

N<sup>o</sup> 12,852



A. D. 1899

Date of Application, 20th June, 1899

Complete Specification Left, 20th Mar., 1900—Accepted, 21st Apr., 1900

**PROVISIONAL SPECIFICATION.**

**Improvements in Apparatus for Adapting Breech Loading Guns for Practice with Miniature Ammunition.**

We, THE MORRIS TUBE AMMUNITION AND SAFETY RANGE COMPANY, LIMITED, and ARTHUR JAMES HERVEY WYATT, Engineer, all of No. 11, Haymarket, in the County of London, do hereby declare the nature of this invention to be as follows:—

5 In the Specifications No. 4846 of 1883, and No. 9356 of 1885 are described arrangements for fitting in the bore of a large gun, a small barrel by means of which small projectiles can be fired over moderate ranges, while the drill and practice with the guns can be the same as when they are used for full sized projectiles.

10 The charge chambers of many breech loading guns are made larger in diameter than the bore of the gun or the breech opening into the chamber so that no entire block or piece for centreing the small barrel can be introduced at either end of the chamber.

15 The present invention relates to the construction of a centreing piece which is small enough to pass through the breech inlet into the charge chamber, and can then be expanded so as to fit the chamber.

20 For this purpose we fit on the miniature barrel a sleeve having at each end three projecting arms at 120° apart. In a dovetail groove in each of these arms is fitted to slide one of the projecting limbs of an E shaped piece, the middle member of which has its back rounded so as to fit or approximately fit the bore of the gun. The middle projection of the E is internally screw threaded to receive a screw. Thus there are three E pieces with their screws uniformly arranged around the sleeve. Each of the screws has fixed on it a bevil pinion, and these three pinions gear with a bevil wheel which can be caused to revolve on the sleeve by turning a spindle which is parallel to the sleeve and has on it a pinion gearing with the bevil wheel.

25 After the barrel with the sleeve on it and its three E pieces retracted is introduced into its place in the bore of the gun, the spindle, which extends either back beyond the breech or forwards beyond the muzzle, is turned, turning the three screws and the three E pieces are thus moved radially outwards until they are firmly pressed against the interior of the bore thus holding the miniature barrel centred and firmly held. Instead of bevil pinions on the screws gearing with a bevil wheel on the sleeve, they may be ordinary toothed pinions gearing with a crown toothed wheel on the sleeve.

35 Dated this 20th day of June 1899.

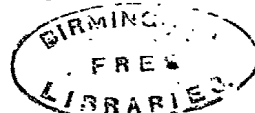
ABEL & IMRAY,  
Agents for the Applicants.

**COMPLETE SPECIFICATION.**

40 **Improvements in Apparatus for Adapting Breech Loading Guns for Practice with Miniature Ammunition.**

We, THE MORRIS TUBE AMMUNITION AND SAFETY RANGE COMPANY, LIMITED, and ARTHUR JAMES HERVEY WYATT, Engineer, all of No. 11, Haymarket, in the

[Price 8d.]



*Impts. for Adapting Breech Loading Guns for Practice with Miniature Ammunition*

County of London, do hereby declare the nature of this invention and in what manner the same is to be performed; to be particularly described and ascertained in and by the following statement:—

In the Specifications No. 4846 of 1883, and No. 9356 of 1885 are described arrangements for fitting in the bore of a large gun, a small barrel by means of which small projectiles can be fired over moderate ranges, while the drill and practice with the guns can be the same as when they are used for full sized projectiles.

The charge chambers of many breech loading guns are made larger in diameter than the bore of the gun or the breech opening into the chamber so that no entire block or piece for centring the small barrel can be introduced at either end of the chamber.

The present invention relates to the construction of a centring piece which is small enough to pass through the breech inlet into the charge chamber, and can then be expanded so as to fit the chamber as we shall describe referring to the accompanying drawings.

Fig. 1 is a part longitudinal section of the gun bore shewing part of the small barrel fixed in it.

Fig. 2 is a transverse section of the bore and barrel shewing the centring piece for fixing the barrel in elevation partly sectional as seen from the muzzle.

Fig. 3 is an elevation of the centring piece retracted as seen from the breech.

We fit on the miniature barrel *b* a sleeve *a* having at each end three projecting arms *c* at 120° apart. In a dovetail groove in each of these arms is fitted to slide one of the projecting limbs of an E shaped piece *e*, the middle member of which has its back rounded so as to fit or approximately fit the bore of the gun. The middle projection of the E is internally screw threaded to receive a screw *d*. Thus there are three E pieces *e* with their screws *d* uniformly arranged around the sleeve. Each of the screws has fixed on it a pinion *f*, and these three pinions gear with a crown wheel *g*, or instead of a pinion and crown wheel as shown a bevil pinion and bevil wheel may be employed. The wheel has also cog teeth *h* with which gears a pinion *k*. This pinion is fixed on a spindle *l* mounted in bearings on the sleeve *a*, and having a squared end to receive a socket wrench.

After the barrel *b* with the sleeve *a* on it and its three E pieces *e* retracted is introduced into its place in the bore *m* of the gun, the spindle *l* turning the three screws *d* and the three E pieces *e* are thus moved radially outwards until they are firmly pressed against the interior of the bore *m* thus holding the miniature barrel *b* centred and firmly held.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

A centring piece for fixing in the bore of a gun a barrel for practice with miniature ammunition, constructed and operating substantially as described with reference to the accompanying drawings.

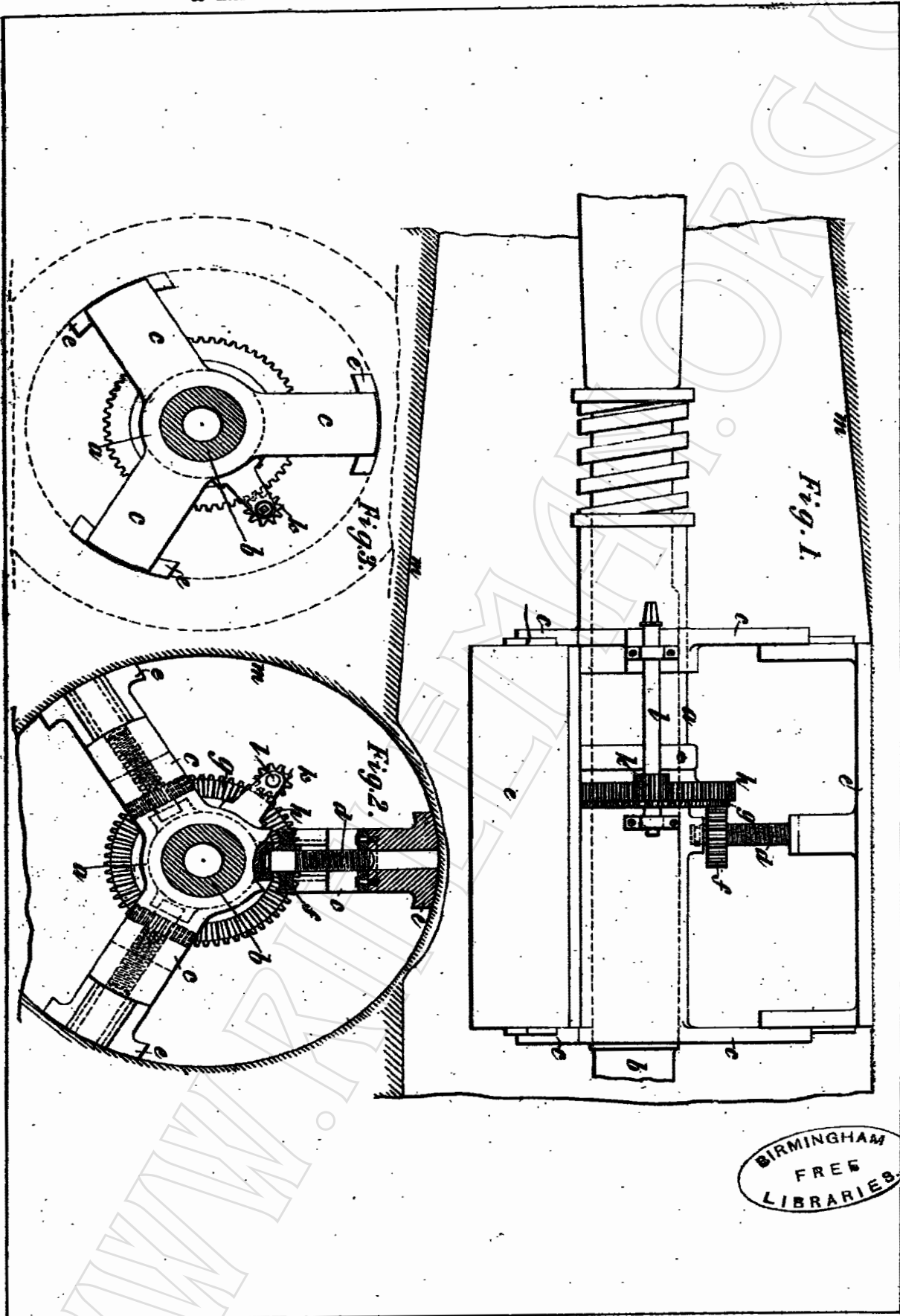
Dated this 20th day of March 1900.

ABEL & IMRAY,  
Agents for the Applicants.

A.D. 1899. JUNE 20. N<sup>o</sup> 12,852.

THE MORRIS TUBE AMMUNITION & SAFETY RANGE CO. [LD.]  
& another's COMPLETE SPECIFICATION.

( 1 SHEET )



[This Drawing is a reproduction of the Original on a reduced scale.]

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