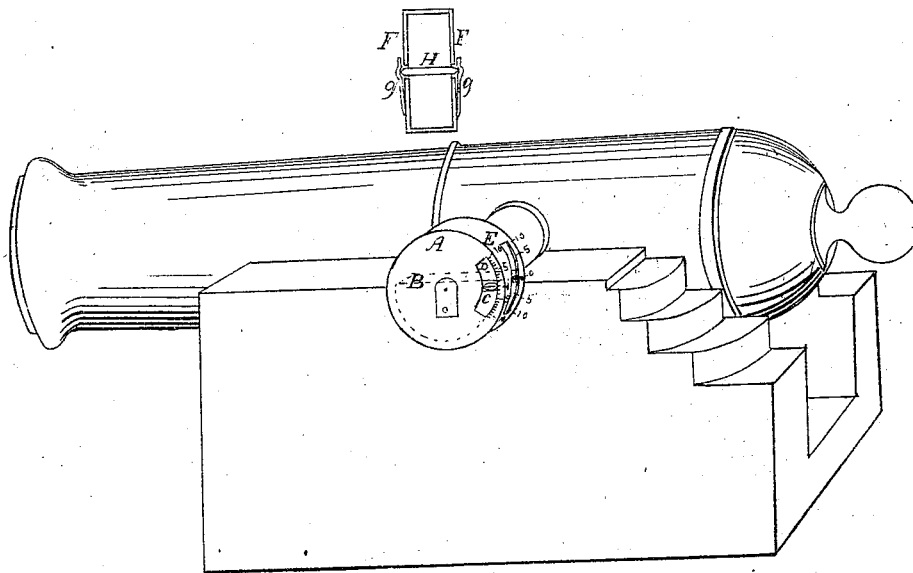


J. HOBDAV.  
Gun-Carriage.

No. 207.

Patented May 30, 1837.



# UNITED STATES PATENT OFFICE.

JOHN HOBDAY, OF PORTSMOUTH, VIRGINIA.

## APPARATUS USED IN POINTING CANNON.

Specification of Letters Patent No. 207, dated May 30, 1837.

*To all whom it may concern:*

Be it known that I, JOHN HOBDAY, of Portsmouth, in the county of Norfolk and State of Virginia, have invented a new and useful Improvement in Apparatus Used for Pointing Cannon Either on Shipboard or Elsewhere; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings.

I make a circular box, or drum, such as is shown at A, in the accompanying drawing, and within this I suspend, by pivots passing through the heads of the box, or drum, a weight which may be semicircular, as shown at B, or in any form which may be preferred. This weight has attached to it an index C, so placed upon it as that it shall constantly point horizontally from the axis of suspension. In the rim of the circular box, and also in one or both heads of it, near its periphery, as at D and E, I make slots, or openings, which may extend one-fourth of the way round, so that the index may be exposed to view. On the edges of these openings I mark degrees, or make divisions, which commence from the center of the openings, which center I make my 0°, or zero, as it indicates the horizontal position of the gun, each way, from No. 1, upward. This drum, or box, I attach to one of the trunnions of the cannon in such a manner that the index shall point to 0°, when the axis, or bore, of the gun is perfectly horizontal. When so placed, it will be manifest that any change in the direction of the axis may be read off by means of the index and the divisions upon the openings on the periphery and end of the box. To allow the index, if necessary, to traverse beyond the openings, I enlarge the rim of the box, forming the periphery, around its middle part.

Although I have mentioned one of the trunnions as the part of the gun upon which I place the apparatus described, I do not intend to confine myself in this particular, as it will give its indications equally well on any other part, and it may, probably, be found in practice, more convenient to place it elsewhere; the essential points in its application, are to place it with the ends of the box vertically, and parallel to the axis of the gun, with the index so exposed as that the gunner may have a full view of it while he remains at his post, at the breech of the gun. The modes in which it may be

fixed in its place are too numerous to describe, nor will a competent workman be at any loss in this particular. In placing it upon the trunnion, I have allowed a dovetailed, wedge-formed piece on one end of the box, to fall into dovetailed grooves prepared for that purpose. To lessen the effect of the shock in firing, I interpose leather, or other elastic material, between the connecting parts; or, if preferred, steel, or other springs may be employed.

In order to give a high degree of sensibility to the pendulating index, it is desirable that it should be suspended on small pivots, or on fine points, or centers; but without some provision to relieve such pivots, or points, from the effect of the shock in firing, they would soon be destroyed. This suspension, I, in general, effect in the following manner. Let F, F, be sections of the heads of the drum, or ends of the box; G, G, be two elastic pieces of steel, attached to the heads, near to their peripheries, the opposite ends covering the openings in the heads through which the gudgeons, or pivots, of the axis, H, pass, which pivots are pointed, and pass into countersinks in the spring pieces, or are themselves countersunk to receive the points of pins, or screws, attached to the spring pieces. The gudgeons, or pivots, are made large enough to sustain the shock, but do not quite touch the openings in the heads until brought into contact with them by the effect of the firing. Instead of this arrangement, there may be a knife blade suspension; and other arrangements may be made, alike in principle, and, consequently, producing the same effect.

In describing my invention, I have given such an arrangement of the respective parts as I have believed to be most convenient, but there may be many modifications thereof which would still leave it essentially the same. The box, for example, may be a segment of, instead of a whole circle; the suspension, also, may be made something like that of the mariners' compass, so that the instrument shall keep in a vertical position, notwithstanding the pitching and rolling motions of a vessel. The circular box may be entirely omitted, such a frame, only, being constructed as shall suffice to support the pivots of the weight and index, and the divided scale. By the aid of this instrument, a gun may be accurately pointed, when from the effect of smoke, fog, or other

causes, the view may be interrupted, and notwithstanding the motion produced by a heavy sea.

What I claim as my invention, and wish  
5 to secure by Letters Patent, is—

1. The constructing of an instrument for the pointing of cannon, which instrument has an index, pointing horizontally, or indicating the horizontal position and inclination of the gun to which it is attached, the  
10 position of the index being preserved by the action of a pendulous weight to which it is

attached, the whole constructed, and operating, substantially in the manner herein set forth.

2. I also claim the manner of suspending the same as described, so as to combine the most perfect sensibility with the requisite degree of strength in the pivots.

JOHN HOBDAV.

Witnesses:

THOS. P. JONES,  
B. K. MORSELL.