

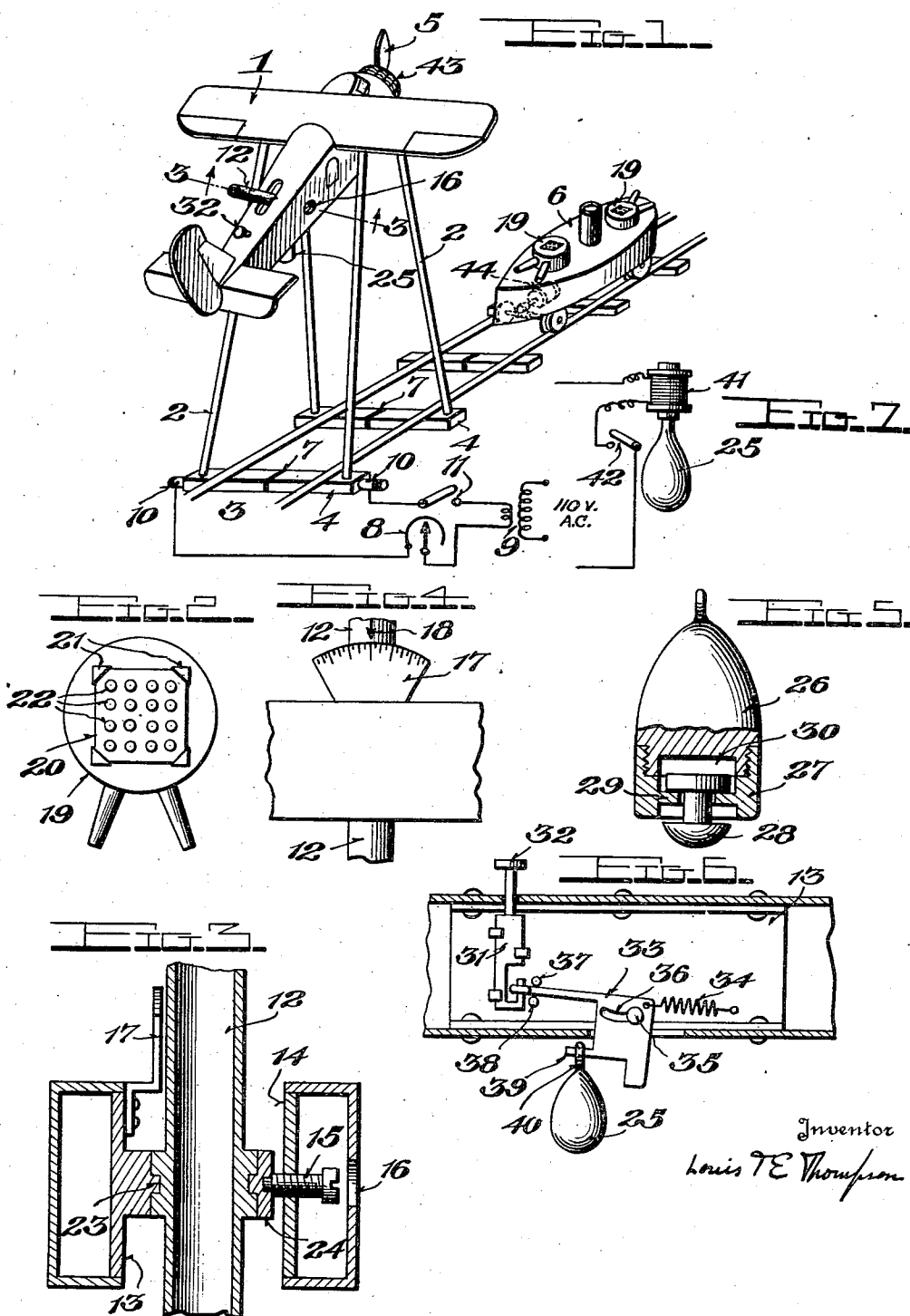
Aug. 29, 1933.

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1,924,261

AEROPLANE BOMBING TOY

Filed Sept. 3, 1930



UNITED STATES PATENT OFFICE

1,924,261

AEROPLANE BOMBING TOY

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Application September 3, 1930. Serial No. 479,447

19 Claims. (Cl. 46—50)

This invention relates to aeroplane bombing toys; and it comprises in combination a bomb carrying representation of an aeroplane, a track, a target in relative motion with respect to said representation and running on said track, a bomb sight and a bomb release, the striking of said target by said bomb causing a detonation; all as more fully hereinafter set forth and as claimed.

10 Various toys have been suggested which simulate the cannonading of forts or of boats by various types of spring guns. It has also been suggested to imitate a bombing attack by an aeroplane by running a toy plane along a wire, 15 the bomb being released by the abrupt stopping of the plane. The unreality of having a plane run along a trolley and of having to bring it to a dead stop to release a bomb, robs this device of the most of its thrills.

20 In none of the devices of the prior art has there been any opportunity for a direct contest between two opposing groups of players. One side has remained idle while the other was bombing. It is also true that in none of the 25 prior art toys has the hitting of the target been indicated by any unexpected or unusual event and specifically not by a detonation as would happen in real warfare.

I have found that an unusual amount of 30 interest and excitement in such a toy is evoked by a detonation such as is caused, for example, by the setting off of a percussion cap, upon the advent of a direct hit. I have also found that an aeroplane bombing attack can be represented 35 to a fair degree of accuracy by employing a moving target instead of a moving plane, a certain relative motion between target and plane being all that is required. It may actually appear to an aviator riding in a plane that 40 the plane is standing still while the earth is moving and much the same effect is obtained by moving a target beneath a stationary representation of a plane.

To make the conditions more realistic, I advantageously employ a target which would normally be moving while being bombed, such as a ship or a train. To increase the element of skill in the simulated attack, I advantageously 45 employ a bomb sight which, with a small amount of practice, can be used to judge the proper point at which to release the bomb.

In the accompanying illustrations I have shown, more or less diagrammatically an assembly of apparatus elements which falls within the 50 purview of my invention and may be used as an illustration thereof.

In this showing Figure 1 is a perspective view of my aeroplane model with supporting tower and moving target.

60 Figure 2 is a detail plan view of a gun turret

showing an arrangement of percussion caps on the top to serve as a target.

Figure 3 is an enlarged vertical section along the line 3—3 (Figure 1) showing the mounting for the bomb sight.

Figure 4 is an enlarged partial side view of the bomb sight showing a sighting scale.

Figure 5 is a section of a modified form of bomb, while

Figure 6 shows an advantageous bomb release mechanism.

Figure 7 shows an alternate bomb release, operated electrically.

Referring to the figures, wherein like numerals refer to like structures, element 1 represents the aeroplane model. This is advantageously mounted rigidly on a supporting means such as the tower 2. This tower can be formed of four rods with cross members for strengthening purposes. It is conveniently mounted and centered over tracks 3 by having the rods inserted in holes at the ends of certain cross ties 4. The length of the supporting rods should be such as to give height above the target sufficient to detonate the "bomb." It is advantageously 75 made of a height such that the operator can use the bomb sight in a kneeling, standing, or sitting posture, according to the size and elaborateness of the toy.

The tracks 3 are advantageously electrified as shown and the cross ties 4 and rods 2 may be used to pass current to an electric motor 43 which drives the aeroplane propeller 5.

The target 6 is advantageously propelled along the tracks 3 by an electric motor 44, but in the less expensive embodiments of my invention the track may be elevated at the far end so that the target will be propelled by gravity. The target may be in the form of a battleship as illustrated, with a gun turret 19, which provides a mounting for a sheet of percussion caps 20, shown more particularly in Figure 2. Angle pieces 21 or clamps can be used to hold down the sheet of caps. When the bomb hits the spot of powder 22, the cap explodes, indicating a direct hit.

To increase the interest in the game it is advantageous to introduce a rheostat 8 into the electric circuit for varying the speed of the target. The current for the motors may be supplied from the usual house current by means of a step down transformer 9. Direct current can be used when available. The tracks 3, serve as conductors and are insulated from each other. The cross ties 4 have an insulating section 7 to prevent a short circuit. The electric circuit may be attached to the cross ties 4 by means of binding posts 10, the tracks being in electrical connection with the cross tie 4.

It is convenient to place a switch 11 in the electric circuit.

The model plane is provided with a pivoted bomb sight comprising a sighting tube 12. A suitable mounting for this bomb sight is shown in enlarged section in Figure 3. Two longitudinal plates 13 and 14 may be extended through the interior of the aeroplane model, the sight being mounted between them. A screw 15 may be provided to adjust the friction on the pivoted bearings 23 and 24 so the sight will remain in any desired position. The hole in the body of the plane 16 provides for the insertion of a screw driver for making this adjustment. A stationary scale 17 (Figure 4) may be provided at the side of the sight which cooperates with the index 18 engraved on the outside of the sighting tube 12 to measure the angle of tilt of the bomb sight. The sighting tube may be provided interiorly with cross hairs or with a V-shaped notch and a pin as in the usual gun sight.

The bomb 25 (Figure 1) may be made of a solid bomb shaped piece of metal with a slightly rounded heavy bottom designed to set off the paper caps upon striking. An alternate form of bomb is shown in vertical section in Figure 5. An upper weighted piece of metal 26 is hollowed out at the bottom and is threaded to receive a cap shaped member 27. This is an annular member threaded at its upper end and with a central flange 29. The flange is provided as a retaining and a guiding means for the light weight, double ended stud or hammer 28. When the lower cap is screwed on there is left a disc shaped chamber 30 in which a percussion cap may be placed. A blow on the bottom of the hammer, such as is caused by the bomb dropping and hitting a metal plate causes the hammer to strike and explode the cap. If a yielding surface is hit the momentum imparted to the hammer is not sufficient to explode the cap. Thus, in using this type of bomb, the greater part of the surface of the target may be covered with a rubber mat, felt or a yielding surface of other nature. Certain areas can be cut away leaving a heavy metal plate exposed. When the bomb strikes these areas the cap is exploded and a direct hit is thus indicated. An ordinary steel or iron ball about one half inch in diameter may be used as a bomb if desired. Less frequent detonations will occur in this event as the ball must then hit one of the caps, on its smaller area of contact, there being some separation of caps in the cap sheet.

Still another suitable form of bomb (non-detonating) is made by employing a cloth bag of shot. This bomb will stay where it hits and will not damage the floor or target when it strikes. Or a sharp pointed dart shaped bomb can be used with a wooden target, the point being designed to stick in the target and to hold the bomb upright. The position of the hit can be accurately judged and, if certain areas on the target represent certain scores, an accurate count can be kept.

In Figure 6 there is shown a convenient bomb releasing mechanism. A trigger 31 is operated by pressing down a button 32. This releases the latch member 33 which is then pulled back by the spring 34. The motion of the latch member 33 is governed by the pin 36 which slides in the curved slot 36, and also by

the pins 37 and 38. The slot 36 has a convex curvature downward which imparts a slight downward motion to the bomb supporting finger 39 as the latch member is pulled sideways by the spring. The finger 39 is therefore lifted out from under the supporting ring 40 of the bomb without disturbing the position of the bomb. The bomb, when released in this manner, drops vertically downward striking squarely on its end.

An alternate form of bomb release can be operated by electricity, as shown in Figure 7. In this embodiment the bomb 25 is held by an electromagnet 41, conveniently energized by the same current which operates the motors. If alternating current is employed, the upper part of the bomb is advantageously of laminated structure, as is well known in the art. The electric bomb release can, of course, be operated by a separate source of current such as a small battery. The bomb is released by merely opening a switch 42 placed in the energizing circuit. By using an electric release the operating switch 42 can be placed at some distance from the plane if desired.

While I have described what I consider the best embodiment of my invention, there are various modifications of the same which still fall within the purview of my invention. For instance, it is possible to have the aeroplane supporting frame mounted on wheels which run on tracks outside of those provided for the target. In this embodiment both the aeroplane and the target may be in motion during the simulated attack or either may remain stationary, while the other is moving.

The toy plane with its supporting tower, bombing mechanism, etc., can be conveniently made as an accessory unit to be employed with the popular electric trains. The target can then be made up as a separate car to be pulled by the usual electric engine. The target can be labeled "ammunition car", for example.

One of the most fascinating ways of playing the game with a number of young people is to divide the players into two groups. The players of one group take turns manipulating the rheostat and hence directing the motion of the target while the other group takes turns in dropping the bombs. Various methods of scoring can be used. If the bomb misses the target entirely this may be counted as zero. A direct hit, causing the explosion of one of the toy caps, can be scored as 10. When the bomb hits the target but does not explode a cap, this can be scored an intermediate number such as 2. Targets with circles around a bull's eye can be employed, the bomb being in the form of a small dart, provided with a sharp point which pierces the target indicating where it was hit.

Even with the simplest form of a device, where gravity propulsion is used, etc., I have found that a group of young people can be kept fascinated for hours in playing my game.

What I claim is:

1. In an aeroplane bombing toy, the combination of a supported representation of an aeroplane, a releasable, miniature bomb and a bomb sight mounted on said aeroplane, and a target, the said target and the said aeroplane representation being capable of uniform relative motion during the release of said bomb, the said target being adapted to be struck by said bomb.

2. In an aeroplane bombing toy, a bomb-carrying representation of an aeroplane, a bomb-

carrying and releasing means mounted in said aeroplane representation, a track running beneath said aeroplane representation, a target movable on said track and a means for rigidly supporting and centering said aeroplane representation above the said track, the said target and the said aeroplane representation being capable of uniform relative motion during the operation of release of said bomb, the said target being adapted to be struck by said bomb.

3. In an aeroplane bombing toy, a representation of a bombing aeroplane, an electrified tower supporting said aeroplane, a track running beneath said aeroplane and a movable target on said track, the said target being adapted to be struck by a bomb released from said bombing aeroplane.

4. In an aeroplane bombing game, the combination of an electrified track and an electrified tower above said track electrically connected thereto, the said tower serving to rigidly support a representation of a bombing aeroplane above said track and to provide current carrying means for operating the propeller of said aeroplane representation.

5. The combination of claim 4 combined with an electrically driven target capable of moving along said track and adapted to be struck by a bomb released from said aeroplane representation.

6. The combination of claim 4 in which the said aeroplane is provided with an electrically releasable bomb which is adapted to strike a target while the said aeroplane representation and the said target are in uniform relative motion along the path of said electrified track.

7. In an aeroplane bombing toy, the combination of a representation of an aeroplane, a tower supporting said aeroplane representation, a releasable bomb and a bomb sight carried by said aeroplane representation, and a target beneath said aeroplane representation, the said target and the said aeroplane representation being capable of relative motion and the bomb being adapted to strike said target if released while within the view of said bomb sight, the said relative motion being undisturbed by release of said bomb.

8. The combination of claim 7 in which the bomb of said combination is adapted to cause a detonation upon the striking of said target but not otherwise.

9. The combination of claim 7 in which the said aeroplane representation is rigidly mounted on an electrified tower which is electrically connected to an electrified track, the said aeroplane representation and the said target being capable of relative motion along the path of said electrified track.

10. In an aeroplane bombing toy, the combination of an electrified track, an electrified tower mounted above said track, a representation of an aeroplane rigidly mounted on said tower, a releasable bomb and a bomb sight carried by said aeroplane representation and an electrically driven target movable along said track, the bomb being adapted to strike said target when released while the target is within the view of said bomb sight.

11. In an aeroplane bombing toy, a bomb release mechanism comprising a bomb, a latch member provided with a finger to support said bomb and a curved slot, a spring attached to said latch member and a releasable trigger mem-

ber adapted to temporarily hold said latch member against the tension of said spring, the said latch member being constrained by said curved slot to move, upon release of said trigger member, in a twisting motion whereby said bomb supporting finger is lifted out from under said bomb without disturbing the position of said bomb in space.

12. In an aeroplane bombing toy, an electrified track, a target electrically driven along said track, an electrified tower mounted above said track an aeroplane representation rigidly mounted at the top of said tower directly over said track, the propeller of said aeroplane being driven electrically by the current supplied by said tower, a bomb and a bomb release mechanism mounted on said aeroplane, the bomb being capable of striking said target when released at the proper instant.

13. The structure of claim 12 in which a bomb sight is mounted on said aeroplane to assist in determining the proper instant at which said bomb should be released.

14. In an aeroplane bombing toy, a bomb-carrying representation of an aeroplane, at least one track running beneath said aeroplane, means for supporting and centering said aeroplane representation above said track, a miniature bomb and a bomb carrying and releasing means mounted in said aeroplane representation, and a target beneath said aeroplane adapted to be struck upon release of said bomb; the said aeroplane representation and the said target being capable of relative motion along said track, at least one being supported on said track.

15. The structure of claim 14 wherein a bomb sight is also mounted on said aeroplane, the target being adapted to be struck if the bomb is released while within the view of said bomb sight.

16. The structure of claim 14 wherein the said target is supported on said track and is capable of moving along said track.

17. In an aeroplane bombing toy, a bomb-carrying representation of an aeroplane, at least one electrified track running beneath said aeroplane, means for supporting and centering said aeroplane representation above said track, a miniature bomb and a bomb carrying and releasing means mounted in said aeroplane representation, and a target beneath said aeroplane adapted to be struck by said bomb; the said aeroplane representation and the said target being capable of relative motion along the path of said track, at least one of them being supported on said track and being capable of being driven along said track in said relative motion with current supplied from said track.

18. In an aeroplane bombing toy, a representation of a bombing aeroplane and a target capable of relative motion with respect to each other, means for supporting and centering said aeroplane representation above said target, a miniature bomb, adapted to strike said target and then only to cause a detonation, carried by said aeroplane representation, and means for releasing said bomb without interference of the said relative motion and without disturbance of the position of the bomb during the moment of release.

19. The structure of claim 18 in which the said detonation is produced by toy caps mounted on said target.

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