

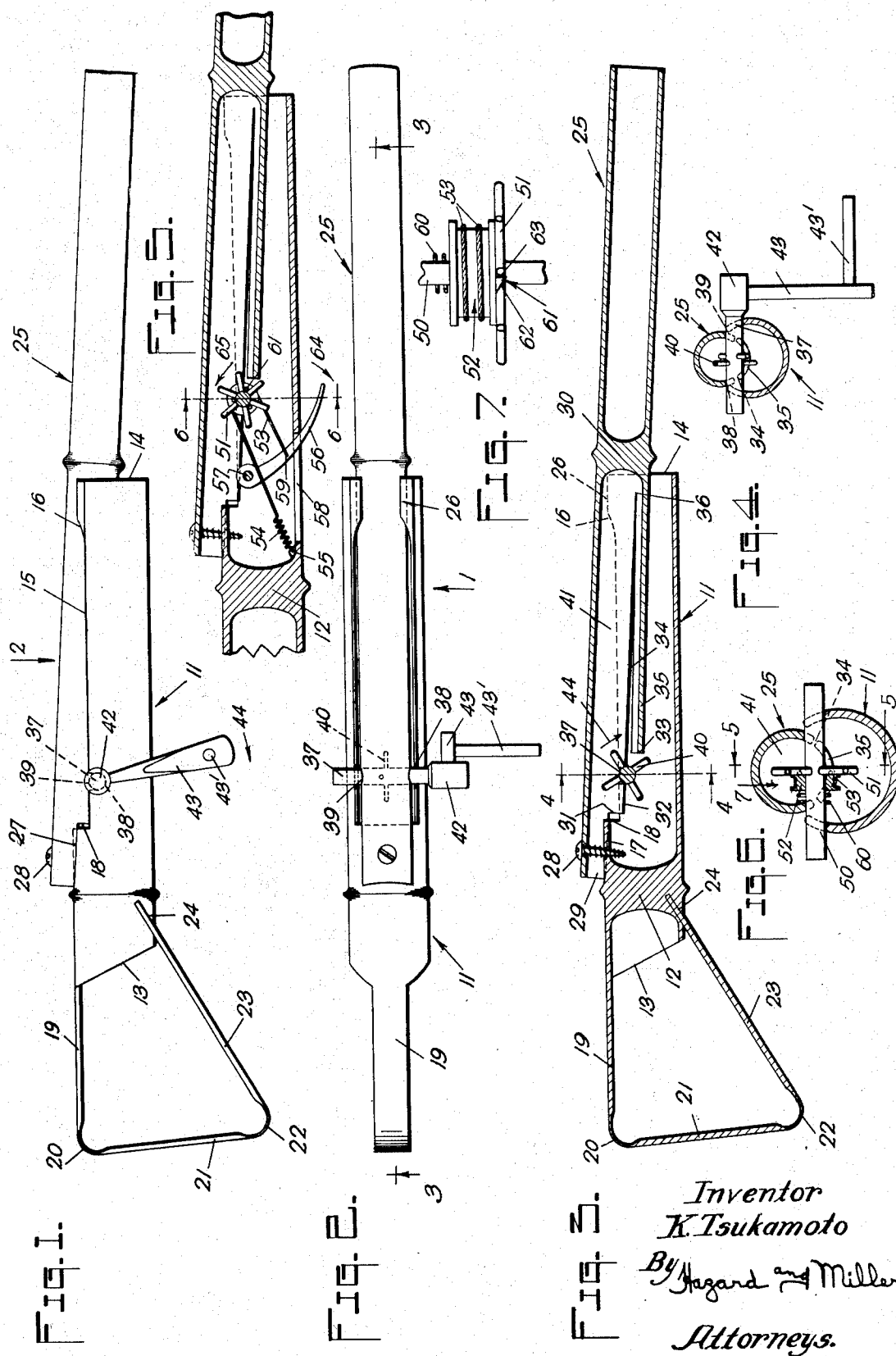
April 17, 1934.

K. TSUKAMOTO

1,955,262

TOY GUN

Filed Nov. 28, 1933



Inventor
K. Tsukamoto
By Hazard & Miller
Attorneys.

UNITED STATES PATENT OFFICE

1,955,262

TOY GUN

Keijuro Tsukamoto, Los Angeles, Calif.

Application November 28, 1933, Serial No. 700,058

8 Claims. (Cl. 46—46)

My invention relates to a toy gun constructed to make a noise simulating the rattle of a machine gun. An object of my invention is therefore a toy gun constructed with a vibrating device similar to a reed of a musical instrument, which may be vibrated, and thus, in cooperation with the tube, produce a rattle or noise simulating the firing of a series of shots from a machine gun.

A further object and feature of my invention is in constructing the tube with the reed in such a manner as to simulate the barrel of a machine gun and employing the manually manipulated device to vibrate the reed.

A further and detailed feature is in vibrating the reed by a plurality of radial pins or spokes on a rotatable shaft, the ends of the spokes engaging the free end of the reed and bending it outwardly from the portion of the tube to which it is connected; thus, on release of the reed, it produces a sound simulating the firing of a rifle and the repeated sounds from the reed simulating the firing of a machine gun.

A feature of my invention in connection with the vibrating reed is forming the tube and reed of bamboo, the tube having longitudinal slits forming a reed between the slits. This reed may be vibrated by being bent outwardly to enlarge the slits, and on springing back into place, gives a tap against the main body of the bamboo tube.

A further object and feature of my invention is rotating the shaft of the spokes by means of a trigger which, when pulled, may operate a cord on a drum and thus rotate the spoke shaft.

The drum, string and trigger may be retracted by a spring, and as the spokes cannot be reversed in a direction of rotation, I employ a ratchet or a slip type of clutch.

In another type of construction the shaft having spokes may be rotated by a crank.

My invention is illustrated in connection with the accompanying drawing in which Fig. 1 is a side elevation of my invention taken in the direction of the arrow 1 of Fig. 2 of the crank operated type of device.

Fig. 2 is a plan of my invention as operated by a crank taken in the direction of the arrow 2 of Fig. 1.

Fig. 3 is a longitudinal section of Fig. 2 at the line 3—3 in the direction of the arrows.

Fig. 4 is a transverse sectional view taken on the line 4—4 of Fig. 3 in the direction of the arrows.

Fig. 5 is a longitudinal section of a modified construction operated by a trigger as if taken on

the line 5—5 of Fig. 6 in the direction of the arrows.

Fig. 6 is a transverse section on the line 6—6 of Fig. 5 in the direction of the arrows.

Fig. 7 is an enlarged plan of the shaft and drum as if taken in the direction of the arrow 7 of Fig. 6.

Dealing first with the construction of Figs. 1 through 4, I employ a stock 11 which is formed of bamboo. The cross fin 12 of the bamboo is used to form the base of the stock, the end 13 being cut slightly rearwardly of the base. The front end 14 of the stock is open and the top of the bamboo is cut away at a horizontal line 15, this terminating at the front end 14 in a curved edge 16. The top section 17 of the stock forward of the fin 12 terminates in a shoulder 18 connecting with the horizontally cut sections 15. The handle is formed by a strip 19 of bamboo integral with the stock having a first bend 20, an end or shoulder piece 21, a second bend 22, a sloping section 23, the end of which fits into a kerf 24 in the fin portion 12, and is glued therein.

The barrel 25 is formed of a smaller sized bamboo than the stock. This is inserted through the open end 14 and the inwardly curved portion 16 of the stock engages above the center line of the barrel and thus holds the barrel as indicated at 26 at the forward portion of the stock. The end of the barrel has a longitudinal cut out section 27 which fits over the portion 17 of the stock and is secured to this portion by a screw 28. This construction leaves an open space 29 at the rear end of the barrel, the fin 30 of the bamboo being left intact in the barrel. This may be bored if desired. The barrel portion has a right angular cut 31, and a longitudinal cut 32, this longitudinal cut portion extending downwardly into the stock. There is then another right angular shoulder 33, and two longitudinal slits 34 forming between these slits the reed 35. The end 36 of the reed is thus firmly attached to the barrel adjacent the fin 30.

A crank shaft 37 formed preferably of a wooden peg is fitted in bearings of which the lower half is formed in the stock as indicated at 38, and the other one-half is formed in the rear portion of the barrel as indicated at 39. The crank has a plurality of preferably staggered pins or spokes 40 extending into the stock and the portion of the barrel having a reed, this portion forming a tube 41. A head 42 is formed at one end of the crank shaft. A crank 43 extends radially therefrom and has a crank pin or hand grip 43' for rotating the shaft.

In the operation of the device of Figs. 1 through 4, the crank is rotated in the direction of the arrow 44 of Fig. 1 which rotates the spokes in the same direction as indicated by the arrow 44, Fig. 4. This causes the ends of the pins or spokes to engage the reed adjacent its free end and spring this downwardly, opening the slits 34. As each spoke releases from the end of the reed, this, on account of its resilient attachment to the rest of the bamboo tube, springs back into place, and the two edges of the reed give a knocking sound as they strike the two adjacent edges of the barrel which forms the tube. Therefore, when the crank and shaft 37 are rotated rapidly, it gives a repeated tapping or knocking sound simulating closely the sound of a machine gun.

In the construction of Figs. 5, 6 and 7, I employ the same general mounting of the stock and the barrel having the resonator tube. In this case the shaft 50 is mounted in substantially the same manner as illustrated in connection with Figs. 1 to 4, except that it is not necessary to have the enlarged head 42. The shaft is provided with a plurality of radial pins or spokes 51, which on rotation of the shaft engage the reed and bend it outwardly, then a release allows the reed which functions as a clapper device, to strike the other portion of the bamboo tube to which it is attached.

The means for rotating the shaft comprises a drum 52 freely rotatable on the shaft 50, and around this drum is wound a cord or cable 53, one end of which is attached to a spring 54, which spring is secured at a fixed place 55 to the fin 12 of the stock. A trigger 56 is mounted on a pivot 57 which extends diametrically across the stock which trigger projects through a slot 58 in the stock, the opposite end of the cord being secured to the trigger as indicated at 59.

A non-reversing clutch or ratchet device operates the drive between the drum and the spokes and allows a reverse rotation of the drum for rotating the spokes. This employs a spring 60 illustrated as coiled on the shaft 50 and bearing at one end of the drum and at the other end against the inside face of the tube 41.

The drum is provided with ratchet teeth 61 which are illustrated as having a sloping or cam face 62 and a right angular shoulder face 63. When the trigger is rotated in the direction of the arrow 64 it rotates the drum, at the same time extending the spring 54, and in this action of rotating the drum, the square shoulder faces 63 of the ratchet teeth engage the radial spokes and rotate the spokes and hence the shaft 50, thus operating the reed. When the trigger is released, the spring contracts and rotates the drum in the direction of the arrow 65 (Fig. 5). This action brings the cam surface 62 of the ratchet teeth into engagement with the radial spokes and as the drum is free to move longitudinally on the shaft 50, it is pressed to one side compressing the spring 60. Therefore the drum may have a reverse rotation without rotating the shaft 50 and radial spokes, and at the same time may shift the trigger from its retracted to its forward position illustrated in Fig. 5. It will thus be seen that each time the trigger is pulled rearwardly, it causes a succession of knocks by the reed or clapper against the tube 41, and thus produces a sound simulating the rattle of a machine gun.

Various changes may be made in the details of construction without departing from the spirit or scope of the invention as defined by the appended claims.

I claim:

1. A toy having a resounding tube with an opening on one side and a pair of parallel slits extending longitudinally of the tube and forming there-between a vibrable strip, a shaft journaled near the end of the strip and having rotatable spokes thereon, each spoke engaging the strip and bending it outwardly and then releasing the strip, the strip on release striking the main body of the tube and developing a noise, a holding tube open on one side and one end and having the resounding tube partly inserted therein, the side opening in the resounding tube being positioned inwardly of the holding tube.

2. A toy having a holder formed of a tube open at one end and with a longitudinal opening on one side, a resounding tube of smaller diameter fitted into the longitudinal opening and partly in the end opening, the resounding tube having a pair of longitudinal slits forming a vibrable strip between the slits, a rotatably mounted shaft having radiating spokes thereon adapted to engage the vibrable strip and spread the slits and then release the strip, the strip on its release striking the main portion of the tube thereby causing a sound.

3. A toy as claimed in claim 2, one end of the resounding tube being positioned partly above the holding tube and forming an open space into said resounding tube.

4. A toy comprising a holding tube having a longitudinal opening in the tube and open at its outer end, a resounding tube of smaller diameter inserted partly in the longitudinal opening and partly in the end opening, the inner end of the resounding tube being partly positioned above the holding tube, the resounding tube having a side opening and a pair of slits forming a vibrable strip between the slits, a rotatable shaft mounted adjacent the free end of the strip and having radiating spokes to engage said strip, each spoke in rotation forcing the free end of the strip away from the main body of the responding tube, and then releasing the end whereby the strip on release strikes the main body of the responding tube.

5. A toy as claimed in claim 4, the rotatable shaft having a drum freely rotatable thereon and means to rotate said drum in reverse directions, and a clutch structure between the drum and the shaft to rotate the shaft and the spokes only in one direction.

6. A toy as claimed in claim 4, the shaft having a freely rotatable drum thereon, said drum being slidable on the shaft, a cord wound on the drum and having one end connected to a spring and the other end connected to a trigger, and an inter-engaging clutch comprising ratchet teeth adapted to engage the spokes and to rotate these in one direction and to ride over the spokes in the other direction of rotation, and a spring forcing the drum toward the spokes.

7. A toy gun having a stock formed of a bamboo tube having an opening along one side and open at its outer end, a barrel formed of bamboo open at its rear end and having an opening extending part way along one side with a pair of parallel slits extending from the opening forming a comparatively narrow vibrable strip between the said slits, the said barrel being mounted in the bamboo stock and extending through the open side and the open end, the rear end of the barrel being spaced above the stock, a rotatable means to successively engage the free end of the

said strip and press said strip outwardly laterally and then release the strip, the strip on its release causing a sound on striking the main portion of the barrel.

- 5 8. A toy gun as claimed in claim 7, the said rotatable means comprising a shaft journaled partly in the stock and having radiating spokes,

a drum freely mounted on the shaft, a cord coiled on the drum and having one end secured to a spring, the other end of the cord being connected to a pivoted trigger, and a clutch connection between the drum and the shaft to rotate the shaft 80 and spokes only in one direction.

KELJURO TSUKAMOTO.

10	85
15	90
20	95
25	100
30	105
35	110
40	115
45	120
50	125
55	130
60	135
65	140
70	145
75	150