June 7, 1932. G. M. BARNES 1,861,831

GUN MOUNT AND CARRIAGE

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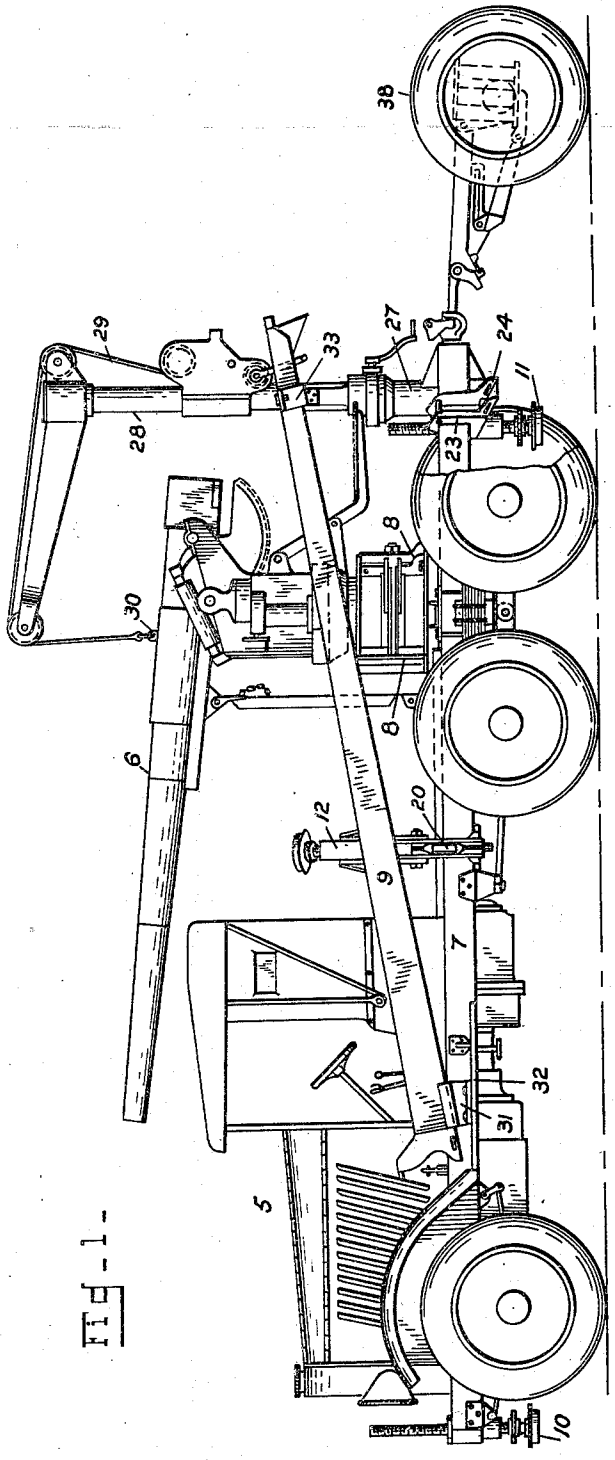


Fig. 1.

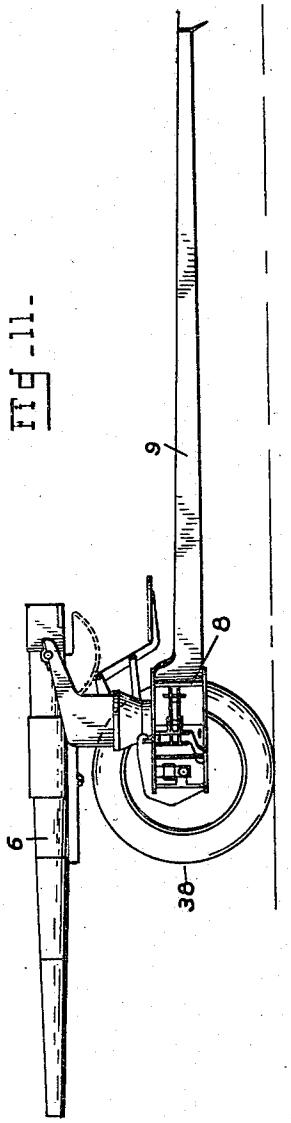


Fig. 11.

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Fig. 2.

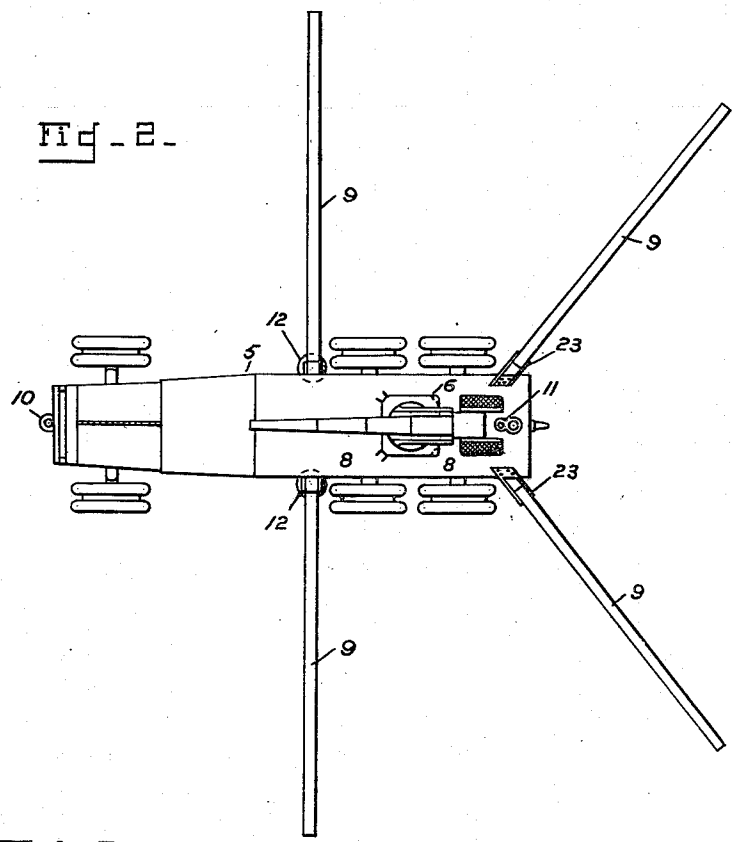
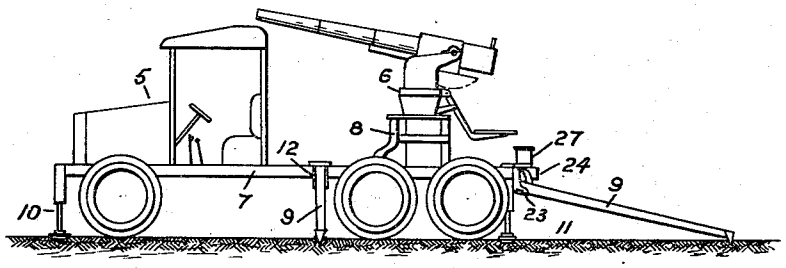


Fig. 3.



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GUN MOUNT AND CARRIAGE

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Fig. 4.

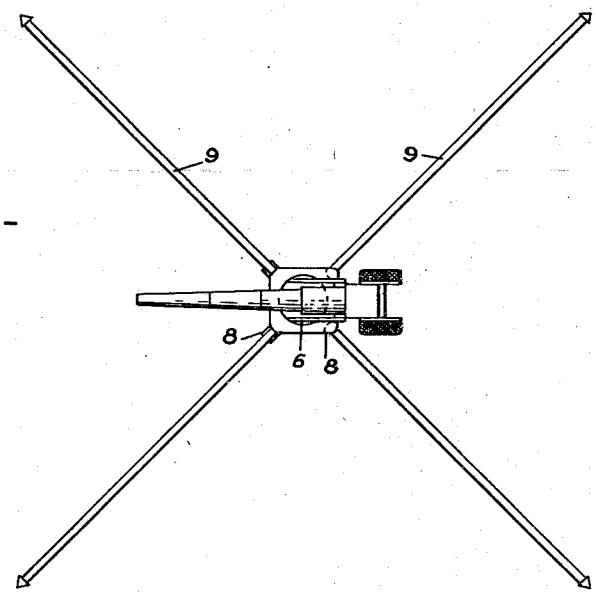


Fig. 5.

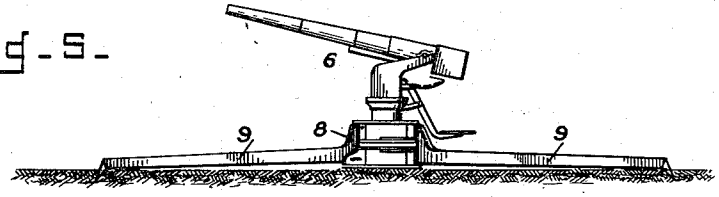


Fig. 6.

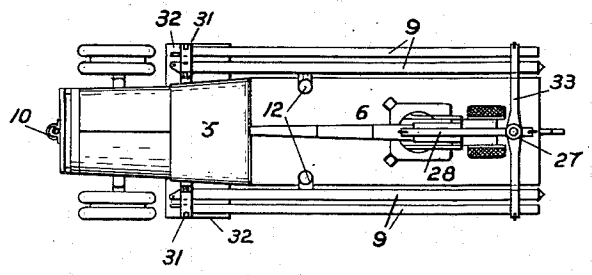


Fig. 8.

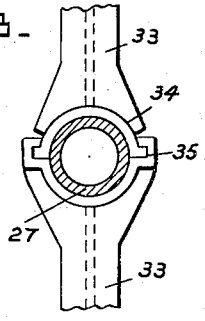
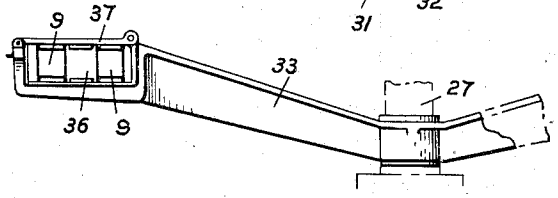


Fig. 7.



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Fig. 9.

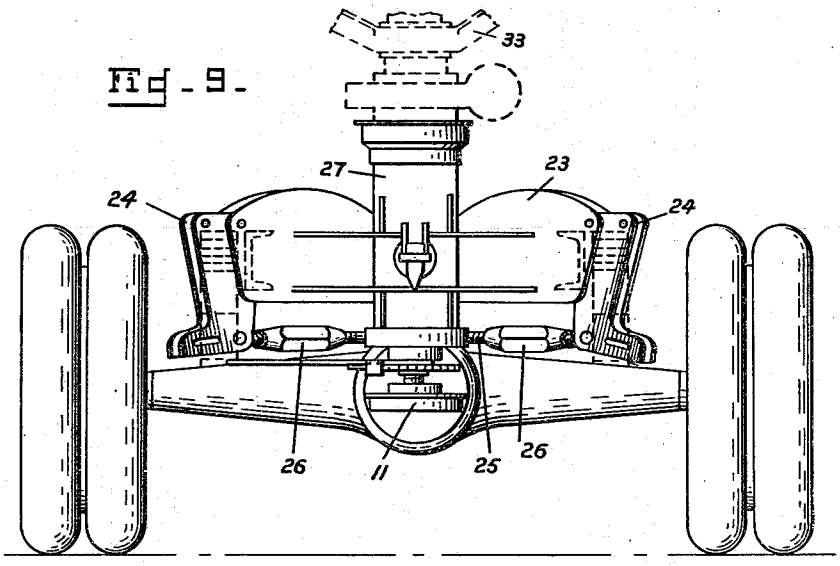
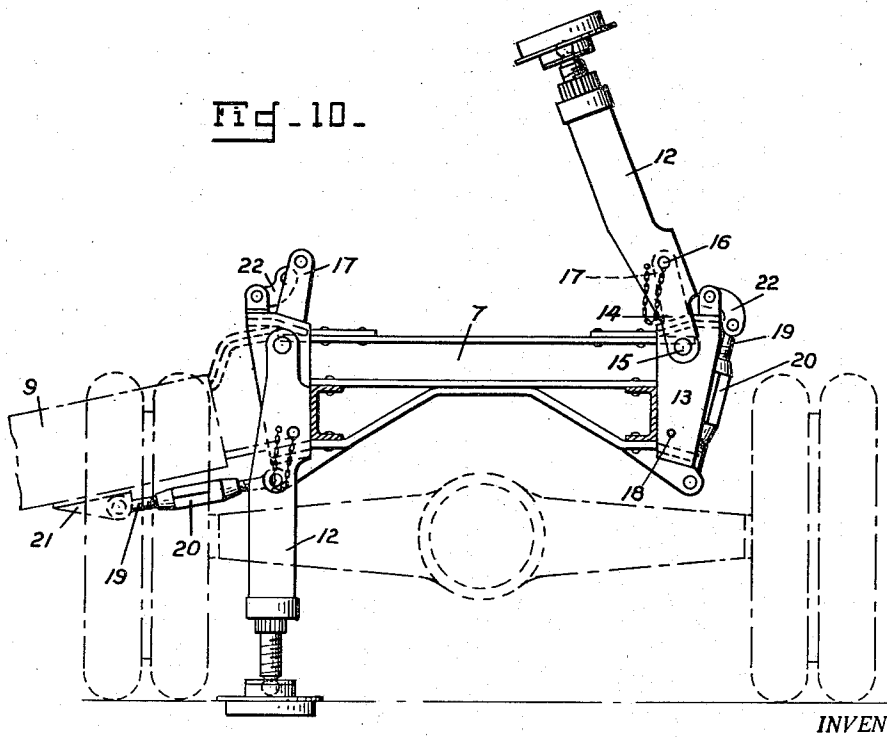


Fig. 10.



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Patented June 7, 1932

1,861,831

UNITED STATES PATENT OFFICE

GLADEON M. BARNES, OF THE UNITED STATES ARMY, HASTINGS, MICHIGAN

GUN MOUNT AND CARRIAGE

Application filed April 16, 1931. Serial No. 530,585.

(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 me of any royalty thereon.

The subject of this invention is a gun mount and carriage and is a continuation in part of application Serial No. 480,670, filed September 9, 1930.

In the prior application there is disclosed a combination gun mount which is designed primarily as a light field artillery weapon on a mobile carriage but is also capable of being emplaced as a semi-fixed platform for the purpose of delivering fire at aerial targets.

In the present application there is shown a further method of both transportation and emplacement, the elements provided for emplacement of the gun mount proper being also adapted to emplace the carriage.

The invention consists essentially in providing a prime mover adapted from a standard automobile chassis. The chassis carries a pedestal gun mount, a hoist for lowering and raising the mount to and from the ground, and means whereby it may be emplaced when the gun is to be fired from the chassis as a platform.

With the foregoing and other objects in view, the invention resides in the novel arrangement and combination of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

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

Fig. 1 is a view in side elevation of the improved gun carriage shown in the travelling position.

Fig. 2 is a plan view of the vehicle emplaced for firing.

Fig. 3 is a view in side elevation of Fig. 2.

Fig. 4 is a plan view of the pedestal gun mount emplaced on the ground.

Fig. 5 is a view in side elevation of Fig. 4.

Fig. 6 is a more or less diagrammatic plan view of Fig. 1.

Fig. 7 is a fragmentary view in rear elevation of the yoke for supporting the outriggers.

Fig. 8 is a plan view of the hub of the yokes.

Fig. 9 is a view in rear elevation of the chassis shown in Fig. 1.

Fig. 10 is a transverse sectional view through the chassis showing the side jacks in elevation.

Fig. 11 is a view in side elevation showing the gun mount trailed as a two-wheeled gun carriage by the prime mover.

Referring to the drawings by numerals of reference:

There is shown a vehicle 5 which is a standard commercial automobile chassis preferably having a four-wheel drive. A pedestal gun mount 6 is placed on the frame 7 of the chassis directly above the rear wheels and may be secured to the frame in any convenient manner. The gun mount 6 is identical with the one shown in the original application for patent and for the purpose of the present description it is sufficient to identify only the sockets 8 that are provided at the four corners of the base of the pedestal to receive the outriggers 9.

The frame 7 carries a front jack 10, a rear jack 11 and two side jacks 12—12 positioned intermediate the length of the vehicle. The side jacks 12 have a special mounting (Fig. 10) each being associated with a socket member 13 adapted to receive one of the outriggers 9. The jacks 12 include a pair of spaced arms 14—14 embracing the socket member 13 and attached thereto adjacent the upper end by means of a pivot pin 15. In the travelling position the jack is swung up and over the frame and held in an elevated position that is convenient for subsequent lowering by means of a pin 16 passing through the jack and a bracket 17 on the socket member. In the emplaced position with the jack lowered onto the ground the pin 16 is reemployed and passed through the jack and an aperture 18 in the socket member 13 to immobilize the jack.

On the under side of the socket member there is pivotally secured a rod 19 adjustable as to length by means of a turnbuckle 20. In the emplaced position the free end of the rod is attachable to a bracket 21 on the under side of the outrigger, and serves to tie the outrigger to the vehicle. In the travelling position the rod 19 is swung up and connected to a short link 22 on the upper end of the socket member.

On each corner of the rear end of the chassis (Figs. 1 and 9) frame there is a bracket 23 pivotally carrying an adapter 24 forming a socket for receiving one of the outriggers 9. These adapters conform to the sockets 8 on the forward side of the base of the pedestal mount as clearly shown in Figs. 2, 3, and 5, so that they may receive the corresponding outriggers. A rod 25, adjustable as to length by means of the turnbuckle 26, is attached to the frame and is securable to the lower portion of the adapter. When the outrigger is fastened to the adapter, the rod 25 serves to tie the outrigger to the vehicle.

Referring to Figs. 1 and 9 a standard 27 is mounted centrally on the rear end of the chassis frame, and carries a hoist 28 which may be lifted out and removed when the gun is to be fired from the vehicle as shown in Fig. 3. The cable 29 of the hoist is engageable with an eye 30 on the gun whereby the gun mount 6 is lowered and raised to and from the ground.

In the travelling position a pair of outriggers are disposed on each side of the vehicle (Figs. 1 and 6). The forward ends of the outriggers are slidably received in a guide block 31 on the running board 32 and the rear ends are supported by an arm 33 carried by the hoist 28. As seen in Figs. 7 and 8 the two arms 33 constitute a yoke whose hub is formed by half-bearings 34 on the arms 33. A tongue and groove connection 35 between the half-bearings serve to support the arms on the hoist and permits ready removal of the individual arms from the hoist.

The outriggers fit into a recess 36 in the outer extremity of the arm 33 and are confined by a pivoted strap or cover 37 which may be latched in any suitable manner.

In Fig. 1, there is shown a trailer comprising a bogie 38 which may be used to carry the pedestal gun mount 6 (Fig. 11) in the manner specifically described in the original application for patent previously referred to. In employing the trailer a pair of the outriggers 9 are secured to the gun mount and employed as a draw-bar for connection to the prime mover. The remaining two outriggers are available to form a platform underneath the mount when it is to be fired without removing the bogie 38.

By providing several methods of transportation and emplacement of the gun mount, the weapon may be employed against both ground and aerial targets. It is capable of being rapidly moved on good roads and inasmuch as endless tracks have been adapted to the pneumatic wheels of the commercial truck, they can be carried on the frame 7 and applied when it is necessary to travel off of the road. While guns have heretofore been mounted on prime movers that could be emplaced by means of jacks and outriggers, the particular arrangement provided was not conducive to rapid manipulation of the emplacing means and stability was seldom obtained.

I claim.

1. A gun carriage including a vehicle, a jack at the front, rear and each side of the vehicle, outriggers attachable to the sides and the rear corners of the vehicle, a pedestal gun mount carried by the vehicle, means on the gun mount for attachment of the outriggers, a hoist removably mounted on the vehicle, and means for carrying the outriggers on the sides of the vehicle when in travelling position.

2. A gun carriage including a vehicle, a jack at the front, rear and each side of the vehicle, outriggers attachable to the sides and the rear corners of the vehicle, a pedestal gun mount carried by the vehicle, means on the gun mount for attachment of the outriggers, a hoist removably mounted on the vehicle.

3. A gun carriage including a vehicle, a jack at the front, rear and each side of the vehicle, outriggers attachable to the sides and the rear corners of the vehicle, a pedestal gun mount carried by the vehicle, means on the gun mount for attachment of the outriggers.

4. A gun carriage comprising a vehicle, means including outriggers for emplacing the vehicle, a gun mount on the vehicle having provision for utilizing the outriggers when the mount is placed on the ground, and a hoist for lowering and raising the gun mount to and from the ground.

5. A gun carriage comprising a vehicle, means including outriggers for emplacing the vehicle, a gun mount on the vehicle having provision for utilizing the outriggers when the mount is placed on the ground.

6. In a vehicle, a jack carried by the frame of the vehicle at the front, rear and each side, outriggers attachable to the sides and the rear corners of the vehicle, and a gun mount on the vehicle.

7. In a gun platform, a socket member fixed to the platform, an outrigger receivable in the socket member, a tie-rod connecting the outrigger and socket member, a jack pivotally carried by the socket member, and means for immobilizing the jack relative to the socket member in a raised and a lowered position.

8. A gun platform, a socket member fixed to the platform, an outrigger receivable in

the socket member and a tie-rod connecting the socket member and the under side of the outrigger.

9. In a gun platform, a socket member, a jack including a pair of spaced arms embracing the socket member, a pin pivotally connecting the arms to the socket member, and a second pin for connecting the jack to the socket member in two positions of adjustment.

10. In a gun carriage a support comprising a standard, a pair of arms each having a half-bearing engageable with the standard, elements of a tongue and groove connection on the half-bearings, and means on the arms for receiving a member to be carried.

11. In a gun carriage, a support comprising a standard and a pair of arms having slidably interlocked half-bearings engageable with the standard.

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