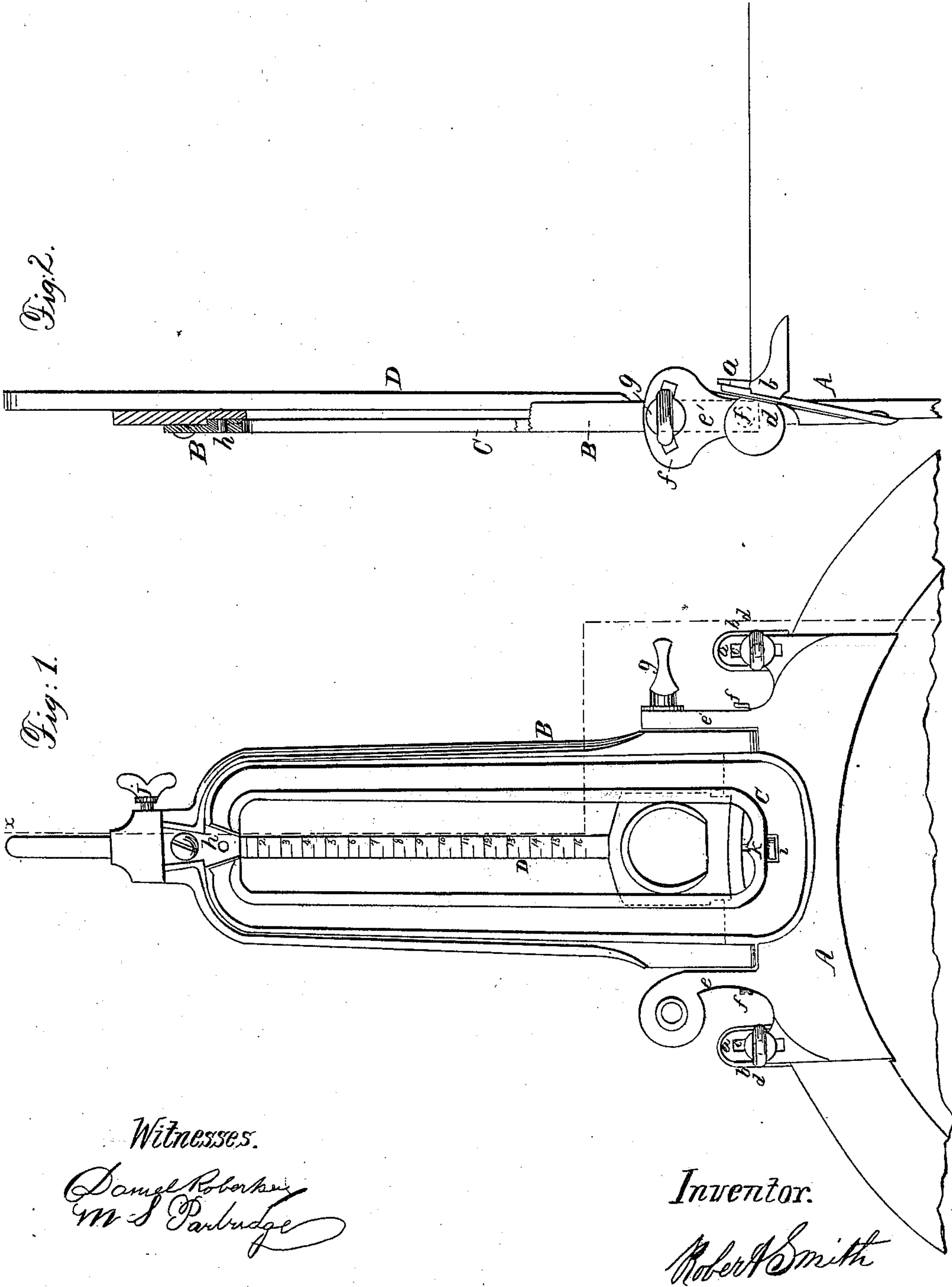


Sight for Ordnance.

No. 40,288.

Patented Oct. 13, 1863.



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UNITED STATES PATENT OFFICE.

ROBERT SMITH, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN PENDULUM-SIGHTS FOR CANNONS.

Specification forming part of Letters Patent No. 40,288, dated October 13, 1863; antedated September 28, 1863.

To all whom it may concern:

Be it known that I, ROBERT SMITH, of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Pendulum-Sight for Heavy Ordnance; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a face view of my invention. Fig. 2 is a transverse vertical section of the same, taken in the plane indicated by the line *x x*, Fig. 1.

Similar letters of reference in the two figures represent corresponding parts.

In sighting cannon with an ordinary sight much depends upon the level position of the carriage. If one wheel stands higher than the other, it is impossible to take a correct aim.

The object of this invention is to so arrange the sight of a cannon that it can readily be adjusted according to the position of the carriage, and that a correct aim can be taken whatever the position of the carriage may be.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

A represents a plate, of brass or other suitable material, and inclined on its inner surface to fit to the breech of a cannon. Said plate is provided with two lugs, *a*, which form the guides for the slides *b*, that serve to adjust the plate on the cannon. Said slides are adjustable in slots *c* in the lugs *a*, and they are fastened in the desired position by set-screws *d*. The edges of the lugs may be provided with suitable notches or scales to indicate the correct position of the slides *b* for different sizes of cannon. The plate A is also provided with two projections, *e e'*, which form the bearings for the pins or screws *f*, on which the oscillating frame B is fulcrumed. The projection *e* also serves as the handle of the plate A, and the projection *e'* is provided with a segmental slot, *f*, to receive the thumb-screw *g*, which serves to adjust the oscillating frame B in the desired position.

C is the pendulum-sight, which is suspend-

ed from a pivot, *h*, in the top of the frame B, so that it can swing freely in a lateral direction. A small friction-wheel, *i*, in its lower part facilitates its oscillating motions. The pendulum C, it will be noticed, is constructed in the form of an open frame, and it is obvious that there is an unimpeded vision or sight through or across said pendulum. If desired, one of the sides of the pendulum-frame can be omitted, and it (the pendulum) would then have a hook form, the operation and sight across the lower part thereof remaining precisely the same.

The frame B forms the guide for the sight-staff D, which serves to adjust the gun to any desired elevation. This staff is provided with a scale indicating the distance to which the cannon is to be sighted, and it is retained in the desired position by the set-screw *j*. In firing point blank the sight-staff is lowered so as to bring the notch in its ring just behind the notch in the middle of the plate A.

The operation is as follows: In order to sight a cannon, the slides *b* are adjusted according to the size of the piece, and the plate A is placed on the breech, said slides resting on the base-ring of the gun. The plate A is now firmly pressed to the base of the breech and moved round till the point *k* on the pendulum C stops opposite the scribe under the sight-mark. It is obvious that when the slides *b* are properly set the line of sight can be found in a second, whatever the position of the wheels or carriage may be. In taking the elevation for long range, care must be taken to set the frame B perfectly perpendicular, and the sight-staff is now raised to the desired number on its scale and the sight adjusted on the gun precisely as above described.

The simplicity of this device is unsurpassed. It will be readily understood by any gunner, and enables unpracticed gunners to sight their pieces correctly in any locality.

I do not claim, broadly, the use of a pendulum in connection with the sighting apparatus of guns; but,

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The construction of the pendulum in the manner herein shown and described, so that

unimpeded vision or sighting may be had through or across the pendulum, as set forth. and pendulum C with the base A and the adjusting devices, all in the manner herein shown and described.

2. The combination, with the said pendulum, of the adjustable graduated sight-staff D, substantially in the manner herein shown and described.

ROBERT SMITH.

Witnesses:

M. S. PARTRIDGE,
DANIEL ROBERTSON.

3. The combination of the frame B, staff D,