

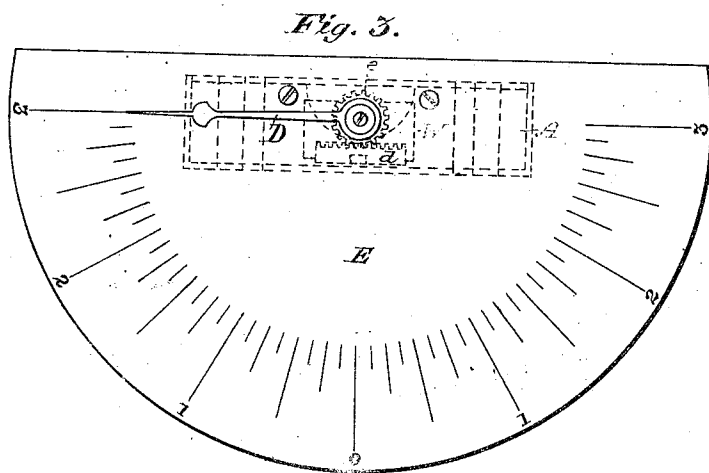
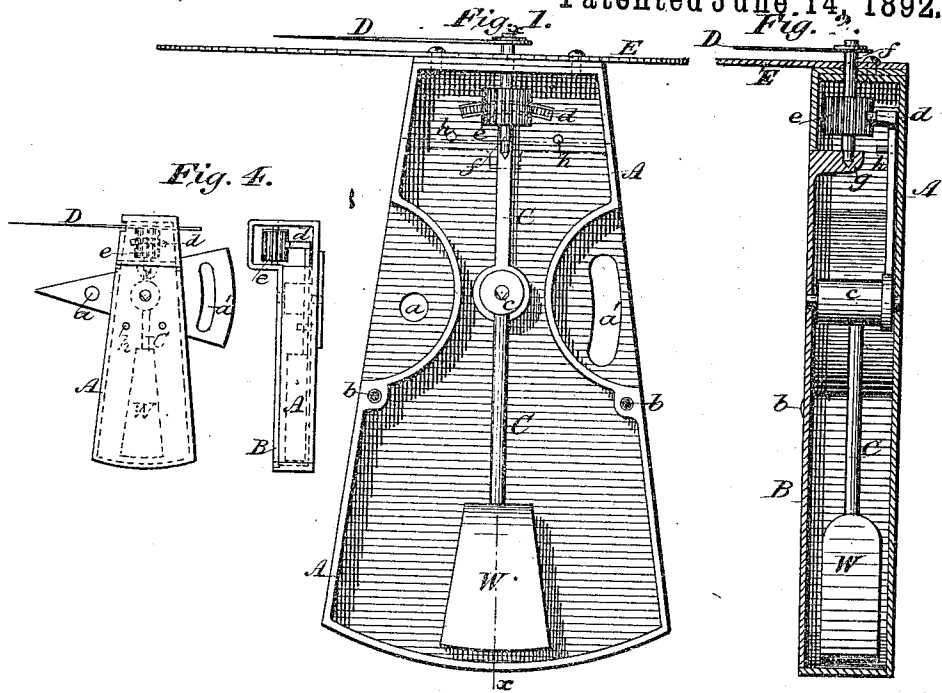
(No Model.)

2 Sheets—Sheet 1.

H. ELBE.
INDICATING DEVICE FOR GUNS.

No. 477,187.

Patented June 14, 1892.



Witnesses:

W. T. Powell.
M. M. Thomas

Inventor:

Henry Elbe,
By J. C. Bricht,
Attorney

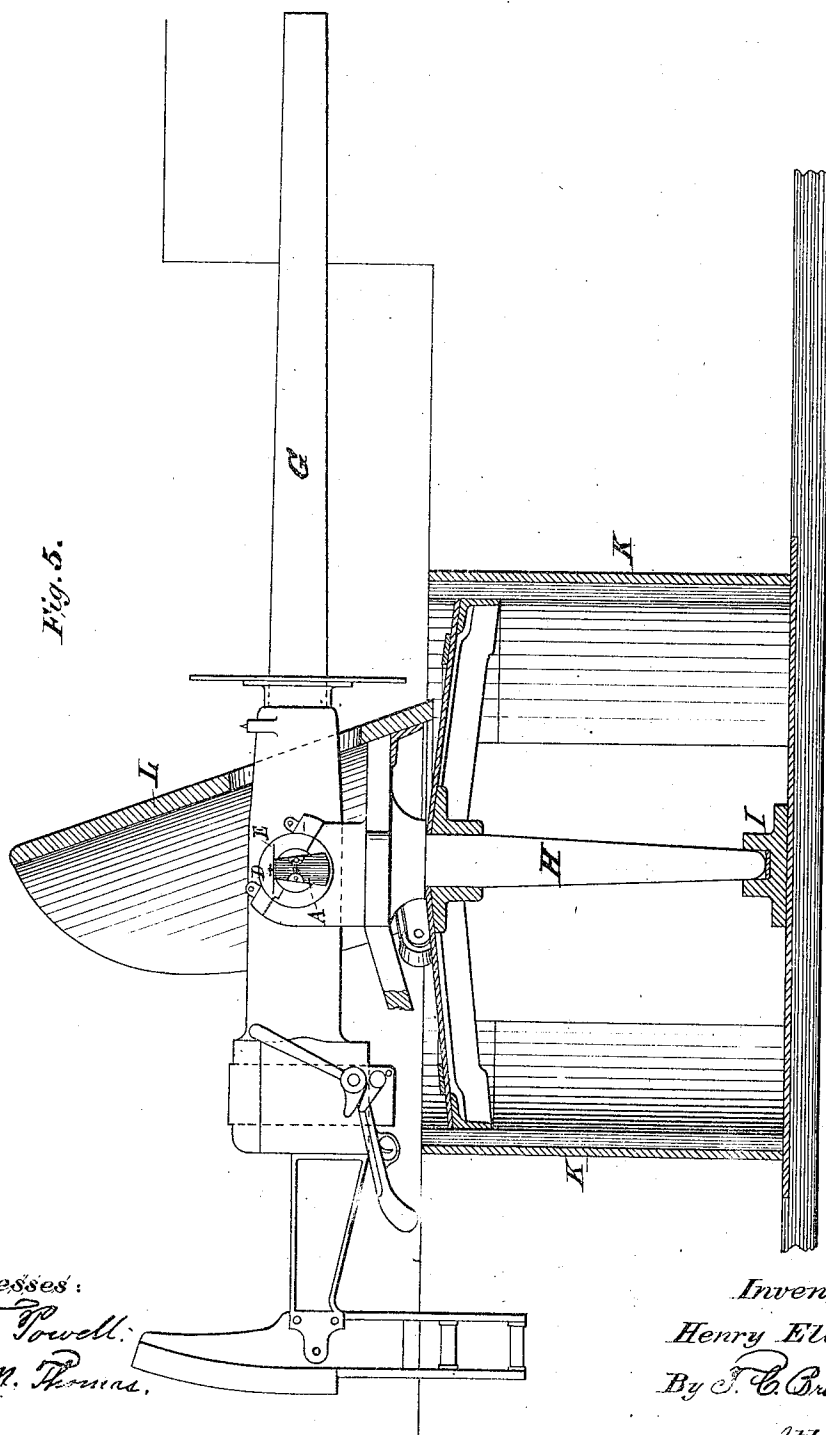
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UNITED STATES PATENT OFFICE.

HENRY ELBE, OF NIAGARA FALLS, NEW YORK, ASSIGNOR OF ONE-HALF TO
FRANCIS E. GRICE, OF WASHINGTON, DISTRICT OF COLUMBIA.

INDICATING DEVICE FOR GUNS.

SPECIFICATION forming part of Letters Patent No. 477,187, dated June 14, 1892.

Application filed September 24, 1890. Serial No. 365,970. (No model.)

To all whom it may concern:

Be it known that I, HENRY ELBE, a citizen of the United States, residing at Niagara Falls, in the county of Niagara and State of New York, have invented certain new and useful Improvements in Indicating Devices for Guns; 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 appertains to make and use the same.

My invention relates to improvements in indicating devices for guns; and its object is to produce a device to indicate when a gun or cannon has been raised or depressed to the proper angle it is desired to fire the shot.

To overcome these difficulties is the object of my invention, and to produce a self-adjusting gun-sight by which when the proper degree of elevation of the gun has been ascertained and determined and when once trained to the required angle a successive number of projectiles can be thrown to the point of destination; also, to accomplish this at night or when the object to be fired at is not visible. Another object is to dispense with the ordinary sight now in use on guns, and when the instrument is once properly attached and adjusted to a gun that the projectiles can be thrown at night as well as day-time at a fort or vessel, and so that a channel can be covered at all times to prevent an enemy entering it; furthermore, to facilitate the firing of the projectile so that any ordinary man or seaman can attend to the firing of the guns without the necessity of skilled and trained gunners, and, finally to produce an instrument that is very simple in construction, not liable to get out of order, and can be produced at a very reasonable cost.

The invention consists in the construction of certain details and combination of parts, as will be more fully described hereinafter, and specifically pointed out in the claims, reference being had to the accompanying drawings and the letters of reference thereon.

Like letters indicate similar parts in the figures of the drawings, in which—

Figure 1 is a side elevation of the instrument or gun-sight with the cover removed.

Fig. 2 is a vertical section on line *xx* of Fig. 1. Fig. 3 is a top or plan view of Fig. 1. Fig. 4 is a side and elevation of a modification for rifles, muskets, &c. Fig. 5 is a side elevation of a gun with casemate-section and having the instrument attached to the trunnion of the gun.

In the drawings, A represents a casing of any suitable size and material, which is first secured by a bolt passing through the hole *a* to the trunnion or other suitable part of a gun and then adjusted by a set-screw passing through the slot *a'*. The cover B of the casing is attached to it after the internal mechanism has been introduced by counter-sunk screws *b*. A pendulum C, consisting of a rod having a hub *c*, is pivoted on knife-edges in the back of the casing and the cover B, and provided with a weight W, so as to hang perfectly perpendicular when in its normal position. At the upper end of said rod is arranged a segmental rack *d*, which meshes with a pinion *e*, secured to a vertical shaft *f*, which has a center point bearing at its lower end and is supported in a lug *g* on the cover. This shaft passes through the top of the cover and has a pointer D secured on a square end thereof. To the upper end of the casing is secured the dial-plate E, upon which the degrees are marked to any desired extent. In the rear part of the casing two posts *h* are placed, by which the movements of the pendulum are limited.

The instrument is shown attached to a gun G, mounted to revolve on a pivot H and a step I. It is arranged in a turret K and shield L of the latest construction. The casing A is secured to the end of the trunnion, and the dial-plate E and pointer D are arranged to indicate the degrees of inclination required.

In the modification shown in Fig. 4 an adjustable gun-sight is represented for rifles, muskets, and other portable firearms. It can be secured to the stock or other suitable place of the firearm, as desired. In this case the pointer E is secured inside of the casing to the vertical shaft and projects through the sides of the casing.

The operation is as follows: The device being attached in place on the gun with the pendulum hanging perfectly perpendicular

and at right angles to the horizontal center of the gun, then as the gun is elevated at the mouth the pendulum will move the pointer to one of the divisions on the dial-plate E, and
5 said gun must then be elevated or depressed until the pointer comes opposite the line indicating the angle it is desired to obtain, when it can be fired.

The many advantages of this instrument
10 for its simplicity, accuracy, certainty of action, and durability will be readily appreciated by those skilled in the art. It is also well adapted for guns fired by electricity and for other purposes.

15 Having thus described my invention, what I claim is—

1. The combination of the shell A, containing the spindle C, provided with a weight W and pivoted on knife-edges, said spindle hav-
20 ing the segment *d*, meshing with a pinion *e*,

mounted on an auxiliary spindle *f*, and carrying the pointer D on the outer face of a dial-plate E, having the graduations of a circle on it, all as shown and specified.

2. The combination of the adjustable shell 25 A, provided with the pivoted weight W, operating by the segment *d*, and the pinion *e* on the spindle *f*, carrying the pointer D and indicating the degrees on the dial-plate E, secured to the trunnion or other suitable part of the 30 gun, and thus indicating the proper angle for firing the gun, all constructed and arranged as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

HENRY ELBE.

Witnesses:

C. L. BRAGDON, Jr.

S. B. MURRAY.