the fingers snugly curled around the concave forward edge 24 of the latter. With the gun thus held in both hands, the concave butt 16 may be pressed snugly against the shoulder of the user and the entire gun manually oscillated rapidly in an aproximately vertical plane through arcs of relatively small amplitude thereby causing the upper flat surface 40 of the percussive member 36 to sharply strike the lower flat surface 34 of the barrel 26 and thus produce a noise quite similar to the "chatter" of a machine gun. During such operation of the device, the percussive member 36 moves between upper and lower limit positions as illustrated in full and dotted lines, respectively, in Figure 2 of the drawings.

While I have used the term "machine gun" throughout the specification and claims, it is to be understood that this term is used in its generic sense and is thus intended to include such weapons as those technically known as "sub-machine guns" of the type which my improved toy most closely resembles. It is also to be understood that the extreme simplicity of my toy weapon actually constitutes one of its most important features leading as it does to low manufacturing costs in a highly competitive field. Furthermore, this same simplicity in structure provides relative freedom from breakage or maladjustment in contrast to the relatively complicated working parts of the ratchet mechanisms or similar noise producing devices now commonly used in toy weapons of this type.

Obviously numerous other modifications, alterations, and deviations from the specific structure disclosed herein solely for the purpose of illustration will occur to one skilled in the art, and it is to be understood that numerous changes can be made in size, materials, and arrangement of parts without departing from the principles of the invention as set forth in the appended claims.

Having thus described my invention, what I claim as novel and desire to secure by Letters Patent of the United States is:

1. A toy weapon having an external shape simulating that of a machine gun and adapted to be manufactured substantially entirely by sawing the outline of said shape from a single block of wood comprising, a stock terminating at its rear end in a smoothly curved shoulder piece having a generally concave butt, a relatively small boss depending from the lower surface of said stock intermediate the front and rear ends of the latter and having a concave forward edge simulating a trigger, a handgrip depending from the front end of said stock and having a concave forward edge, a barrel extending forwardly from the front end of said stock having a convex upper surface and a flat bottom surface, means forming a blind hole of circular cross section in the front end of said barrel simulating a bore therein, a substantially straight percussive member of approximately the same length as said barrel extending forwardly from said stock and having a convex lower surface and a flat upper surface lying directly beneath the lower surface of said barrel and adapted to percussively contact the latter upon rapid manual oscillation of the weapon through an arc of small amplitude to simulate the explosion of cartridges in a machine gun, means forming a narrow V-shaped notch extending upwardly and rearwardly from the front edge of said handgrip adjacent the juncture of said member and said stock, and a weight attached to the lower surface of said member adjacent the front end of the latter.

2. A toy weapon having an external shape simulating that of a machine gun and adapted to be manufactured substantially entirely by sawing the outline of said shape from a single block of wood comprising, a stock terminating at its rear end in a smoothly curved shoulder piece having a generally concave butt, a relatively small boss depending from the lower surface of said stock intermediate the front and rear ends of the latter and having a concave forward edge simulating a trigger, a handgrip depending from the front end of said stock and having a concave forward edge, a barrel extending forwardly from the front end of said stock having a convex upper surface and a flat bottom surface, means forming a blind hole of circular cross section in the front end of said barrel simulating a bore therein, a substantially straight percussive member of approximately the same length as said barrel extending forwardly from said stock and having a convex lower surface and a flat upper surface lying directly beneath the lower surface of said barrel and adapted to percussively contact the latter upon rapid manual oscillation of the weapon through an arc of small amplitude to simulate the explosion of cartridges in a machine gun, and means forming a narrow V-shaped notch extending upwardly and rearwardly from the front edge of said handgrip adjacent the juncture of said member and said stock.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,886,130	Smith	Nov. 1, 1932
1,890,288	Graf	Dec. 6, 1932
2,376,921	Kelly	May 29, 1945