

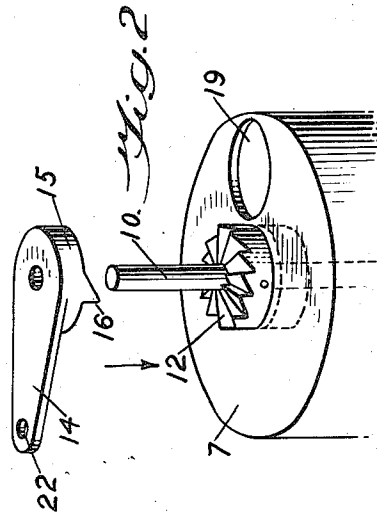
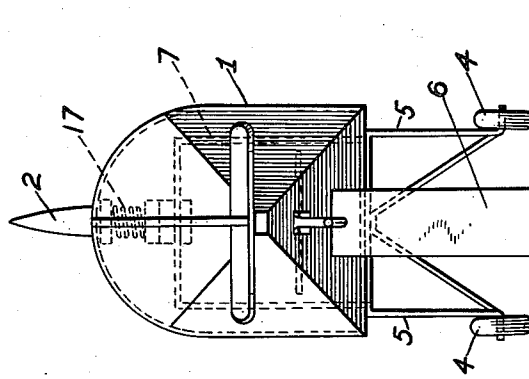
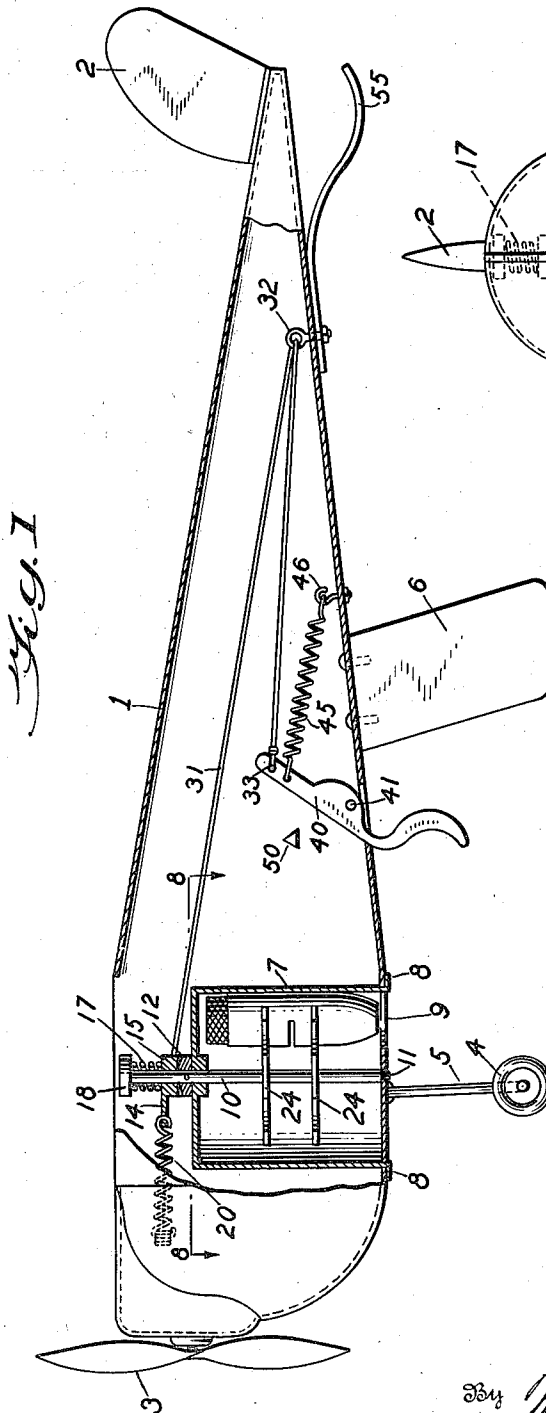
March 4, 1941.

G. STOUT
TOY AIRPLANE

2,234,095

Filed Feb. 12, 1940

2 Sheets-Sheet 1



Inventor
G. Stout

By *Mason & Mason*

Attorneys

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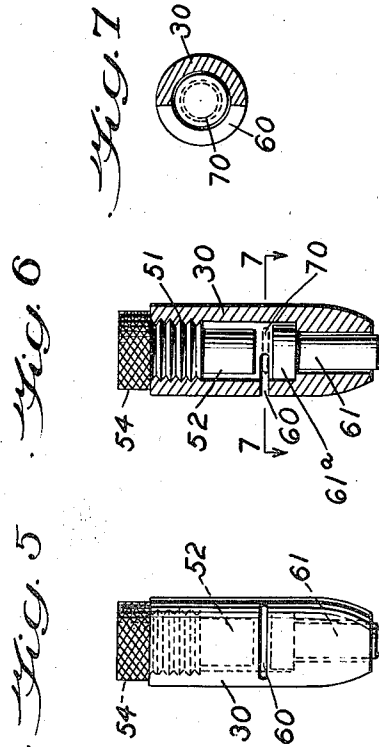
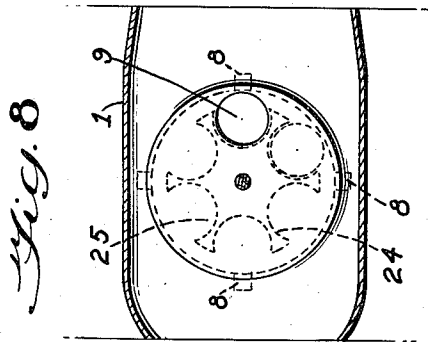
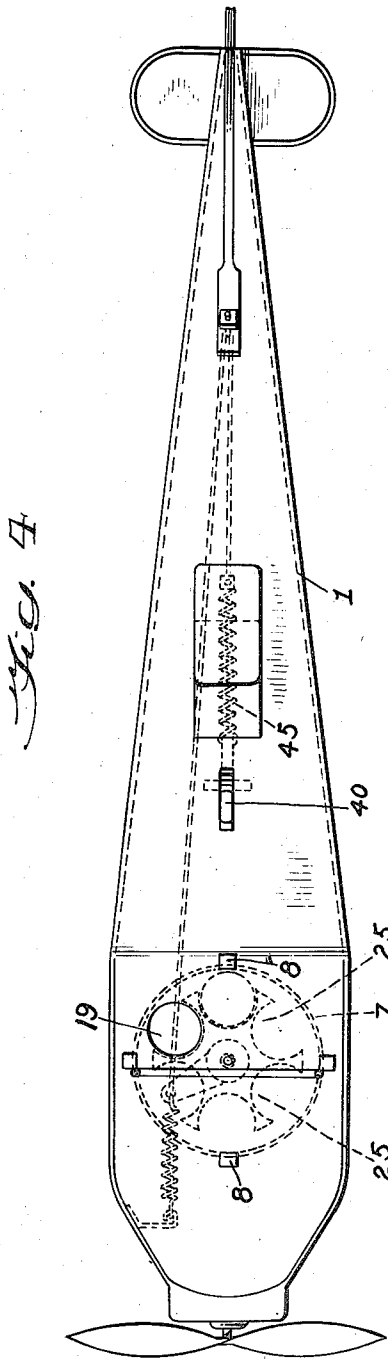
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2 Sheets-Sheet 2



Gum Stout, ^{Inventor}

Mason & Mason, ^{Attorney}

UNITED STATES PATENT OFFICE

2,234,095

TOY AIRPLANE

Gurn Stout, Los Angeles, Calif.

Application February 12, 1940, Serial No. 318,603

3 Claims. (Cl. 46—76)

This invention relates to toy airplanes with bomb releasing means within the fuselage and means for releasing bombs, one at a time. The bombs are preferably provided with percussion caps and means for exploding the caps when the bombs, upon release, come in contact with the ground, or floor.

An important feature of the invention comprises a toy airplane of the type referred to, wherein the bombs and their supporting and releasing means are enclosed within the body of an airplane so as to be entirely concealed therein. This results in a toy airplane whose exterior is substantially free from bomb supporting mechanism, or bombs, and the character of the toy as a bomb concealing and releasing means is not disclosed to the ordinary observer, but only becomes apparent when the operator by pressure on the trigger releases a bomb which thereafter is exploded by contact with a solid surface therebelow.

The foregoing, and other valuable features and characteristics of the invention will be more fully understood from the following description, when considered in connection with the accompanying drawings, in which:

Fig. 1 represents in side elevation, partly in section, a toy airplane embodying the features of the invention;

Fig. 2 is an enlarged perspective, detail view of the bomb casing and some of the bomb releasing mechanisms;

Fig. 3 is a rear end elevation;

Fig. 4 is a bottom plan view of the device;

Fig. 5 is a view in side elevation showing a bomb complete;

Fig. 6 is a vertical sectional view through the casing of the bomb with the anvil and firing pin in elevation;

Fig. 7 is a transverse sectional view on the line 7—7 of Fig. 6, and

Fig. 8 is a top plan view, on the line 8—8, Fig. 1, the bomb rack and its casing being shown in in dotted lines.

The toy airplane fuselage 1, which may be constructed of thin sheet metal, is provided with the usual rudder 2, propeller 3, wheels 4 and their supporting frame 5, and a handle 6 which is grasped by the operator in the manner of the handle of a pistol, while actuating the bomb releasing mechanism.

Within the fuselage 1, as herein shown, is a thin metal casing 7 which may be provided with lugs 8, which pass through slots in the bottom of the fuselage and are bent upwardly against

the bottom portion thereof for retaining the casing 7 in position. The bottom of the fuselage is provided with an opening 9, preferably circular, for permitting the bombs to escape successively as the bombs are caused to pass over such opening by rotation of the rack. A shaft 10 is rotatably supported at its lower end 11 in a hole in the bottom of the fuselage while the upper portion of this shaft extends through an opening in the top of the casing 7. Immediately above the top of said casing is a ratchet 12 through which the shaft 10 passes, the ratchet being rigidly secured to the shaft by a rivet, pin or other suitable means. The upper face of the ratchet is provided with a plurality of teeth, and rotatably supported on the shaft, and over the ratchet, is lever 14, provided with an enlarged portion 15 from which projects downwardly a tooth 16 engaging the ratchet. A spiral spring 17 surrounds the shaft 10 and is confined between the enlargement 15 of the lever and a disc 18 mounted on the upper end of the shaft 10. A spiral spring 20 has one end connected rigidly with the inside of the forward portion of the fuselage, while its opposite end is fastened to the lever arm 14 by passing through a hole 22 therein.

A shaft 10 carries two flat circular pieces of metal 24 which are spaced apart a suitable distance, and each of these metal pieces is provided with a plurality of spaced, curved openings or recesses 25 in its periphery which are substantially of the same size as the bomb-discharge opening 9 in the fuselage. These pieces of metal constitute a rack for supporting the bombs, and as herein shown, each rack is provided with six bomb receiving openings or recesses which are of the proper size to accommodate the bombs 30, shown in Figures 5, 6 and 7 of the drawings.

Secured to the opening 22 in the outer end of the lever 14 is one end of a cord or wire 31, which is passed thence rearwardly within the fuselage and is threaded through a guide eye 32 secured in the rear portion of the fuselage. The cord 31 then passes in a forward direction and has its other end attached at 33 to the upper end portion of a trigger 40, pivoted at 41 to the fuselage. This trigger is provided with a spiral spring 45, attached at its forward end thereto as shown, and its rear end is secured to the wall of the fuselage as to a hook 46 secured therein. The trigger 40 extends through a slot in the lower wall of the fuselage in a position to be engaged

by the finger of the operator as he grasps the handle 6.

The spring 45 normally holds the upper end of the trigger rearwardly, while the spring 20 normally exerts tension upon the cord 31 to hold it taut. A stop 50 projects from an inner wall of the fuselage forward of the upper end portion of the trigger and acts to limit the movement of the latter when it is pulled to release the bombs. The top of the casing 7 is provided with an opening 19, out of registry with the opening 9 in the fuselage, for inserting the bombs in the bomb rack. During this operation the pawl 16 is separated from the ratchet by sliding the pawl lever upwardly on the stem 10, thereby permitting its free rotation by engagement with the button 18, when inserting successive bombs in the rack.

Referring to Figures 5, 6 and 7, the bomb 30 comprises an outer casing of stout metal, and is internally threaded at its upper end portion to receive a thread 51 on a plug 52, the upper portion of which is formed as a knurled nut, while the lower portion of the plug is located slightly above a slit 60 formed in the side of the casing of the bomb 30. Preferably the plug 52 is of some light metal as aluminum, and its lower end portion constitutes an anvil. A firing pin 61 is located below the plug, the firing pin being preferably of some heavy metal as iron, and provided at its upper end with a head 61a which rests upon a shoulder formed internally of the bomb casing. The lower end of the firing pin projects slightly below said casing. A percussion cap may be inserted in the slot 60, and will lie between the lower end portion of the plug 52 and the upper surface of the head 61a as indicated at 70.

In operation the handle 6 is grasped by the operator and the trigger is pulled against the stress of its spring 45 which causes a pull on the cord 31 and the consequent tension of the spring 20 as the arm 14 is moved one step, causing the pawl and ratchet to rotate the shaft 10 carrying rack 24. The oscillation due to one pull of the trigger is sufficient to move the bomb carrying rack just the proper distance to locate a bomb in the rack over the opening 9 to permit the escape of the bomb. The bomb then strikes the floor, or the surface beneath the bomb thereby exploding the cap 70 as the firing pin impacts the cap against the plug 52, constituting the anvil. Successive pulls on the trigger will, upon each pull, release a bomb in the manner described, until all of the bombs carried by the rack have been discharged and the caps therein exploded.

The toy bombing plane may be maneuvered

over targets placed upon the floor, or ground, at which the individual may fire with the bombs as a game or sport, the skill of the operator consisting in his ability to so position the airplane over the target as to cause the bombs to strike the target. If desired a game, with land fortifications consisting of various sizes and types of artillery, may be provided as targets to test the skill of the person operating the bombing releasing mechanism.

If desired, the game which would consist of two or more persons operating each a toy airplane might take place, with sides assumed by the players in mimic warfare. Different scores would be allowed for striking different sized ships, or coast defense guns, illustrated upon the drawings, forming the target.

I claim as my invention:

1. In a device of the class described, a toy airplane having within its fuselage a bomb-supporting rack, said fuselage having an opening to permit the discharge of single bombs therefrom, and means including a trigger and connections to the bomb rack to effect step by step rotation of the rack and permit the release of bombs singly from the airplane.

2. A device of the class described, comprising a toy airplane having within the fuselage thereof a rotatably supported shaft, a bomb-supporting rack carried by said shaft and having means thereon for accommodating a plurality of bombs, a ratchet carried by said shaft, a spring-pressed arm rotatable upon the shaft and provided with a pawl engaging said ratchet, a trigger pivoted in the fuselage, and connections including a return spring between said trigger and said arm, whereby successive trigger operations will effect step by step rotary movements of the bomb rack and the successive discharge of bombs from the toy.

3. In a device of the class described, the combination of a toy airplane having within the fuselage thereof a casing, a rotating shaft supported within said casing and having thereon a plurality of members provided with circularly arranged recesses to receive bombs, said fuselage provided with an opening of a size to permit the escape of a single bomb and said opening being so located as to permit successive bombs to escape upon step by step rotation of the bomb rack, pawl and ratchet means for causing said step by step rotation of the bomb rack, and a trigger with connections therefrom to the pawl to effect the aforesaid step by step movements of the bomb rack upon successive pressures upon the trigger.

GURN STOUT.