

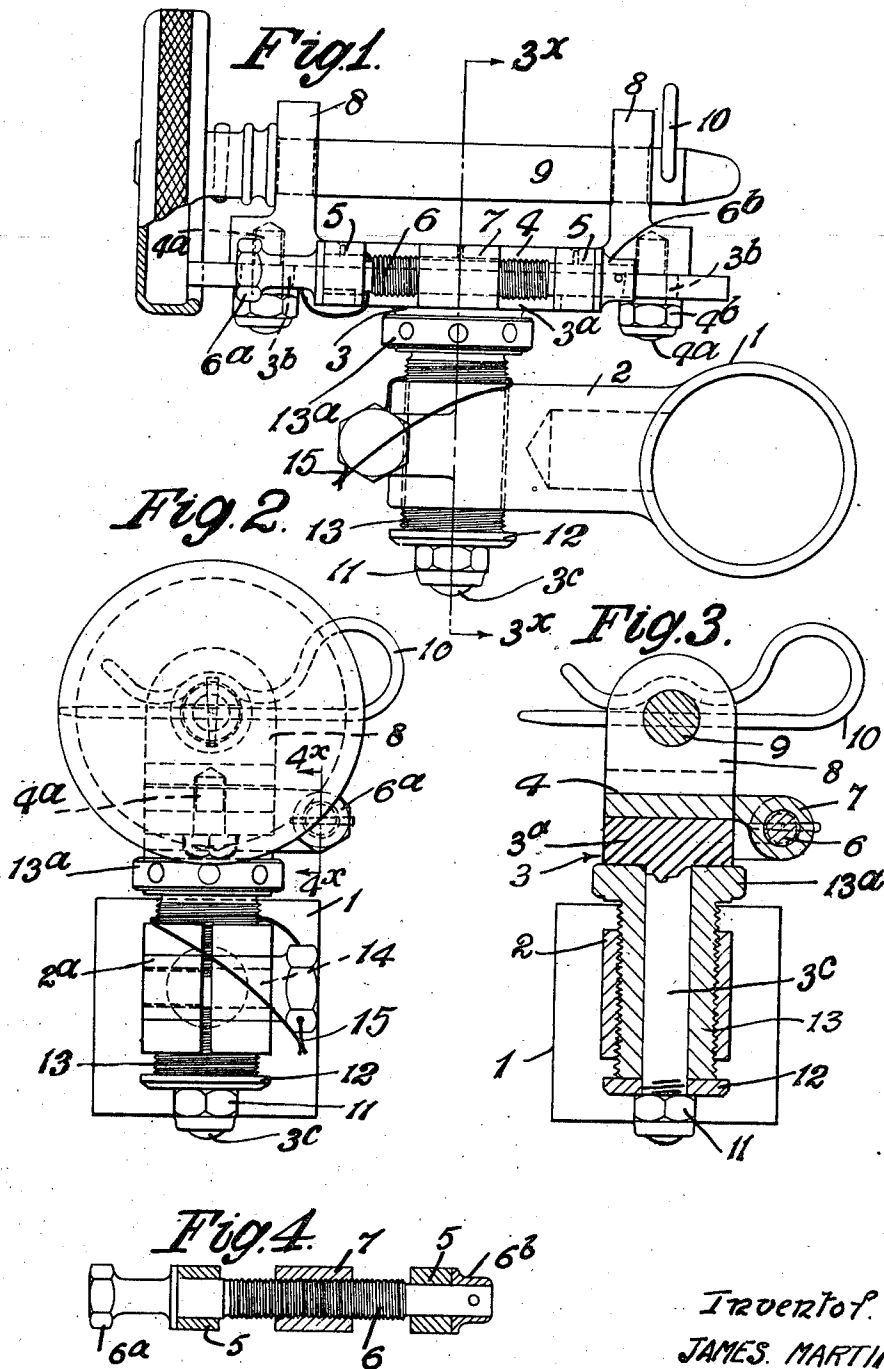
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GUN MOUNTING FOR AIRPLANES

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GUN MOUNTING FOR AIRPLANES

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3 Claims. (Cl. 89—37.5)

This invention relates to mountings for machine guns or small cannon on airplanes, and is more particularly concerned with the rear mountings for the guns and the means for adjusting for direction and elevation. The object of this invention is to provide a compact, light and unitary assembly for the mounting of the rear part of a gun which includes the means for adjusting for direction and also for elevation so that all adjustments can be made from a single mounting, and if desired a plurality of such mountings can be located close together in a group to enable a number of guns to be accommodated within a relatively small volume of space of an airplane.

In an embodiment of this invention a rear gun mounting for use in an airplane is particularly suitable for the mounting of a gun close alongside a longitudinal gun arm, the other side of which can be provided with a lateral pair of arms adapted to support a cartridge box or magazine, although if desired the box or magazine can be a separate entity or the linked cartridges can be fed directly to the gun without accommodation in a cartridge box or magazine. The mounting comprises a T-shaped bracket the vertical limb of which is a centre pin about which is disposed a screw threaded bush adapted to be threaded through a lug on the gun arm, the rotation of this bush effecting vertical adjustment of the T-shaped bracket. The horizontal limb of the T-shaped bracket slidably supports another bracket to which the gun is connected and which is in the form of a horizontal plate slidable upon said limb and formed with a pair of upstanding lugs receiving a horizontal pin or bolt which is adapted to be passed through a lug projecting from the gun. This plate is formed with a central lug through which is threaded a horizontal traversing screw supported by the horizontal limb of the T-shaped bracket so that such latter lug acts as a nut adapted to be traversed along the traversing screw.

The foregoing embodiment of the present invention will be more clearly understood and readily carried into effect by reference to the appended drawing illustrating such embodiment and in which,

Fig. 1 is a rear elevation view of the rear gun mounting.

Fig. 2 is a side elevation view of Fig. 1.

Fig. 3 is a sectional elevation view on the line 3x—3x of Fig. 1, and

Fig. 4 is a detail sectional elevation view on

the line 4x—4x of Fig. 2 showing the mounting of the beforesaid traversing screw.

Referring to the drawing a longitudinal axis arm of an airplane structure is the supporting means for the rear gun mounting and it is provided with a lateral horizontal arm 2 to receive the rear gun mounting, the support for the front end of the gun not being shown, such front end support having the gun connected to it by a simple fork and swivel device or universal joint to allow for vertical and lateral adjustment of the gun, the means for effecting these adjustments for elevation and direction being incorporated in the rear mounting for the gun. This rear mounting comprises a bracket 3 for attachment to the arm 2 and a bracket 4 for attachment to the gun.

The bracket 3 is a T-shaped member, the upper or horizontal limb 3a of which is a flat oblong plate formed at its rear edge with a pair of lugs 5 in which rotate the unthreaded ends of a traversing screw 6 threaded through a lug 7 integral with the bracket 4, this latter bracket being a flat oblong plate slidable upon the horizontal limb 3a of bracket 3 and formed with an upstanding pair of end lugs 8 between which is received a lug or other projection or part of the gun these lugs and the appropriate part of the gun being apertured to receive a retaining pin 9 retained in position by a locking pin 10. The horizontal limb 3a of the bracket 3 is formed with slots 3b transverse in relation to the axis of the gun and slidably receiving the unthreaded median parts of studs 4a threaded at their upper ends into the bracket 4 and fitted with nuts and washers 4b at their lower ends, the washers sliding against the base of the horizontal limb of the T-shaped bracket 3. The lug 7 acts as a nut which is traversed by the screw 6 and carries the bracket 4 with it in the lateral direction relative to the arm 1 and guided by the said stud and slot connection between the two brackets. The screw 6 is provided with a hexagonal or other suitable head 6a to receive a spanner for manipulating it, and the end of the screw 6 remote from such head is fitted with a stop collar 6b.

The vertical limb 3c of the T-shaped bracket 3 is of circular cross section, and is in the form of a bolt threaded at its lower end to receive a nut 11 which abuts against a washer 12 forming an abutment for the lower end of a screw threaded bush or screw 13 rotatable about the vertical limb of the T-shaped bracket 3 and threaded

through the outer end of the arm 2. This outer end of the arm 2 is split and formed with lugs 2a through which is pressed a screw 14 threaded into one of the lugs to pinch the free end of the arm 2 on to the bush 13. The top of this bush is formed with a head 13a adapted to receive a tommy bar or C spanner or other suitable manipulating tool, such head abutting against the base of the horizontal limb 3a of the T-shaped bracket 3. This screw threaded bush forms an elevating screw for adjusting the gun for elevation.

The arcs of movement of the gun arm both vertically and laterally for setting the gun are of so large a radius and of such small extent that it is unnecessary to provide special compensation in the rear gun mounting for such arcuate movement, but if necessary the studs 4a can have sufficient play in the slots 3b to provide the necessary compensation.

A locking wire 15 can be passed round the bush 13 and through the head of the screw 14 to lock them in the selected position, it being understood that once an initial setting of the gun has been made there would be very few if any subsequent adjustments.

By means of the present invention a compact light and inconspicuous rear gun mounting is provided which ensures a very rigid support for the gun and very accurate and fine adjustments for direction and elevation, in which all of the adjustments can be made from the one mounting in a simple manner.

I claim:

1. A gun mounting for a machine gun or small cannon for use in an airplane comprising a T-shaped bracket, a screw threaded sleeve rotatable upon the vertical limb of said bracket to adjust the bracket vertically and adapted to be fitted in a part of the gun supporting structure of the aircraft, a gun receiving bracket in the form of a horizontal plate slidable upon the horizontal limb of the T-shaped bracket, a pair of upstanding lugs on said plate adapted to receive

between them the appropriate part of the gun and means to connect the gun thereto, a lug on the gun receiving bracket, and a horizontal traversing screw threaded through said lug and supported for rotation by the upper limb of the said T-shaped bracket.

2. A gun mounting for a machine gun or small cannon for use in an airplane comprising a T-shaped bracket, a screw threaded sleeve freely rotatable upon the vertical limb of said bracket and interposed between abutments on said limb, and adapted to be threaded into a gun supporting part of the aircraft structure, a tool receiving part on said sleeve for rotating it to adjust the said bracket vertically, another bracket supported relatively slidable upon the upper surface of the horizontal limb of the T-shaped bracket and adapted to receive the gun, a lug projecting from the gun receiving bracket, a pair of lugs at the ends of said horizontal limb, a traversing screw supported in said latter pair of lugs and threaded through the other lug to traverse the gun receiving bracket relatively to the T-shaped bracket and transversely relatively to the gun barrel axis.

3. A gun mounting for a machine gun or small cannon for use in an airplane comprising a T-shaped bracket, a screw threaded sleeve freely rotatable upon the vertical limb of said bracket and interposed between abutments in said limb, and adapted to be threaded into a gun supporting part of the aircraft structure, a tool receiving part on said sleeve for rotating it to adjust the said bracket vertically, a gun receiving bracket in the form of a horizontal plate slidable upon the horizontal limb of the T-shaped bracket, a pair of upstanding lugs on said plate adapted to receive between them the appropriate part of the gun and means to connect the gun thereto, a lug on the gun receiving bracket, and a horizontal traversing screw threaded through said lug and supported for rotation by the upper limb of the said T-shaped bracket.

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