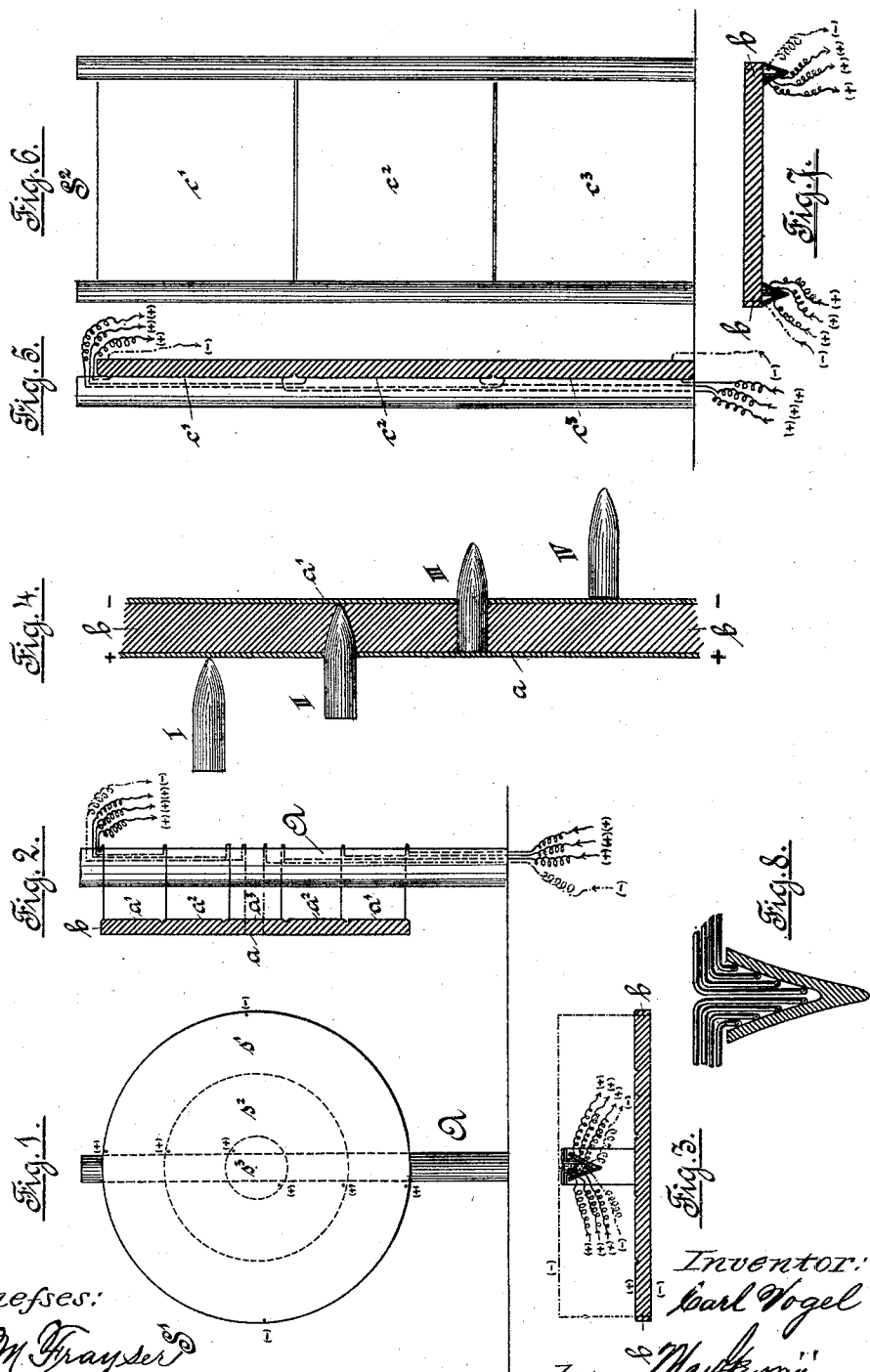


(No Model.)

C. VOGEL.
SELF MARKING AND INDICATING TARGET.

No. 474,109.

Patented May 3, 1892.



Witnesses:
M. A. M. Fraser
C. J. Hendrick

Inventor:
Carl Vogel
by *Marshall*
his Attorney.

UNITED STATES PATENT OFFICE.

CARL VOGEL, OF STUTTGART, GERMANY.

SELF MARKING AND INDICATING TARGET.

SPECIFICATION forming part of Letters Patent No. 474,109, dated May 3, 1892.

Application filed December 10, 1891. Serial No. 414,597. (No model.)

To all whom it may concern:

Be it known that I, CARL VOGEL, a subject of the King of Württemberg, residing at Stuttgart, Württemberg, Germany, have invented a new and useful Self Marking and Indicating Target, of which the following is a specification.

The object of the present invention is to utilize the projectile piercing the target to close the circuit of a positive and negative electric current at the moment of penetration, or, in other words, when the projectile has pierced the front plate and touches the rear plate or cover of the target, the said two currents being passed through the target-covers, which are located on the front and rear faces of the target and insulated from each other. The target-covers, made of good conducting material, are furnished with a current from an electric battery or other source of electricity, so that the front cover is fed with positive and the rear cover with negative electricity, or vice versa. The covers are connected with any desired point—such as the shooting-stand—by particular circuits or connections to the said point, so that the electricity from the battery in passing through the target may be conducted to the shooting-stand. If these circuits are provided at the shooting-stand with a numerical or alphabetical table or schedule or with marking devices, a number or letter corresponding to the value of the hit will appear at every shot or every shot recorded according to its value.

I have shown in the accompanying drawings a round target arranged in concentric rings and a rectangular target divided into small fields or sections.

In the drawings, Figures 1 and 2 represent a front elevation and a vertical section of a round target embodying my invention, and Fig. 3 a sectional plan of the same; Fig. 4, an enlarged sectional view of a portion of the target in connection with a projectile in various degrees of penetration; Figs. 5, 6, and 7, a vertical section, a front elevation, and a plan in section, respectively, of a rectangular target, also embodying my invention; and Fig. 8, an enlarged detail view, in vertical section, of the trough for protecting the conducting-wires.

The round target S' (represented in Figs. 1,

2, and 3) is divided into three parts $s^3 s^2 s'$, whereby every part, when the same is struck by the projectile, is to be separately indicated and marked. To attain this, it is necessary that one of the two conducting-covers of the target consists of the parts $a^3 a^2 a'$, formed to coincide with the parts $s^3 s^2 s'$ and insulated from each other. The other cover a may be in one piece. All the conducting-covers $a a' a^2 a^3$ are connected with the source of electricity, as well as the shooting-stand, by separate circuits.

Fig. 4 represents on an enlarged scale a projectile in the act of piercing the target, with its two conducting-covers in various positions, which are: position one, impact of the projectile against the front cover; position two, impact of the same against the rear cover; position three, the projectile leaves the front cover; position four, the projectile leaves the rear cover. A circuit between the front and rear cover is hence established by the passing projectile in the time between positions two and three. Now if the part s' , s^2 , or s^3 of the target S' is struck by the projectile the corresponding part a' , a^2 , or a^3 of the rear cover is connected with the front cover a by the projectile and correspondingly indicated or marked.

In Fig. 8 I have represented a special device or trough, made of steel or other suitable material, for protecting the conducting-wires. Of course any kind of protecting device may be employed. The conducting-wires are best connected with the covers $a a'$, &c., by thin flat metal strips, which may undergo several perforations by the striking projectiles without losing their conductivity.

Figs. 5, 6, and 7 represent a target S^2 , of rectangular form, which is divided into fields $c' c^2 c^3$. In order that the hits on each of these fields will be separately indicated and marked, the conducting-cover on one side of this target must again be divided into sections or parts coinciding with the fields $c' c^2 c^3$ and insulated from each other. The cover on the other side again may be made in one piece.

It is manifest that all possible forms of targets may be employed, so that any particular part of the same may be separately indicated or marked when struck. For this purpose it is only necessary to embody the outline of

every part of the target to be separately indicated or marked in a corresponding form of the part of the cover on one side and to insulate this part from all adjoining parts of the cover or to separate the adjoining sections far enough to obviate the transmission of electricity. The material best adapted for the target-covers is very thin sheet metal. It is not absolutely necessary to interpose the insulating material *b* between the sheet-metal covers *a a'*; but in some instances it will be sufficient to place the covers at a distance from each other.

I do not deem it necessary to particularly enumerate the advantages of my invention, because it is manifest what a saving of time will result when every marksman can at once and without the aid of a marker read off the value of his hit from a numbered table in his vicinity or see the hit recorded by a marking device, and is thus enabled to examine the value of a number of shots at once by adding together the several markings.

An incorrect signal is impossible and a signal unnecessary.

What I claim, and desire to secure by Letters Patent, is—

1. A target provided with a conducting front cover, a conducting rear cover insulated therefrom, in combination with a source of electricity, and suitable conductors between the source of electricity and the covers, substantially as set forth.

2. A target provided with conducting-covers on each side thereof, the cover on one side being insulated from that on the other side, and the cover on one side, moreover, being made in sections insulated from each other, substantially as set forth.

3. The combination of a target provided with front and rear conducting-covers insulated from each other with a source of electricity, indicating devices, and suitable connections between the indicating devices, the covers of the target, and the source of electricity, substantially as set forth.

4. A target provided on one side with a single cover of conducting material and on the other with a cover of conducting material made in sections insulated from each other and from the cover on the other side, in combination with a source of electricity, an indicating or marking device, and electrical connection between the covers and the source of electricity and the indicating or marking devices, whereby each section on the target will be separately indicated when struck by a projectile, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CARL VOGEL.

Witnesses

AUGUST B. DRANTZ,
CARL DUSSMANNTZ.