June 11, 1935. W. G. WARREN 2,004,543

AERIAL TARGET

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Fig. 1.

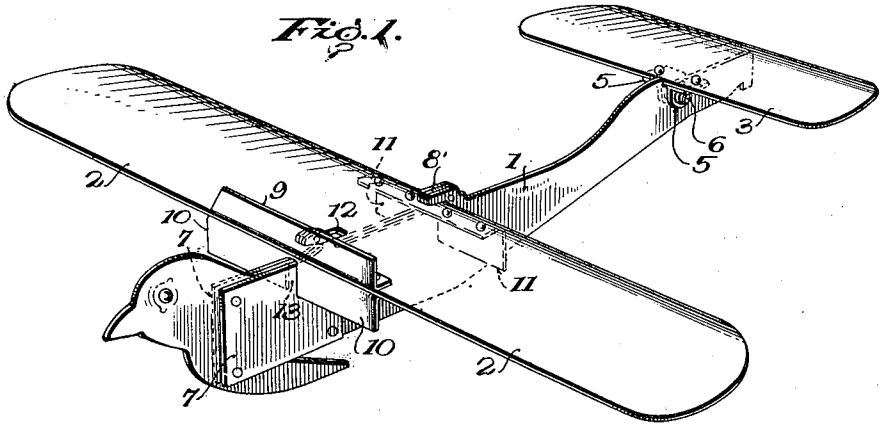


Fig. 2.

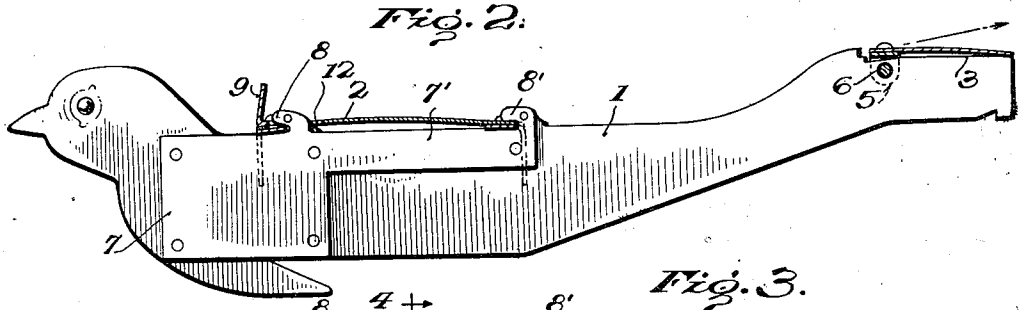


Fig. 3.

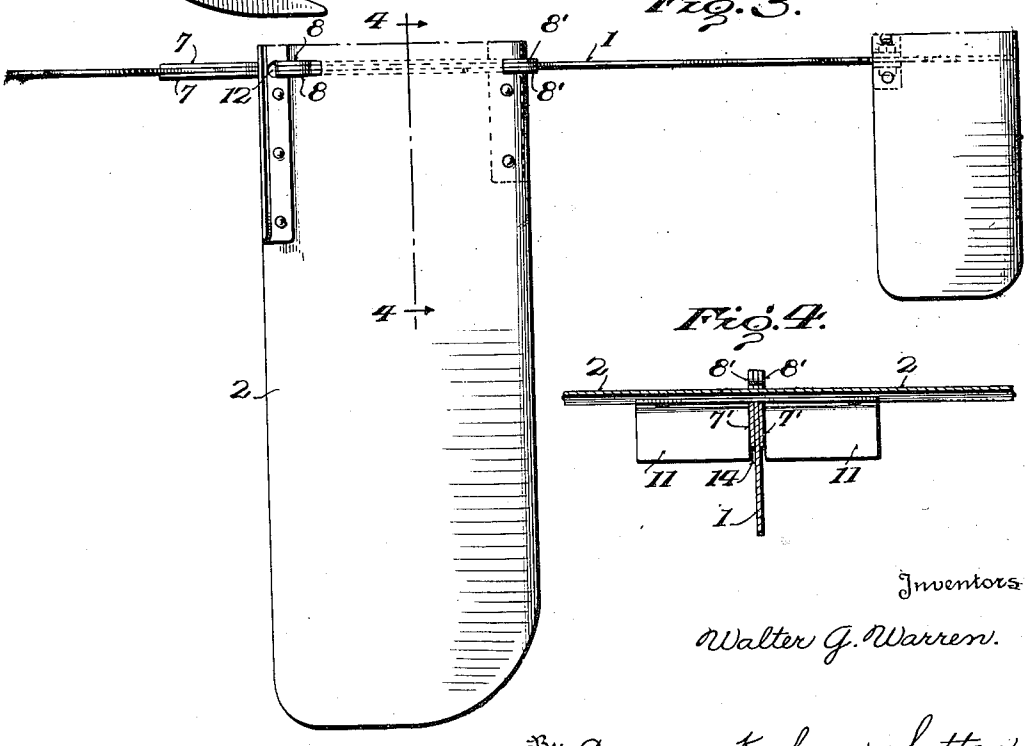


Fig. 4.

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Fig. 5.

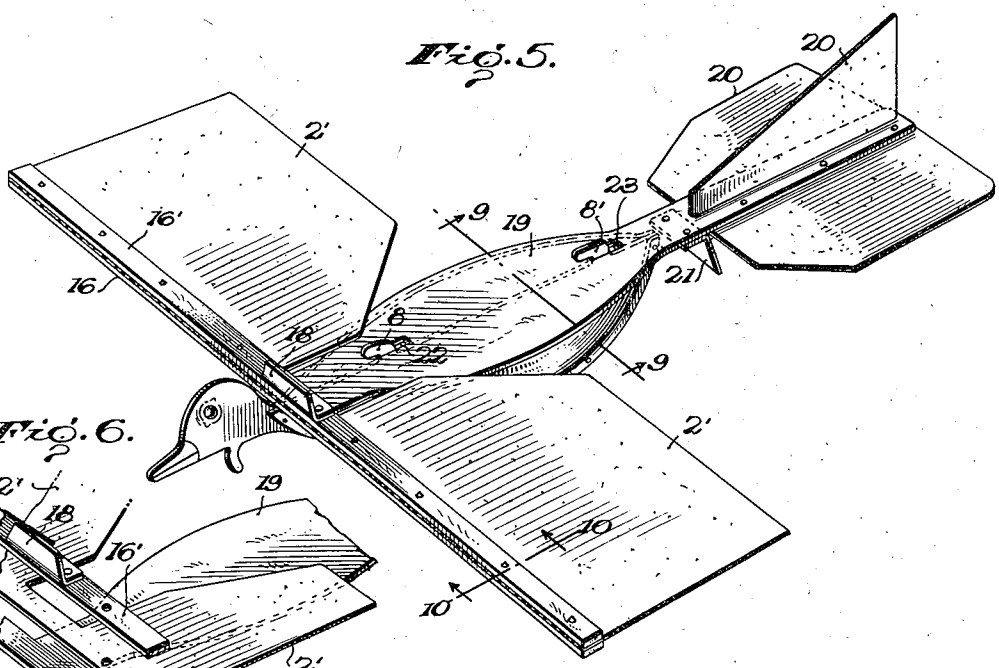


Fig. 6.

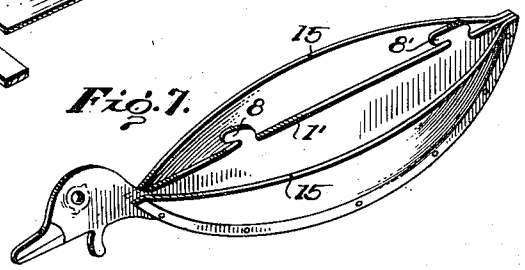


Fig. 7.

Fig. 9.

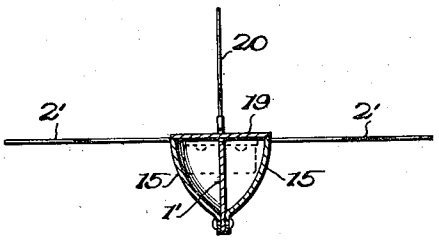
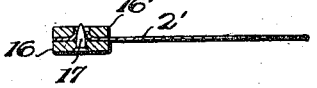


Fig. 10.



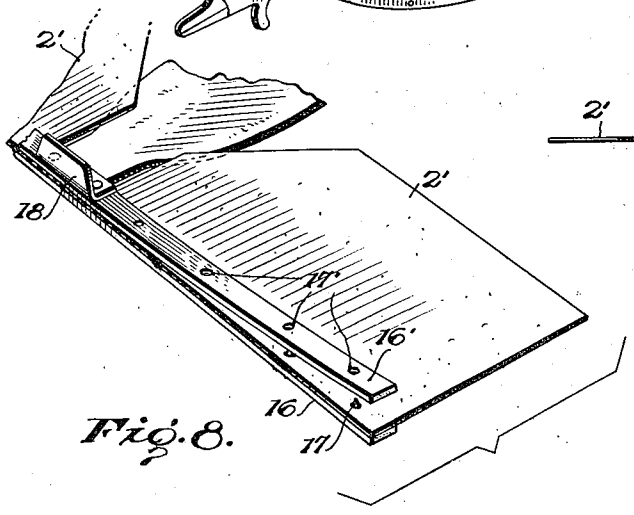


Fig. 8.

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Patented June 11, 1935 2,004,543

UNITED STATES PATENT OFFICE

2,004,543

AERIAL TARGET

Walter G. Warren, Chicago, Ill.

Application June 19, 1933, Serial No. 676,593
In Belgium March 17, 1933

9 Claims. (Cl. 124—17)

This invention relates to aerial targets and has for its object to produce a target of this description which will quickly fall to earth when a hit is scored, which is of simple and cheap construction, and which is capable of repeated use. With these objects in view, the invention, stated in general terms, consists of a body portion having supporting wing portions connected thereto but which wing portions are automatically disconnected from the body portion when a hit is scored. Said wing portions may be, and in the preferable form of construction are, integrally formed, i. e., rigidly connected together and are both secured to the body portion by the same attaching means. Preferably the body portion has its longest dimensions from front to rear with the center of gravity in advance of a point midway between the front and rear ends thereof and may consist of a single flat piece of material, preferably metal, although if desired, the body portion may be formed to somewhat resemble the outline of a bird's body and be provided with a cover for retaining confetti or other material imitating feathers, which cover is automatically detached when a hit is scored.

The inventive idea is capable of receiving a variety of mechanical expressions, one of which, for the purpose of illustrating the invention, is shown in the accompanying drawings, but it is to be expressly understood that such drawings are for the purpose of illustration only and are not designed to define the limits of the invention, reference being had to the appended claims for this purpose.

In the drawings,

Fig. 1 is a perspective view of one form of the invention;

Fig. 2 is a side elevation of the body portion of Fig. 1 with the wing portions and the tail piece shown in cross section;

Fig. 3 is a top plan view of slightly more than one half of Fig. 1;

Fig. 4 is a cross section on the lines 4—4 of Fig. 3;

Fig. 5 is a perspective view of another form of the invention;

Fig. 6 is a broken and expanded view of a part of the wing portion of Fig. 5;

Fig. 7 is a perspective view of the body portion of Fig. 5;

Fig. 8 is a perspective broken detail of the wing portion of Fig. 5;

Fig. 9 is a cross section on the line 9—9 of Fig. 5, and

Fig. 10 is a cross section on the line 10—10 of Fig. 5.

Referring to the several views of the drawings in which like reference numerals indicate like parts throughout the several views, and first to the construction in Figs. 1 to 4, inclusive, 1 is the body portion of the target preferably made of a strip of sheet metal. 2, 2 are the wing portions here shown as integrally formed and preferably composed of a very thin strip of flexible sheet metal. The tail piece 3 is provided with downwardly extending lugs 5, 5 having eyes therethrough through which passes a screw or retaining pin 6 by means of which the tail piece 3 is so pivoted to the rear end of the body portion 1 that it may be set at any desired angle on the screw 6.

The body portion 1 is so weighted as to place the center of gravity thereof forward of a point midway between the front and rear ends of the said body portion. This may be secured in any suitable way, but as here shown it is accomplished by riveting to the body portion plates of metal 7, 7, one on each side of the body, each of said plates being provided with a rearwardly extending arm 7'. Extending upward from the plates 7 above the top line of the body portion 1 are a pair of lugs 8, 8' which lugs are undercut on their forward sides leaving a recess for a purpose which will be hereinafter described. Preferably the body portion has lug portions extending up between the lugs 8, 8' to which the latter lugs are riveted as clearly shown in the drawings.

The strip of metal forming the wing portions 2, 2 is provided at its forward edge with an upwardly extending flange 9 and a downwardly extending flange 10, the two flanges being either integrally formed with the wing portions, or preferably, and as here shown, riveted thereto and extending on each side of the body portion 1 for a distance to approximately equal the width of the body of a bird. The rear edges of the wing portions 2, 2 are provided with downwardly extending flanges 11 which may be riveted to the wing portions as shown or integrally formed therewith. By riveting the flange portions 9, 10 and 11, the wing portions are reenforced at this point. The lower flanges 10 and 11 when struck by a shot affect the wing portions so that they are not only forced forward but are also tilted upward. The strip of metal constituting the wing portion has a central opening 12 formed therein near its forward edge and the downwardly extending flanges 11 are separated by a slot 13 of sufficient width to fit snugly over the body portion just in front of the

lugs 8. The downwardly extending flanges 11, 11 are also separated by a similar slot 14. By placing the wing portion 2 over the body portion 1, with the slots 13 and 14 straddling said body portion somewhat in front of the lugs 8, 8' and then moving the wing portions rearward, the rear edge of the wing portions will pass under the lugs 8' as shown in Figs. 1 and 2, and the lugs 8 will extend upward through the opening 12 and above the forward edge part of the wing portion 2. The wing and body portions will thus be secured together in such a way that when the target is projected forward the wing portion will be firmly held in supporting position, but when a hit is scored by a shot striking any one of the flanges 9, 10 or 11, the wing portion will be thrown forward relative to the body portion, which body portion, by reason of the fact that its center of gravity is well forward, will dive head foremost to the ground. This diving feature, immediately upon the scoring of the hit, is of great importance, since in competitive matches it is frequently required that the target come to earth within a certain radius from the point of projection. The movement of the target through the air, as well as the dive of the body portion when a hit is scored, can be modified or controlled by the set of the tail piece 3.

It will be observed that the wing portion is moved forward by a very slight application of force on the flange portions 9, 10 or 11, and offers but a very slight resistance to a shot hitting these portions. The result is that these flange portions are seldom if ever perforated by the shot, and after a hit has been scored the wing portions and the body portion may be readily picked up and reassembled for use again. Actual experience has taught that this target can be used scores of times.

Now referring to Figs. 5 to 10, inclusive, the body portion is here shown as composed of a plurality of bulging strips of metal 15, 15 riveted to a central longitudinal extending strip 1', the bulge of the side strips being such as to roughly resemble the body of a bird, and the central strip 1' is provided with lugs 8, 8' as in the construction shown in Figs. 1 to 4. The wing portions 2', 2' composed of any suitable material, as cardboard or sheet metal, are secured at their forward edges between two transverse strips of metal 16, 16'. Preferably the lower strip 16 has pins 17 upwardly projecting therefrom and registering with openings 17' in the strip 16', and the wing portions have openings along their forward edges registering with the pins 17 so that they may be readily placed over said pins, and the strip 16' lowered, to the end that the wing portions are secured between the strips 16 and 16'. Preferably the opposite end portions of the strip 16' are of spring metal, to the end that they may be raised to insert the wing portions and will spring back into position to securely retain the wing portions clamped between the two portions 16, 16'. The upper strip 16' has an upwardly projecting flange 18 midway between its ends preferably riveted thereto. The lower strip 16 has secured thereto and midway between its ends a rearwardly extending cover portion 19 which passes rearwardly over and covers the body of the target and extends rearwardly thereof and has tail fins 20, 20 secured thereto. A downwardly projecting flange 21 is secured to the cover 19 just to the rear of the body. This cover portion has two openings 22 and 23 formed therein through which the lug portions 8, 8' extend, and when the cover portion is in its extreme rear position as shown in Fig. 5, the lugs 8, 8' serve to hold the cover and the attached wing portions 2' 2', as well as the tail, united to the body; but when a hit is scored by a shot striking either flange 18 or 21, the cover portion 19 is pushed forward relative to the lugs 8, 8', freeing the body portion therefrom so that it will fall to the ground.

It will be readily understood by those skilled in the art that the inventive idea may receive various other mechanical embodiments without departing from the spirit and the true merit of the invention as illustrated by the two embodiments described, and such variations and modifications as fall within the definitions of the appended claims are intended to be covered thereby.

What is claimed is:

1. In an aerial target, the combination of a body portion, supporting wing portions above and movable longitudinally of said body portion, means connecting said body and wing portions in one of the longitudinal positions of the latter but freeing the wing portions in another longitudinal position, and means actuated by the shot when said means are hit in the rear by the shot and shifting said wing portions from the connected to the disconnected position.

2. In an aerial target, the combination of a body portion, supporting wing portions above and detachably connected to said body portion, the center of gravity of said body portion being beneath the horizontal plane of the wing portions, and means disconnecting said wing portions from said body portion when said means are hit in the rear by the shot.

3. In an aerial target, the combination of a flat body portion lying in a vertical plane, supporting wing portions in an approximately horizontal plane extending across and above said body portion, means detachably connecting said wing and body portions, and means disconnecting said wing portions from said body portion when a rear hit is scored thereon.

4. In an aerial target, the combination of a flat body portion lying in a vertical plane, supporting wing portions, forwardly extending shoulders on the upper part of said body portion under which said wing portions engage to connect said portions to the body portion, and means actuated by the shot when said means are hit in the rear by the shot and advancing said wing portions from under said shoulders, whereby the wing and body portions are disconnected.

5. In an aerial target, the combination of a body portion, supporting wing portions, forwardly extending shoulders on said body portion with which said wing portions engage in their rear position to connect said portions to the body portion, and means connected to the wing portion and actuated by the shot when said means are hit in the rear by the slot to advance said wing portions, whereby the wing and body portions are disconnected.

6. In an aerial target, the combination of a hollow body portion, a cover for said body portion slidable longitudinally thereof, means connecting said cover to said body portions when the cover is in its rear position, oppositely disposed wing portions connected to said cover, and means actuated by the shot when said means are hit in the rear by the shot and imparting forward movement to said cover, whereby said cover and said wing portions are disconnected from said body portion.

7. In an aerial target, the combination of a body portion, connected wing portions slidable longitudinally of and above said body portion, means connecting said wing portions to said body portion when the wing portions are in their rear position, and means actuated by the shot when said means are hit in the rear by the shot and imparting forward movement to said wing portions, whereby they are disconnected from said body portion.

8. In an aerial target, the combination of a flat body portion lying in a vertical plane, integral wing portions consisting of a strip of sheet metal extending across said body portion and slidable longitudinally thereof, upwardly and forwardly extending lugs on said body portions and engaging the upper surface of said sheet metal strip when the latter is in its rear position but disengaged therefrom when the strip is in its forward position, and means actuated when hit by a shot when a hit is scored and sliding the said strip from its rear to its forward position, whereby the body portion is disconnected therefrom.

9. In an aerial target, the combination of a body portion, supporting wing portions movable longitudinally of and above said body portion, means connecting said body and wing portions in the rearmost longitudinal position of the latter but freeing the wing portions upon being moved longitudinally of the body portion and a flange on said body portion and actuated by the shot when said flange is hit in the rear by a shot to shift said wing portions from connected to disconnected position.

W. G. WARREN.