

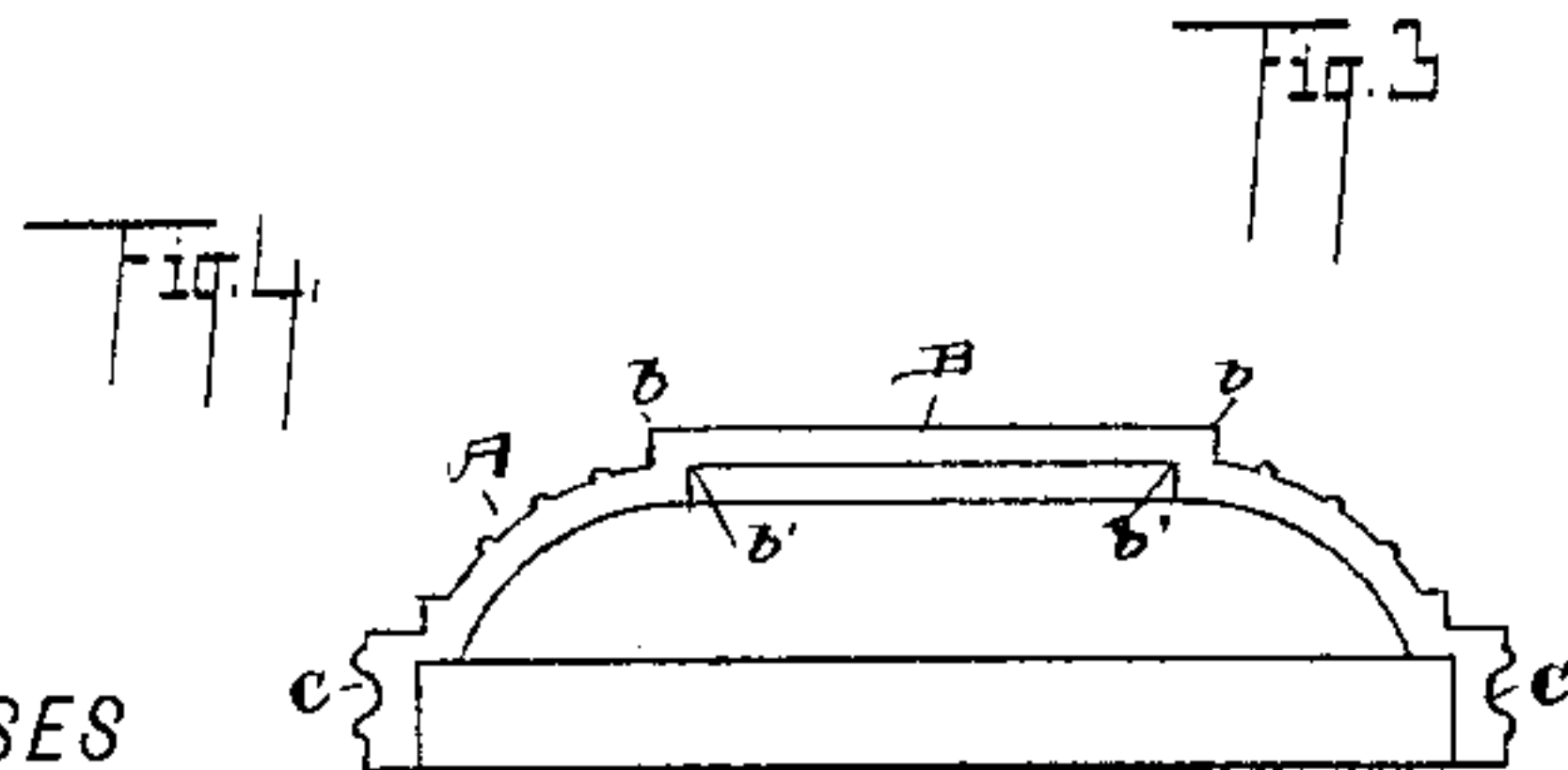
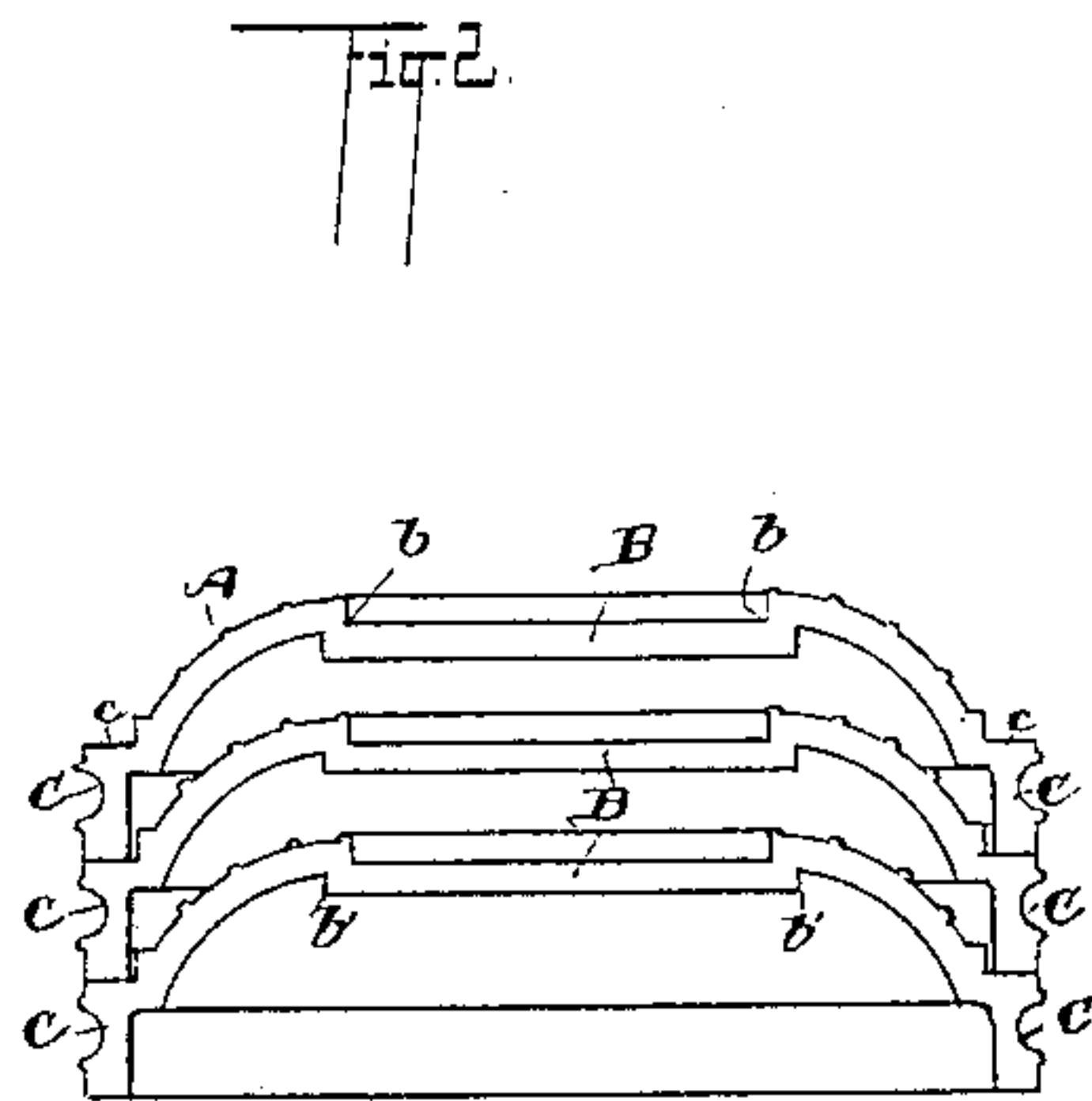
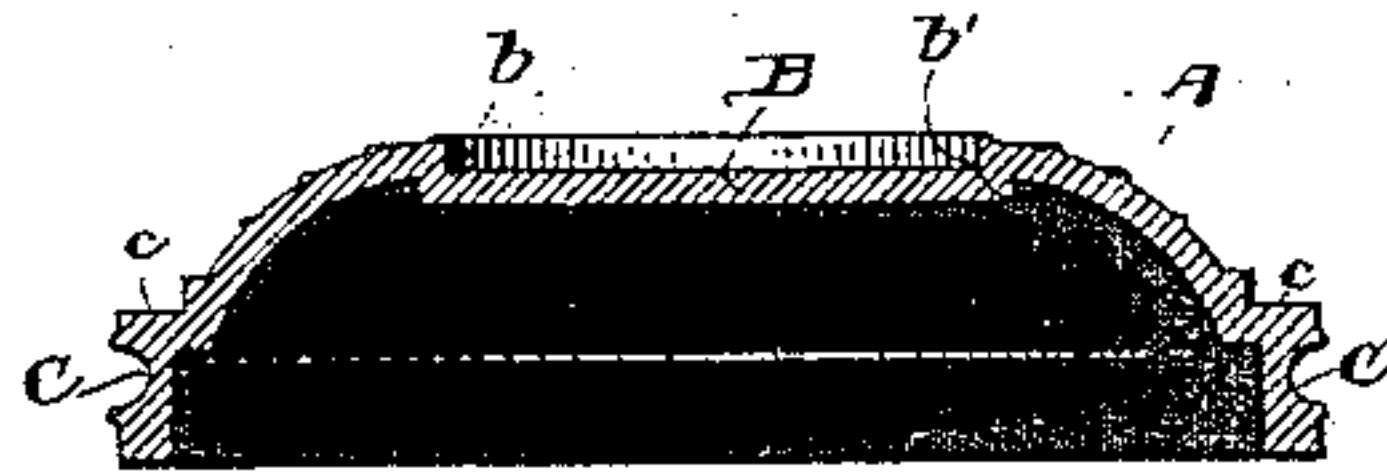
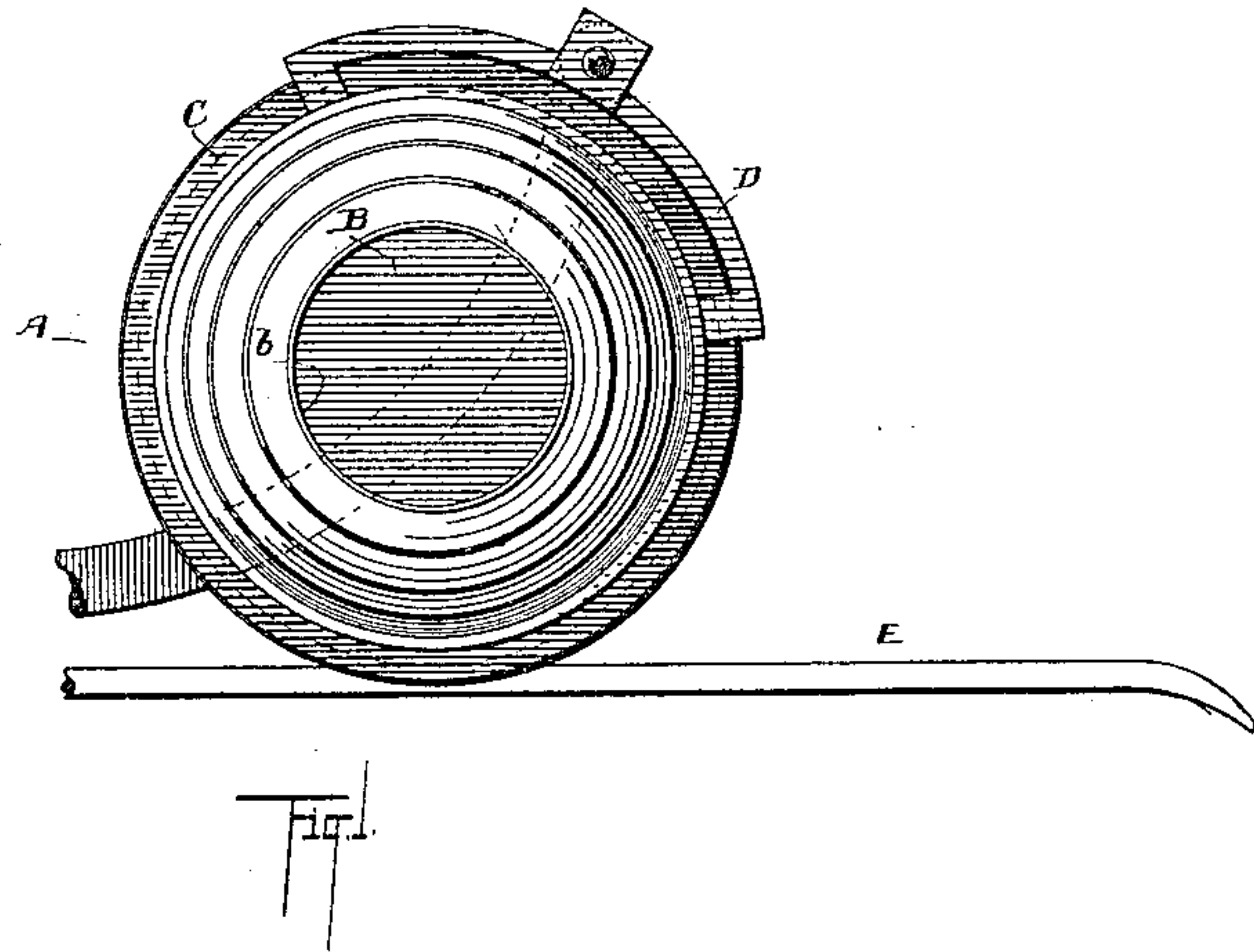
(No Model.)

C. C. HEBBARD.

FLYING TARGET.

No. 362,744.

Patented May 10, 1887.



WITNESSES
A. S. Amstutz
Geo. W. King

Charles C. Hebbard. INVENTOR
By
Siggitt & Siggitt
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES C. HEBBARD, OF CLEVELAND, OHIO, ASSIGNOR TO THE CLEVELAND TARGET COMPANY, OF SAME PLACE.

FLYING TARGET.

SPECIFICATION forming part of Letters Patent No. 362,744, dated May 10, 1887.

Application filed August 30, 1886. Serial No. 212,191. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. HEBBARD, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Flying Targets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to improvements in flying targets in which the latter is of a dish shape with a flat disk at the center thereof, with an abrupt angular ledge surrounding the disk, to the end that the shot striking the ledge squarely, or first striking the target obliquely and glancing off against the ledge, and expending its force thereagainst, will fracture the target.

The rim of the target is provided with an annular groove for engaging and sliding on the yielding guiding-arm of the trap and for holding suitable lubricant, to the end that in discharging the target the running side thereof slides approximately frictionless on the said guiding-arm, and the said groove being made in a mold and accurate the plane of the trap is held with precision as it is discharged from the trap, resulting in a rapid rotative movement and directness of flight that is desirable in flying targets.

In the accompanying drawings, Figure 1 is a plan view of my improved target in position in the trap, small portions only of the latter being shown. Fig. 2 is an elevation in section. Fig. 3 is a diagrammatic view showing several targets piled one above the other for shipping. Fig. 4 shows a modification of the target.

A represents the target, that is circular in plan and of an inverted dish shape in elevation. At the center of the target is a flat disk, B, that is offset, being preferably depressed below the surface of the contiguous wall of the trap, leaving substantially square offsets or ledges *b* and *b'*, respectively, above and below.

The body of the target is intended to be of substantially the same thickness throughout, except that it may be a trifle thicker in places at or near the rim. At the periphery the surface is made substantially at right angles to the plane of the target, and this surface is traversed by an annular groove, C.

The target is pressed in a metal mold, for which a separate application for United States Letters Patent is being prepared. The groove is made very accurately, and is parallel or might be considered coincident with the plane of the target.

Among the essential requisites of a flying target are that it be of such construction and brittle material that it will, when hit with a shot, be broken to such an extent that the flying fragments may be seen from the judge's stand, and, second, that it is not liable to be broken in handling and shipping the goods.

The targets are necessarily of the inverted dish shape, substantially as shown, and of limited depth. Otherwise the targets would be top-heavy.

The target, when flying, presents substantially an edge view to the marksman, the central disk usually being visible only in a slight perspective.

The target is readily broken when a shot strikes any part thereof, except the central portion represented by the disk B, the surface of the disk being so nearly parallel with the line of the shot that if only a flat surface were presented the shot would likely glance off without breaking the target.

Heretofore flying targets have been made with a thin portion or film surrounding the disk or central portion of the target, to render the latter more easily broken. The difficulty with such construction was, large numbers of these targets were broken in handling and shipping the goods, and were consequently worthless when they reached the hands of the sportsman. It is well known that sharp angles or corners in casting, or in almost anything, are elements of weakness, and are avoided when strength is required.

The sharp angles inside and out where the disk joins the body of the target render the disk easily broken by a pressure or concussion from the outside; but as the disk underlaps the body of the target, and consequently the undersurface of the disk is considerably larger than the upper surface, the disk cannot be broken out by a pressure from below, unless such pressure is sufficient to break the body of the target. These targets, therefore, are not liable to be broken in handling, and in

packing up the goods, one target above another, for shipment, only the rims engage each other, as shown in Fig. 3, and there is little danger of breaking the targets by such usage. Oblique shots striking the depressed disk at lines so nearly parallel with the face of the latter as to have little effect in breaking the disk by direct impact, or striking the body of the target at a point outside of the elevated disk shown in Fig. 4, are nevertheless about sure to break the target when such glancing shots reach the ledge *b*, surrounding the disk above. The sunken disk, substantially as shown, seems, therefore, to fully meet all the requirements for this part of a perfect flying target. If the disk were raised instead of being depressed, (see Fig. 4,) a shot striking the ledge or offset around the disk would of course break the target; but the same objection would be had with the flat surface of the target before mentioned. Besides, if the disk were much raised, it would make the target top-heavy. The target, in order to attain a long range, should be discharged from the trap with a rapid rotative movement and without wobbling in its flight.

The trap for flying these targets will form the subject of a separate application for Letters Patent, and consequently is not shown in these drawings, except small portions thereof shown in Fig. 1, these portions being the same as described in United States Patent No. 332,902. The one side of the rim of the target is clutched by the pivoted shoe *D* and held by friction from turning in the shoe. The other or running side of the target engages the yielding guide-arm *F* of the trap, the said arm fitting into the groove *C*, which latter being lubricated, this running side of the target slides

along the arm approximately frictionless on account of the accuracy and uniformity of the groove.

In making the targets the material is ladled into the mold without any accurate measurement thereof, and if the supply be scant (which seldom happens) the rim of the target will not quite fill the mold in depth; or, if an excess of material is had, (the latter more frequently being the case,) the surplus material is forced out of the mold, forming fins, that are broken off in removing the target from the mold. It will therefore be seen that the depth of the rim cannot be relied on for accuracy; but as the external surface of the rim only engages the shoe of the trap, where it remains stationary relative to the shoe, such variations in the rim do not affect the movement of the targets, the latter being controlled alone by the groove *C* and the arm *F*, and these being made with accuracy the target is discharged with precision and flies with the directness of an arrow.

What I claim is—

1. A flying target consisting, essentially, of a rim having a peripheral groove, a concavo-convex body, a central disk, and a ledge or rib surrounding the central disk, substantially as set forth.

2. A flying target consisting, essentially, of a rim having a peripheral groove, a concavo-convex body, and a depressed central disk, substantially as set forth.

In testimony whereof I sign this specification, in the presence of two witnesses, this 15th day of July, 1886.

CHARLES C. HEBBARD.

Witnesses:

CHAS. H. DORER,
ALBERT E. LYNCH.