Oct. 17, 1933. W. G. WARREN 1,930,866

AERIAL TARGET

Filed Aug. 6, 1932

FIG. 1.

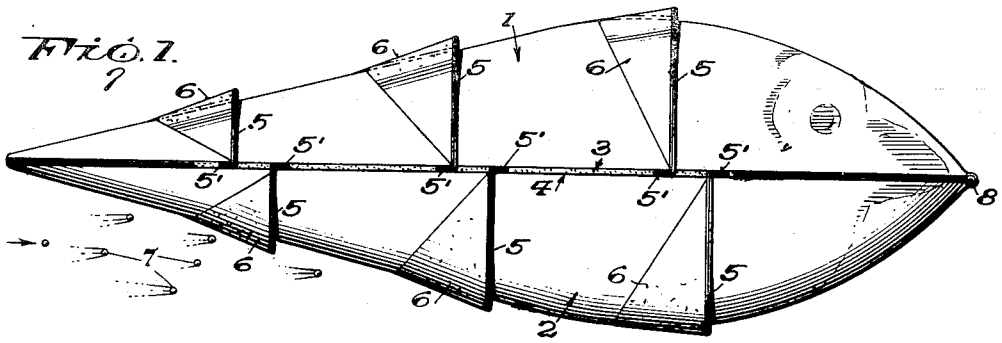
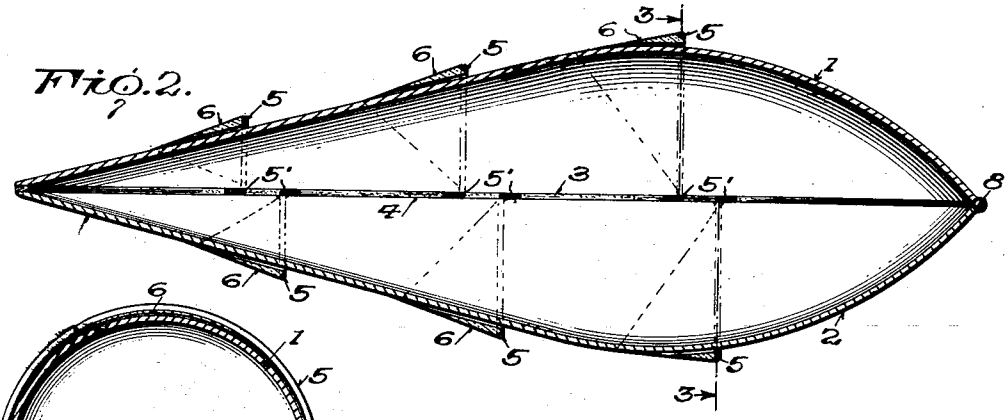


FIG. 2.



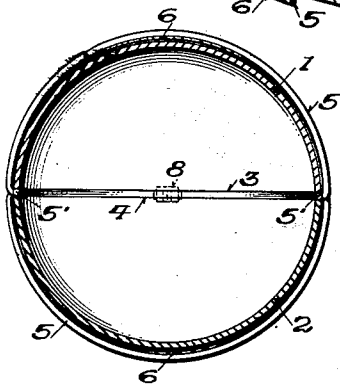
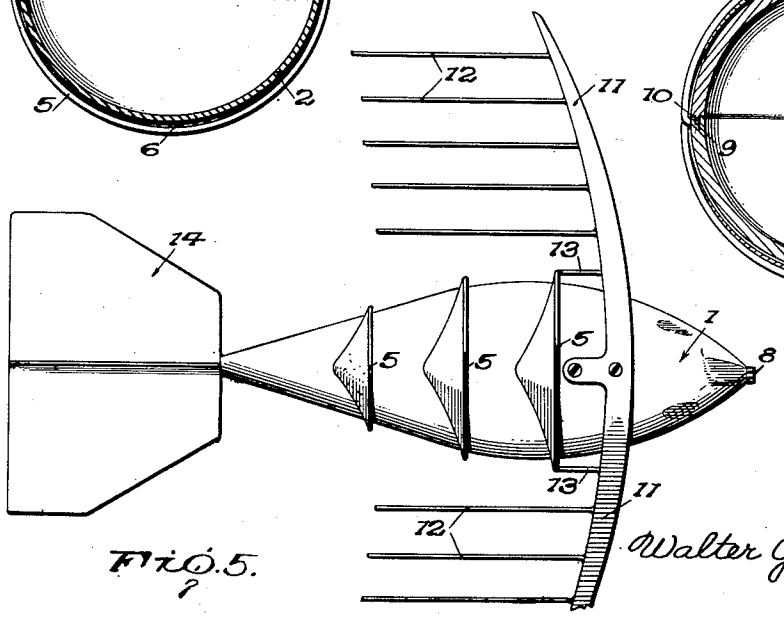


FIG. 3.



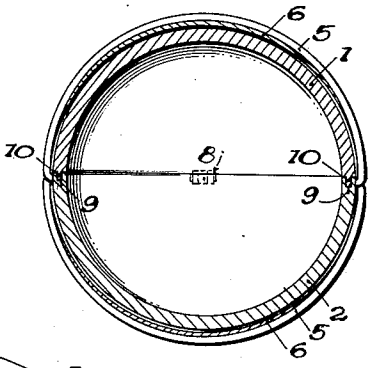


FIG. 4.

FIG. 5.

Inventor

Walter J. Warren

By Cameron, Kerkam & Sutton

Attorneys

Patented Oct. 17, 1933 1,930,866

UNITED STATES PATENT OFFICE

1,930,866

AERIAL TARGET

Walter G. Warren, Chicago, Ill.

Application August 6, 1932. Serial No. 627,759

9 Claims. (Cl. 124—17)

This invention relates to aerial targets of the kind used in trap shooting and has for its object to provide a target of this type which, when struck by the shot, will have its flight discontinued and fall to the ground, but which shall not be destroyed, and shall therefore be capable of reuse. With this object in view the target consists of a body portion composed of a plurality of parts, preferably two, which may, and preferably does have the general form of the body of a pigeon, the parts when assembled being retained in assembled position by any suitable readily disrupted means, combined with elements which when struck by the shot will operate to separate the parts and thus cause them to fall to the ground. The parts of the body portion may be held together by simple pressure, or the line along which the parts meet may be supplied with some readily disrupted material such as hard wax or glass, and when two of the parts are used to make up the body of the target, said parts may be and preferably are hinged together at a single point, to the end that when they fall to the ground the two parts will remain attached to each other, thus facilitating reassembling thereof for reuse.

For the purpose of separating the parts of the body when a hit is scored, suitable means are provided, which under the impact of the shot, will act forcibly to separate the parts. Preferably this is accomplished by a lever action, one arm of the lever being interposed between the two sections of the body portion and the other arm being placed in the line of the shot, to the end that when the shot strikes the last mentioned arm the lever will be rocked on its fulcrum, and thus effect the separation of the body parts by the action of the arm interposed between the parts. To insure that the arm of the lever exposed to the action of the shot shall not move except when struck by the shot, the lever is retained in its normal position, or the position which it occupies in flight, by any suitable frangible material readily breakable when the shot impinges thereon. This material may be of a brittle wax or glue or of a thin film or glass. Preferably the arm of the lever thus exposed to the action of the shot is semi-circular in form and extends half way around, either above or below the body of the target, the semi-circle being of a slightly greater radius than the body of the target, to the end that the lever can rock on the target when struck by the shot. By providing a series of such levers, both above and below the body of the target, and by giving the body of the target a rearwardly tapering approximately conical form, shot striking on any part of the target will inevitably glance along the same so as to strike and destroy the frangible material retaining the levers in place and cause the movement of such levers and the separation of portions of the body as above described.

The invention may assume various forms and 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 drawing, but it is to be expressly understood that such drawing is for the purpose of illustration only and is not designed to define the limits of the invention, reference being had to the appended claims for this purpose.

In said drawing:

Fig. 1 is a side elevation;

Fig. 2 is a central vertical longitudinal section through the body of the target;

Fig. 3 is a vertical cross section taken on the line 3—3 of Fig. 2;

Fig. 4 is a vertical transverse section through the body of the target showing one means for uniting the body sections, and

Fig. 5 is a plan view of the target, with parts simulating the wings of a bird, which are attached to the body of a target like that shown in Fig. 1.

In said drawing in which like reference numerals refer to like parts throughout the several views, the body of the target is composed of an upper portion 1 similar to a lower portion 2, meeting along the line 3 where they are held together in any suitable way or by any suitable means which permit ready separation of the parts under the influence of the lever action hereinafter described. Preferably the parts are secured together along the line 3 by the use of wax, glass or brittle glue indicated at 4. When the parts 1 and 2 are assembled as shown in Figs. 1 and 2, the body tapers rearward from a point well toward the front of the body, and a series of bales or arc-shaped lever arms 5 extend from the line of separation 3, of the parts over and around the upper portion of the target and under and around the lower portion thereof. These bales or arc-shaped lever arms are each provided with an arm 5′ located in the seam 3 extending approximately at right angles to the main portion of the arc-shaped portion of lever arms 5. As here shown, the parts 5′ on those levers which pass over the body portion extend rearward along the seam 3, while the arms 5′ of the lever arms 5 that extend under the body portion extend forward within the seam 3. It will be seen that any forward movement of any

one of the lever arms 5 will cause a rocking of the lever on its fulcrum which will cause the arm 5' thereof to force apart the portions 1 and 2 of the body, and such forward movement would be imparted to the lever arms when struck by the shot coming from the rear of the target.

To insure that the levers 5—5' shall remain in their normal position until struck by the shot, suitable readily frangible material is employed to hold the levers in normal position. As here shown, this material takes the form of a body 6 of readily frangible wax or glass or brittle glue, which is connected to the lever arms 5 and extends rearwardly therefrom, preferably tapering to the rear. When any shot (see 7, Fig. 1) strike the body portion of the target or frangible material 6 they will glance along the target (which is preferably made of sheet metal or other material not readily penetrated by the shot) and strike and thus disrupt the frangible material and impinge upon the lever arm 5, forcing it forward, thus rocking the lever 5—5' on its fulcrum and prying the body portions 1 and 2 apart causing them to fall to the ground, preferably together, if they are united by the forward hinge 3. The parts can then be readily reassembled and by applying the necessary frangible sealing material along the line 3 and to the lever arm 5, the target is ready for use again.

Referring to Fig. 4, a means of uniting the upper and lower body portions 1 and 2 without the use of frangible sealing material is shown, said means consisting of a groove 9 formed in one of the body portions into which groove there snugly fits a tongue 10 formed on the other body portion, the snugness of the fit being sufficient to hold the parts assembled until any one of the levers 5—5' is rocked on its fulcrum by the force of an impinging shot.

In Fig. 5 there is illustrated the body of the target, constructed as shown in Figs. 1 and 2, but provided with two horizontally extending oppositely disposed wings 11, to which wings there is rigidly attached a series of rearwardly extending wires 12. Preferably, though not necessarily, each of these wings is connected, as at 13, to the lever arm 5 immediately in the rear thereof. Preferably these wing portions 11 consists of a rigid bar of metal firmly secured to the forwardly tapering portion of the body and when either one of the wings 11 or any of the series of rearwardly extending wires 12, rigidly secured thereto, are struck by a shot, the impact of the shot will give a jar or forward movement to the upper portion of the body, tending to separate said upper portion from the lower portion to produce the fall of the target. In this Fig. 5 is also shown the usual or any suitable tail or rudder piece for holding the target in a proper forward line of flight.

While for the purpose of clearly illustrating the invention, the drawings only show three of the levers 5—5' above and three below the body of the target, it will be readily understood that this number can be greatly increased to the end that separating action due to such levers will be readily secured whenever the shot strikes any part of the target.

Having thus described the invention, what is claimed is:

1. In an aerial target, a body portion composed of a plurality of parts, means normally holding said parts together, and means actuated by the impact shot for forcibly separating said parts when the target is hit.

2. In an aerial target, a body portion composed of a plurality of parts, means normally holding said parts together, and a plurality of levers operable by a shot to forcibly separate said parts when a hit is scored.

3. In an aerial target, a body portion composed of a plurality of parts, readily frangible means normally holding said parts together, and means actuated by the impact of shot for forcibly separating said parts when the target is hit.

4. In an aerial target, a body portion composed of a plurality of parts, readily frangible means normally holding said parts together, and a plurality of levers operable by a shot to forcibly separate said parts when a hit is scored.

5. In an aerial target, a body portion composed of a plurality of parts, means normally holding said parts together, and a plurality of levers acting to separate said parts when actuated by a shot scoring a hit, said levers having one arm partially encircling said body portion and the other arm interposed between the parts of said body portion.

6. In an aerial target, a body portion composed of a plurality of parts, means normally holding said parts together, and a plurality of levers operable by a shot to separate said parts when a hit is scored, and frangible means holding said levers in normal position.

7. In an aerial target, a body having a rearwardly tapering portion, said body being of upper and lower separable parts, means normally holding said parts together and a series of levers each of which has two arms interposed between said body parts and another arm passing partially around said body from one of said first mentioned arms to the other.

8. In an aerial target, a body having a rearwardly tapering portion, said body being of upper and lower separable parts, means normally holding said parts together, a series of levers each of which has two arms interposed between said body parts and another arm passing partially around said body from one of said first mentioned arms to the other, and frangible means holding said last mentioned arms in normal position until a hit is scored.

9. In an aerial target, a body portion having two normally connected but separable parts, a pair of laterally extending elements connected to one of said parts, a lever operable to separate said parts, and connections between said elements and said lever whereby when a hit is scored on one or both of said elements said body parts are separated.

WALTER G. WARREN.