Aug. 7, 1923. 1,464,171

A. T. DAWSON ET AL

HIGH ANGLE ORDNANCE

Filed May 21, 1923

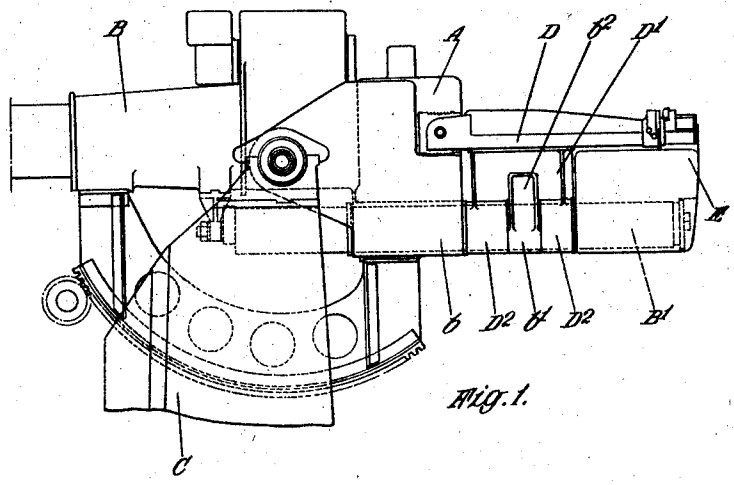
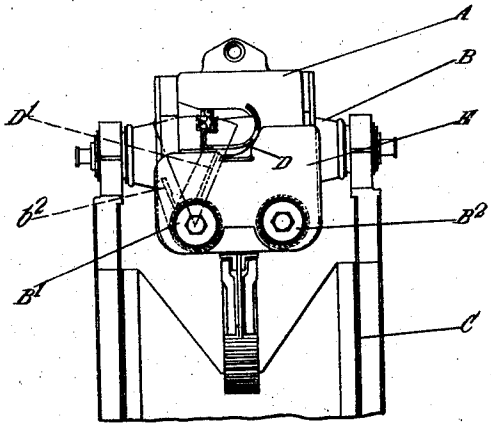


Fig. 1.

Fig. 2.



Inventors
Arthur Trevor Dawson
and
George Thomas Burkham
By
Pennie, Davis, Marvin & Edmonds
Attorneys

Patented Aug. 7, 1923. 1,464,171

UNITED STATES PATENT OFFICE.

ARTHUR TREVOR DAWSON AND GEORGE THOMAS BUCKHAM, OF WESTMINSTER, LONDON, ENGLAND, ASSIGNOR TO VICKERS LIMITED, OF LONDON, ENGLAND.

HIGH-ANGLE ORDNANCE.

Application filed May 21, 1923. Serial No. 640,569.

To all whom it may concern:

Be it known that we, ARTHUR TREVOR DAWSON and GEORGE THOMAS BUCKHAM, both subjects of the King of Great Britain, residing at Vickers House, Broadway, Westminster, in the county of London, England, have invented certain new and useful Improvements in or Relating to High-Angle Ordnance, of which the following is a specification.

This invention relates to high angle ordnance in which the gun trunnions are arranged as close as is practicable to the breech end of the gun in order to reduce the height of the trunnions from the base of the mounting and in which the preponderating weight of the portion of the gun in front of the gun trunnions is balanced by so arranging the weight of the parts situated behind the trunnions that the turning moment exerted thereby is equal or substantially equal to that of the parts situated in front of the trunnions.

According to the present invention the casing containing the run-out spring (or the pneumatic run-out cylinder when this is used in place of the said spring) is arranged to protrude considerably to the rear of the breech face of the gun and to serve as the longitudinal pivot of a rocking loading tray by which ammunition is carried into the loading position behind the gun. In the preferred construction there are two of the aforesaid casings or cylinders and the loading tray is pivoted upon one of them between a balance weight (which is carried transversely by the rear parts of said casings or cylinders) and a portion of the cradle situated behind the trunnions.

In order that the said invention may be clearly understood and readily carried into effect, the same will now be described more fully with reference to the accompanying drawings, in which:—

Figure 1 is a side elevation of the rear portion of a gun showing a constructional form of our invention, and

Figure 2 is a rear elevation of Figure 1.

A is the gun, B is the cradle carrying two casings B^1, B^2 containing the run-out springs, C is part of the carriage in which the cradle is trunnioned and D is the loading tray. The said casings B^1, B^2 extend considerably to the rear of the breech end of the gun and are arranged below the axis of the gun symmetrically on each side of a vertical plane containing the said axis. At their rear ends the said casings carry a transverse balance weight E, the arrangement being such that the said weight (in conjunction with the other parts situated behind the gun trunnions), exerts the required balancing turning moment about the axis of the trunnions. The said weight is so situated as to leave a space between its front surface and the rear surface of a portion b of the cradle situated behind the trunnions. In this space is situated a plate D′ which carries the loading tray D at its upper end and which has two sleeves D^2, D^2 rotatably surrounding the left-hand casing B^1. Rigidly connected to the casing between the said sleeves is a member b^1 having a projection b^2 against which the plate D^1 bears when the loading tray is moved to the receiving position out of the path of recoil of the gun.

The above described construction can equally well be used in guns having pneumatic run-out cylinders instead of springs.

What we claim and desire to secure by Letters Patent of the United States is:—

1. In high angle ordnance, the combination of a member of the run-out apparatus extending considerably to the rear of the breech end of the gun and a rocking loading tray mounted to pivot directly on said extending member.

2. In high angle ordnance, the combination of a member of the run-out apparatus extending considerably to the rear of the breech end of the gun, a weight on the rear part of said extending member and a rocking loading tray mounted to pivot directly on said extending member in front of said weight.

3. In high angle ordnance, the combination of a member of the run-out apparatus extending considerably to the rear of the breech end of the gun, a portion of the gun cradle situated behind the gun trunnions, a weight on the rear part of said extending member and a rocking loading tray mounted to pivot directly on said extending member between said cradle portion and said weight.

4. In high angle ordnance, the combination of a casing of the run-out apparatus extending considerably to the rear of the

breech end of the gun and a rocking loading tray mounted to pivot directly on said extending casing.

5. In high angle ordnance, the combination of a casing of the run-out apparatus extending considerably to the rear of the breech end of the gun, a weight on the rear part of said extending casing and a rocking loading tray mounted to pivot directly on said extending casing in front of said weight.

6. In high angle ordnance, the combination of a casing of the run-out apparatus extending considerably to the rear of the breech end of the gun, a portion of the gun cradle situated behind the gun trunnions, a weight on the rear part of said extending casing and a rocking loading tray mounted to pivot directly on said extending casing between said cradle portion and said weight.

7. In high angle ordnance, the combination of two casings of the run-out apparatus extending considerably to the rear of the breech end of the gun, a portion of the gun cradle situated behind the gun trunnions, a weight on the rear part of said extending casing and a rocking loading tray mounted to pivot directly on one of said extending casings between said cradle portion and said weight.

ARTHUR TREVOR DAWSON.
GEORGE THOMAS BUCKHAM.