

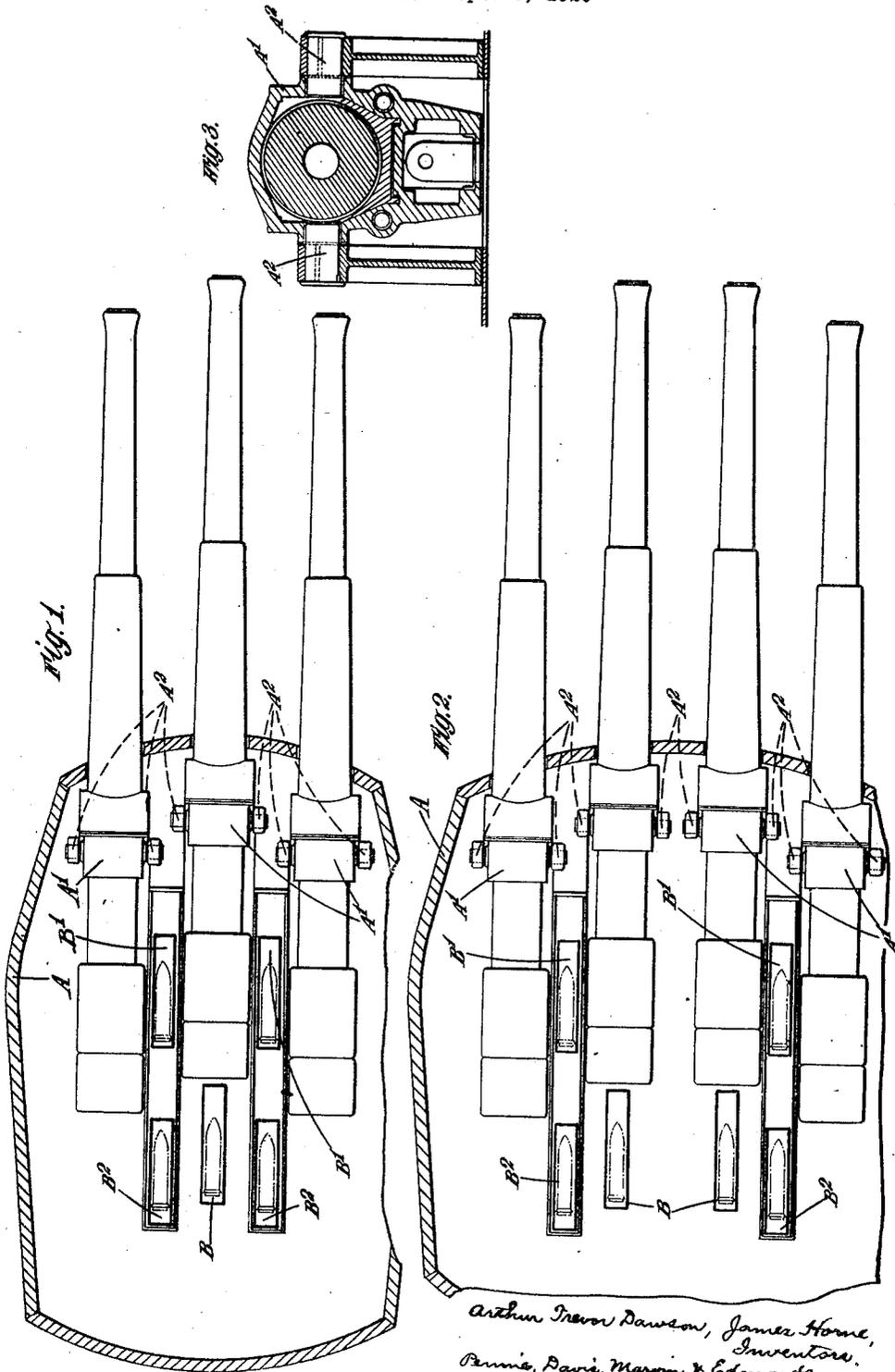
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A. T. DAWSON ET AL

TURRET MOUNTING FOR HEAVY GUNS

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UNITED STATES PATENT OFFICE.

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TURRET MOUNTING FOR HEAVY GUNS.

Application filed September 4, 1920. Serial No. 408,321.

(GRANTED UNDER THE PROVISIONS OF THE ACT OF MARCH 3, 1921, 41 STAT. L., 1313.)

To all whom it may concern:

Be it known that we, Sir ARTHUR TREVOR DAWSON, bart., and JAMES HORNE, both subjects of the King of Great Britain, residing, respectively, at Vickers House, Broadway, Westminster, in the county of London, England, and Naval Construction Works, Barrow-in-Furness, in the county of Lancaster, England, have invented certain new and useful Improvements in or Relating to Turret Mountings for Heavy Guns (for which we have filed an application in Great Britain, August 27, 1919, Patent No. 165,849), of which the following is a specification.

This invention relates to turret mountings for heavy guns. In such mountings where three or four guns are arranged within a single turret, the elevating axes of the various guns have usually been arranged in line and it has been found necessary to provide a sufficient clearance space between the trunnion bearings for the withdrawal of the trunnion pins. This condition therefore determines the minimum distance apart that the guns can be placed.

According to the present invention the middle gun of a three gun turret or the two middle guns of a four gun turret are arranged with their trunnion pins in front of those of the two outer guns and in this way we are able to place the guns closer together than has heretofore been possible, whilst at the same time providing sufficient room for the withdrawal of the trunnion pins, in this manner we are able to reduce the space which would otherwise be necessary at the side of the turret, with the consequent advantage that the diameter of the turntable and of the roller paths can be reduced and a corresponding decrease obtained in the weight of the turret and the size of the target represented by the turret. In the case of a four gun turret, the two middle guns would be arranged sufficiently far apart to enable the two inner trunnion pins to be withdrawn.

In order that the said invention may be clearly understood and readily carried into effect we will now describe the same more

fully with reference to the accompanying drawings, in which:—

Figure 1 is a plan view with the turret in section showing diagrammatically the disposition of the guns of a three gun turret in accordance with the invention,

Figure 2 is a view similar to Figure 1 of a four gun turret and

Figure 3 is a vertical transverse section taken through the trunnions of one of the guns of either Figure 1 or Figure 2 and drawn to a larger scale.

A is the turret, A^1 , A^1 —are the gun cradles and A^2 , A^2 —are the detachable trunnion pins. In Figure 1 the middle gun is arranged with its trunnion pins A^2 , A^2 in front of those of the two outer guns and the guns can therefore be arranged closer together than is usual. In Figure 2 the two middle guns are arranged with their trunnion pins in line with one another and in front of those of the two outer guns and the cradles of the two middle guns are arranged sufficiently far apart to enable their two inner contiguous trunnion pins to be withdrawn. In both the arrangements shewn the trunnion pins of the two outer guns are in line with each and are situated with their axes in a horizontal plane containing the axes of the trunnion pins of the inner gun or guns.

In conjunction with a turret with the guns arranged as described above, we may employ a system of loading apparatus giving a two stage loading for the middle gun or guns in which the gun loading cage or cages (indicated diagrammatically at B) are carried up directly behind the gun or guns and the powder charges rammed into the gun in one stroke of the rammer after the projectile has been rammed. For the outer guns the ammunition may be delivered to the gun platform by cages (indicated diagrammatically at B', B') in the manner described in the specification of our British Patent 165,853, the ammunition thus delivered being transferred rearwards into conveyors (indicated diagrammatically at B², B²) which are transversed to a position be-

hind the breech of the gun and the powder charges are then rammed into the gun in one stroke after the projectile has been rammed.

As only one supply of ammunition is required to be passed up between the guns through the turntable for the loading of each of the two outer guns, the distance apart between the guns can be materially reduced so as to take full advantage of the reduction in width resulting from the above described arrangement of the trunnion pins.

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

1. The combination with a gun turret, of three guns the middle one of which is arranged with its trunnion pins in front of the two outer guns and in the same horizontal plane as those of the two outer guns.

2. The combination with a gun turret, of four guns the two middle ones of which are arranged with their trunnion pins in front of those of the two outer guns and at a sufficient distance apart to enable the inner trunnion pins of said middle guns to be withdrawn.

3. The combination with a gun turret, of four guns the two middle ones of which are arranged with their trunnion pins in front of those of the two outer guns and at a sufficient distance apart to enable the inner trunnion pins of said middle guns to be withdrawn, all said trunnion pins being disposed with their axes in a common horizontal plane.

4. The combination with a gun turret, of four guns the two middle ones of which are arranged with their trunnion pins in front of those of the two outer guns and in the same horizontal plane as those of the two outer guns.

5. The combination with a gun turret, of four guns each of which is trunnioned independently of the others and the two middle ones of which are arranged with their trunnion pins in front of those of the two outer guns.

In testimony whereof we affix our signatures.

ARTHUR TREVOR DAWSON,
JAMES HORNE.