

(No Model.)

G. LIGOWSKY.

FLYING TARGET.

No. 305,086.

Patented Sept. 16, 1884.

Fig. 1.

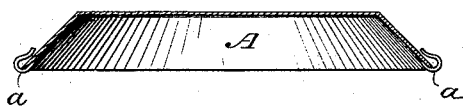


Fig. 4.



Fig. 2.

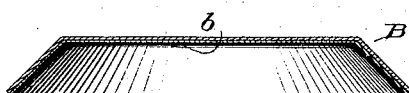


Fig. 5.

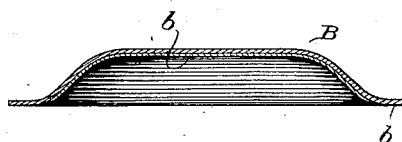


Fig. 3.



Fig. 6.

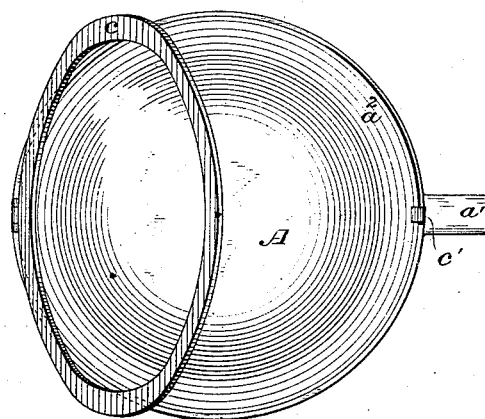


Fig. 7.

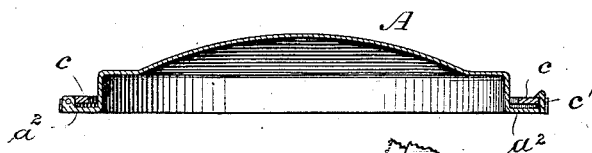


Fig. 8.

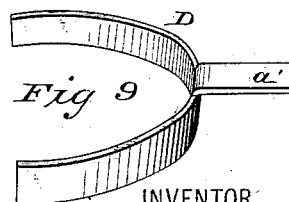
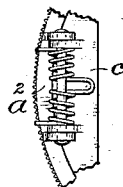


Fig 9

WITNESSES

Wm A. Shinkle
Edwin A. Neuman.

By his Attorneys

Pankuison & Pankuison

UNITED STATES PATENT OFFICE.

GEORGE LIGOWSKY, OF CINCINNATI, OHIO.

FLYING TARGET.

SPECIFICATION forming part of Letters Patent No. 305,086, dated September 16, 1884.

Application filed September 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE LIGOWSKY, of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Flying Targets, of which the following is a specification.

In the past ten or fifteen years live-pigeon shooting has been largely superseded by the use of artificial targets thrown into the air by a "trap" or sort of ballista. These targets are sometimes solid spheres or balls, sometimes hollow balls of glass, empty or loosely stuffed with feathers or charcoal-powder, and more recently have been to a large extent, and popularly favored, the so-called "flying target" or "clay pigeon" invented and patented by me. In the majority of instances, if not all, the entire target has been intended to indicate by its own absolute destruction the success of the shot, thus passing out of existence with a single use. As many complete targets had therefore to be purchased as shots were to be scored, with a large margin over for misses and breakage in transit or by the fall to the ground. As the bulk of these targets is necessarily considerable and their weight appreciable the item of transportation has proven in the aggregate a serious one. This is particularly so where the target is a sphere, as it cannot be economically packed. Clay pigeons or flying targets can be "nested," and therefore packed to greater advantage. Their weight, however, is still an undesirable factor, and the loss by breakage is frequently a heavy percentage.

My present invention has for its object to overcome these disadvantages, reducing the cost of transportation and the loss by breakage to a minimum, while preserving all the beneficial and desirable features, in respect to shape and flight, of the flying target; and it consists in a flying target composed of a carrier having a resistant surface impenetrable to shot, and a penetrable shell borne thereby, with fulminate between; in an anvil or carrier of metal or equivalent resistant material, having the outline of a flying target, cup-shaped, or oblong, or hollow beneath, and light, adapted to receive upon its exterior or interior surface, or both, a close-fitting cap of

paper or other light, thin, and penetrable material, coated upon the contacting side with fulminate; in the combination of a steel or other resistant cup, shell, or saucer-shaped anvil-carrier and a fulminating cap of paper or equivalent material; in a waterproofed fulminating cap of paper, or other thin and easily-penetrated material, of such shape and outline as to fit a flying anvil-carrier or target, and serve by its explosion to indicate contact of shot, as a new article of manufacture; in an anvil or carrier for flying targets having the outline of such target—to wit, cupped or hollowed to inclose a body of air beneath—combined with a peripheral flange projecting from its base, and a latched annulus hinged to the upper side of said flange, and closely encircling said base, whereby, upon opening the annulus, a flanged fulminating hood or cap may be applied to the anvil, and secured by resetting and latching the annulus; and in such other combinations and details of construction as are hereinafter described and claimed.

In the drawings, Figure 1 represents a carrier constructed according to my invention, for use with or without a detachable tongue to enter the clamp of the trap; and Fig. 2, a hood, shell, or cap adapted for application thereto. Fig. 3 represents a carrier provided with a permanent tongue, and receiving its cap or hood in manner similar to the foregoing; Fig. 4, a flanged carrier having an annulus to clamp the flanged shell shown in Fig. 5, and Fig. 6 said flanged carrier with the annulus thrown open to receive the shell; Fig. 7, a modification in the outline of the anvil-carrier to illustrate its protean character; Fig. 8, a detail of a spring-hinge to close the annulus of the carrier in place of a catch; and Fig. 9, one form of detachable tongue, hereinafter alluded to, for use in connection with the carrier.

As above intimated, the permanent feature of my target is a carrier, A, of steel or other material of sufficient strength and resistance to turn aside shot and remain imperforate, and also to preserve its shape and homogeneity through all ordinary rough usage. Its shape I do not limit to any precise outline. It should be a thin shell, as light as consistent

with its office and the functions it is to perform, and should be cupped or hollowed beneath, concave, or conchoidal, or otherwise, so as to inclose and rest upon a body or cushion of air in its flight. I term it a "carrier" because its office is to support and serve as the means of flight of a hood, cap, or shell, B, coated on the contacting side with fulminate, b, or other explosive that will emit a puff of smoke when hammered against a suitable resistant, and will occasionally hereinafter term it an "anvil-carrier," because its further office is to afford the anvil or resistant against which or through which the impact of shot hammers the fulminate and causes the explosion. This anvil-carrier may be formed without a basal flange, as in Fig. 1, in which case the hood or cap will either fit so snugly as to be held by friction, or may be fastened by spring-clips a, arranged vertically at suitable intervals around the edge, or by any other convenient means. Then the trap itself will be so constructed as to hold and throw said carrier without any special provision in or upon the latter, or else a detachable holder—such as heretofore patented or applied for by me—can be temporarily secured to the carrier to enable its use in connection with traps already on the market for throwing flying targets. Instead of these methods just mentioned the carrier may and advisably will have a permanent tongue, a', to be clamped in the trap, the hood or cap being still held either by friction or by clips or other provisions.

That which now appears to me the preferable form for facility of fixing the hood or shell upon the carrier is shown in Fig. 4. The carrier is here made with a basal flange, a², either integral or detachable, extending outward around the whole periphery. To the upper side of this flange is hinged an annulus, c, which fits comparatively close around the carrier and lies flat upon the flange, and is latched or held fast against the latter by a spring in its hinge or a catch, c', when closed. The fulminating hood or cap for this carrier is of such shape as to properly fit over the cupped or convex portion, and has a basal flange, b', which sits upon the carrier-flange. In order to apply this hood for service the annulus is thrown open, the hood drawn over the carrier, and the annulus then closed and latched, clamping the flange of the hood between itself and the carrier-flange. The target is now ready for service, and can be placed in the trap, the flanged portion serving as a tongue to enter the clamp of the latter, or as a means, either without the clamp or in addition thereto, for imparting the whirl or rotary motion by frictional contact with a way or track within the trap, for which latter purpose its edge may be finely serrated, as shown, to increase the bite on the track. Should the serrations be omitted the flange may at option be provided with a special projecting tongue, as a', to enter the clamp, though, as just stated, it will itself serve the purpose of such

tongue. In still another form the tongue for holding the carrier in the trap and affording the grasp necessary to impart the whirl may be attached to a cylindrical or other band or spring, D, conforming to and adapted to close over and clip the carrier around its base, either exterior or interior, and to serve as a fastening for the fulminating cap or hood. Thus far the hood, cap, or shell has been described as applied to the exterior or convex surface of the carrier. To meet the contingency of the carrier tipping in the air a second cap or shell may be fitted in the concave; or, when the shot strike with sufficient force to explode the fulminate through the walls of the carrier, only the internal shell need be used. Of course the provisions for its attachment will be readily adapted and modified from those described for the other. The cap or shell is preferably waterproofed inside and out to resist the effects of the moisture, unless the material of which it is composed is itself water-proof, when only the fulminate side will receive such external coating. This material I expect to be paper or pasteboard, but hold myself at liberty to employ any other penetrable substance having the required qualities.

In putting these targets upon the market a comparatively limited number only of carriers need be furnished, as these will be permanently used until worn out or disabled. The hoods, shells, or caps will, however, be required unlimitedly, and, being very light and easily and compactly nested, can obviously be packed, transported, and handled with great economy and convenience.

I am aware that it has been proposed to employ a solid wooden ball sheathed in two hemispherical caps with fulminate between, but not, so far as it appears, as a coating to the cap, and such I do not claim; but

What I do claim as of my invention, and desire to secure by Letters Patent, is—

1. A flying target composed of an anvil-carrier having a resistant surface of steel or other material impenetrable to shot and a penetrable shell borne thereby, with fulminate between.

2. A flying target composed of a shell of such shape as to inclose a body of external air in its flight, and presenting a resistant surface of steel or other material impenetrable to shot, and a cap or shell encircling said carrier and composed of light penetrable material, with a layer of fulminate between the two.

3. A flying target composed of an anvil-carrier of steel or other vigorous resistant, so shaped as to inclose a body of external air in its flight, and a fulminating cap or shell encircling said carrier, and composed of light or penetrable material.

4. A flying target composed of a cupped or hollowed shell of steel or other resistant, serving as a carrier and anvil, and a fulminating hood, cap, or shell of light or penetrable material, fitted to said carrier.

5. As a new article of manufacture, a cupped or hollowed carrier or anvil of steel or other resistant, adapted to carry an explosive hood, cap, or shell, and serve as an anvil for the fulminate thereof.
6. An anvil-carrier for explosive flying targets, having a tongue or projection whereby a whirl may be imparted to it by the trap.
7. A cupped or hollowed hood, cap, or shell for flying targets, open upon the cupped side, to fit snugly over a carrier charged with fulminate, and having a basal flange, whereby it may be clamped to said carrier.
8. A penetrable hood, cap, or shell for a flying target charged with fulminate, and having a water-proof coating over said fulminate.
9. A penetrable hood, cap, or shell for a flying target charged with fulminate, and having a water-proof coating covering its own exposed surface and the fulminate.
10. An anvil-carrier for a flying target, composed of a concaved, cupped, or hollowed shell of steel or other suitable resistant, having a basal flange, an annulus hinged to said flange, and a catch or latch for said annulus.
11. The combination, to form a flying target, of the resistant anvil, its flange, and hinged annulus, and the fulminating hood, cap, or shell.
12. A flying target having a serrated flange, as and for the purpose described.
- GEORGE LIGOWSKY.

Witnesses:

J. E. BLOOM,
FRANK W. BURNHAM.