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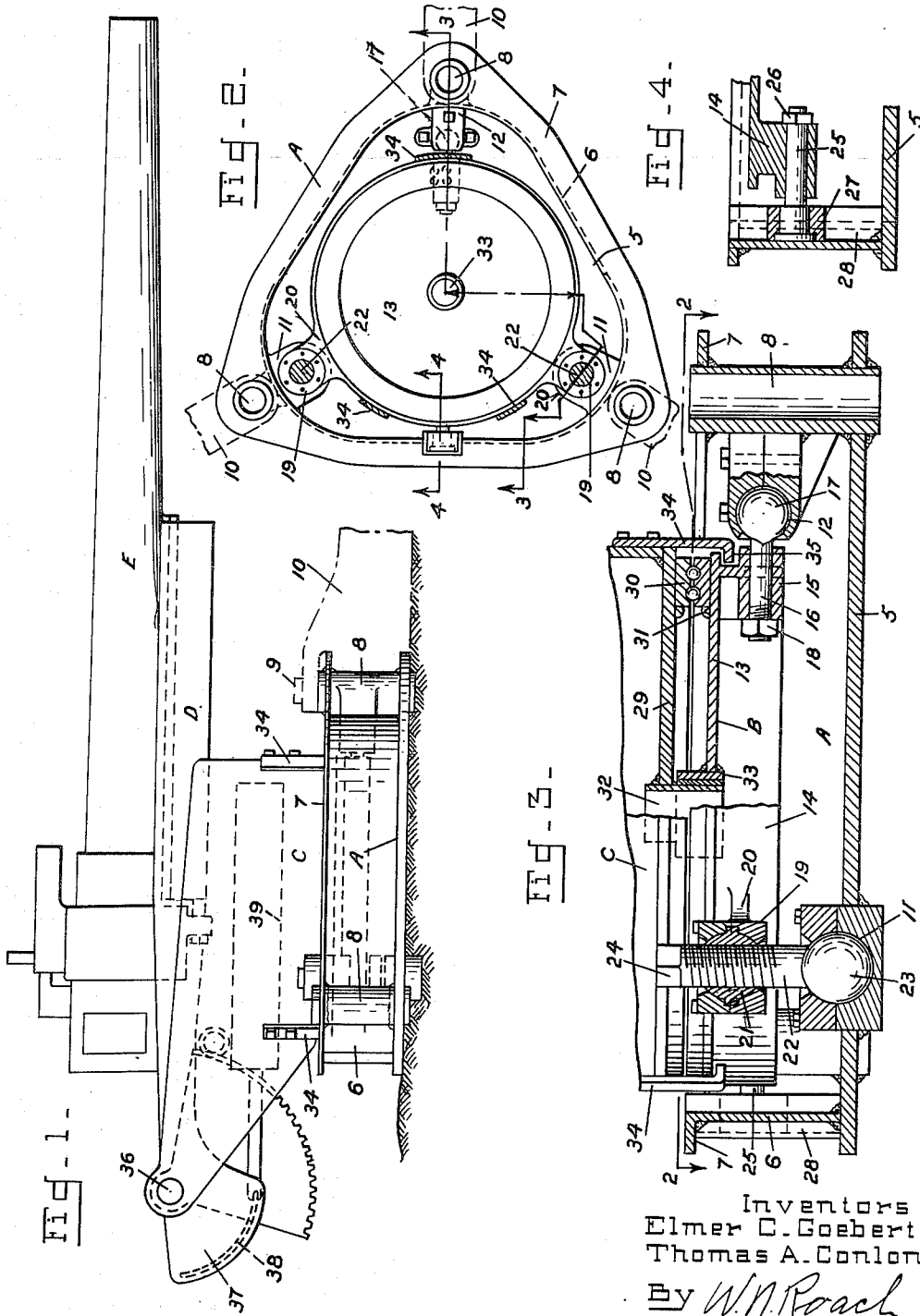
E. C. GOEBERT ET AL

2,091,278

GUN MOUNT

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2 Sheets-Sheet 1



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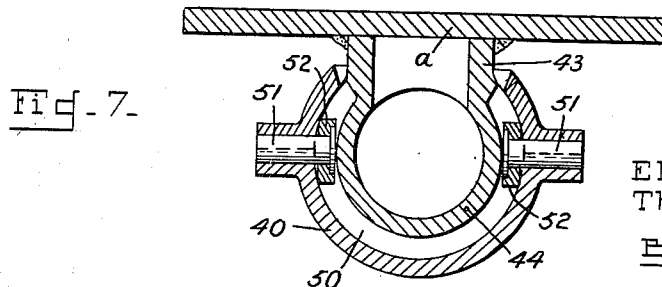
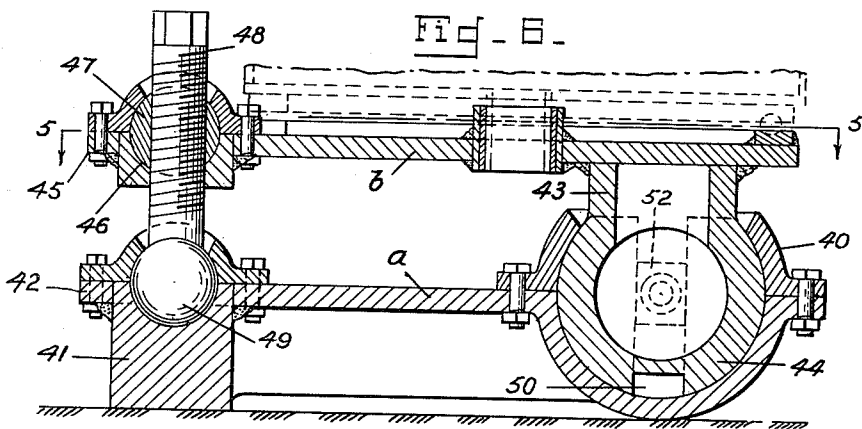
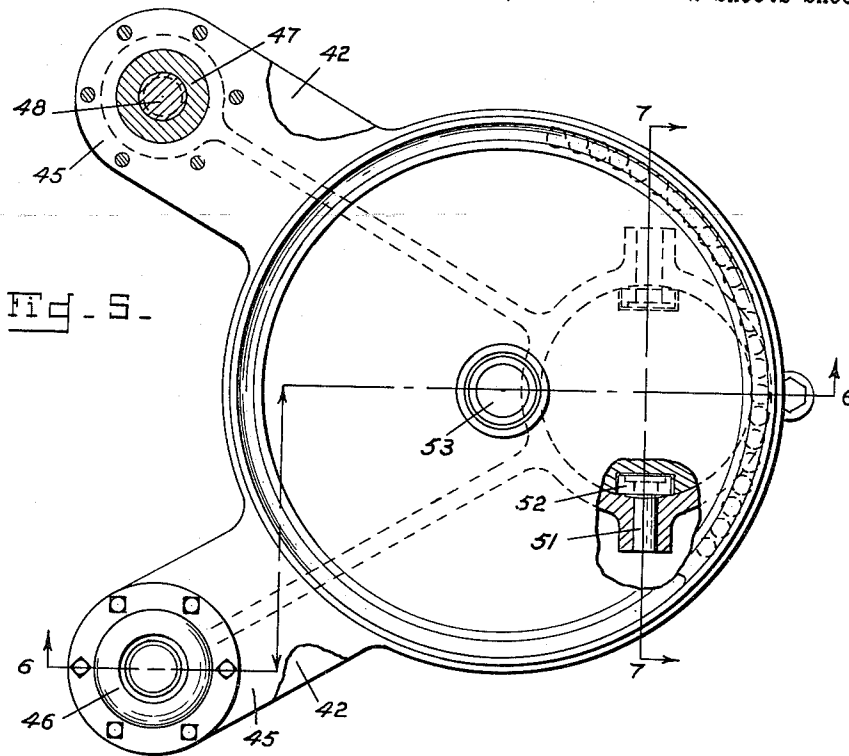
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UNITED STATES PATENT OFFICE

2,091,278

GUN MOUNT

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Application June 12, 1936, Serial No. 84,912

2 Claims. (Cl. 89—37)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to us of any royalty thereon.

5 This invention relates to a gun mount.

The purpose of this invention is to provide a gun mount of low trunnion height in which a leveling platform is arranged in a novel and compact manner between a base and the top carriage.

A further object is to provide a simple and effective displacement of the leveling platform without interfering with its tilting movement.

15 To these and other ends, the invention consists in the construction, arrangement and combination of elements described hereinafter and pointed out in the claims forming a part of this specification.

A practical embodiment of the invention is illustrated in the accompanying drawings, wherein:

Fig. 1 is a view in side elevation of a gun mount constructed in accordance with the invention.

Fig. 2 is a sectional view on the line 2—2 of Fig. 3.

Fig. 3 is a sectional view on the line 3—3 of Fig. 2.

Fig. 4 is a sectional view on the line 4—4 of Fig. 2.

Fig. 5 is a sectional view on the line 5—5 of Fig. 6, and shows a modification of the invention.

Figs. 6 and 7 are sectional views generally on the corresponding lines of Fig. 5.

Referring to Figs. 1 to 4 the gun mount consists generally of a base A, a platform B mounted on the base for leveling movement, a top carriage C rotatable on the platform, a cradle D trunnioned on the top carriage, and a gun barrel E, reciprocally mounted on the cradle.

The base A comprises a somewhat triangularly shaped bottom plate 5, a vertically disposed web 6 adjacent the outer edge of the plate, and a horizontally disposed flange or ring 7 on the upper end of the web 6. The base A is adapted to rest on a support or on the ground and for the latter situation three equi-distantly spaced bearings 8 are provided in the base to accommodate the pivot pins 9 of outriggers 10 (Fig. 1). The base also includes three equi-distantly spaced sockets, two of them designated 11—11, being vertically disposed on the bottom plate 5 and the remaining one, designated 12, being horizontally disposed on the web 6.

55 The leveling platform B comprises a plate 13

having a circular skirt 14 disposed within the base A. A horizontally disposed bearing 15 on the under side of the plate 13 carries a shaft 16 which has on its outer end a ball 17 mounted in the socket 12. The inner end of the shaft 16 extends beyond the bearing to receive a nut 18.

A pair of sockets 19—19 are arranged on the outer side of the platform and are each carried by a bracket 20 fixed to the skirt 14. Each socket 19 carries a trunnioned spherical nut 21 for receiving a vertically arranged screw shaft 22 having on its lower end a ball 23 mounted in one of the sockets 11. Each screw shaft is formed with a non-circular upper end 24 for the application of a tool for rotating the screw shaft. The sockets 19—19 and the ball 17 on the shaft 16 are spaced equidistantly around the platform.

A pin 25 mounted in the skirt 14 oppositely to the shaft 16 has a nut 26 on its inner end and a key 27 rotatably mounted on its outer end rides in a vertical keyway 28 in the base A. This key in conjunction with the ball 17 prevents rotational displacement of the platform B relative to the base A.

The top carriage C has a plate 29 parallel to the plate 13 of the platform B and is supported thereon by means of an anti-friction bearing unit 30 held in position by lugs 31—31 on the two plates. A pintle 32 centrally of the plate 29 is inserted in a bearing 33 in the plate 13. A plurality of retaining members 34 are attached to the top carriage and each has a bent lower end 35 disposed underneath the edge of the plate 13.

In order to carry out the purpose of a low mounting, the top carriage extends to one side of the base A to receive the trunnions 36 of the cradle D which, in the horizontal position, extends on the other side of the base. The cradle includes an arm 37 extending rearwardly of its trunnions so that a chain or cable 38 may be attached to its outer end and be connected to an equilibrator 39 carried by the top carriage underneath the cradle.

The gun E when in battery is positioned in front of the cradle trunnions.

The operation of leveling the platform B and the structure carried thereby is easily and quickly performed by acting on one or both of the screw shafts 22.

In the modification shown in Figs. 5 to 7 the base A has three vertically arranged sockets 40 and 41—41, the latter two being similar and positioned at the ends of arms 42—42. A leveling platform b has a depending support 43 with a ball 44 fitted in the socket 40. The platform has a

pair of arms 45—45 overlying the arms 42 and each including a socket 46 with a spherical nut 47 through which passes a screw shaft 48 having a ball end 49 fitted in one of the sockets 41.

- 5 The ball 44 has a keyway 50 arranged parallel to a plane containing both screw shafts. The socket 40 carries a pair of oppositely disposed pins 51—51 and on the inner end of each pin a key 52 is rotatably mounted and rides in the keyway 50.
- 10 This arrangement prevents rotational displacement of the platform *b* while permitting it to be tilted.

- The top carriage *C* is rotatably supported on the leveling platform *b* and has its pintle 53 positioned close to the ball 44 and socket 40 and within the triangle of the platform supports. The center of gravity of the top carriage and its load will therefore be close to the fulcrum or non-elevating support of the platform *b* and the long lever arms between the fulcrum and the screw shafts will facilitate tilting of the platform.
- 20

We claim:

1. In a gun mount, a base having one horizontally disposed and two vertically disposed sockets, a leveling platform having a skirt disposed

within the base, a horizontally disposed shaft carried by the skirt and having a ball end in the horizontally disposed socket, a pair of vertically disposed bearings on the skirt, a spherical nut in each of said vertically disposed bearings, a pair of screw shafts each having a ball end in a vertically disposed socket of the base and passing through a spherical nut, a vertical keyway in the base opposite to the horizontally disposed socket, a key rotatably carried by the platform and working in the keyway, and a top carriage rotatably supported on the leveling platform.

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2. In a gun mount, a base, a leveling platform universally fulcrumed on the base, spaced vertical bearings on the platform, a spherical nut in each bearing, vertical screw shafts each passing through a spherical nut and universally connected to the base, a vertical keyway in the base positioned oppositely to the universal connection between platform and base, a key rotatably carried by the platform and working in the keyway, and a top carriage rotatably supported on the leveling platform.

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