Dec. 30, 1958 S. HERSH 2,866,384

COMBINATION OF HEDGEHOG PROJECTOR AND GUN MOUNT

Filed April 16, 1953 2 Sheets-Sheet 1

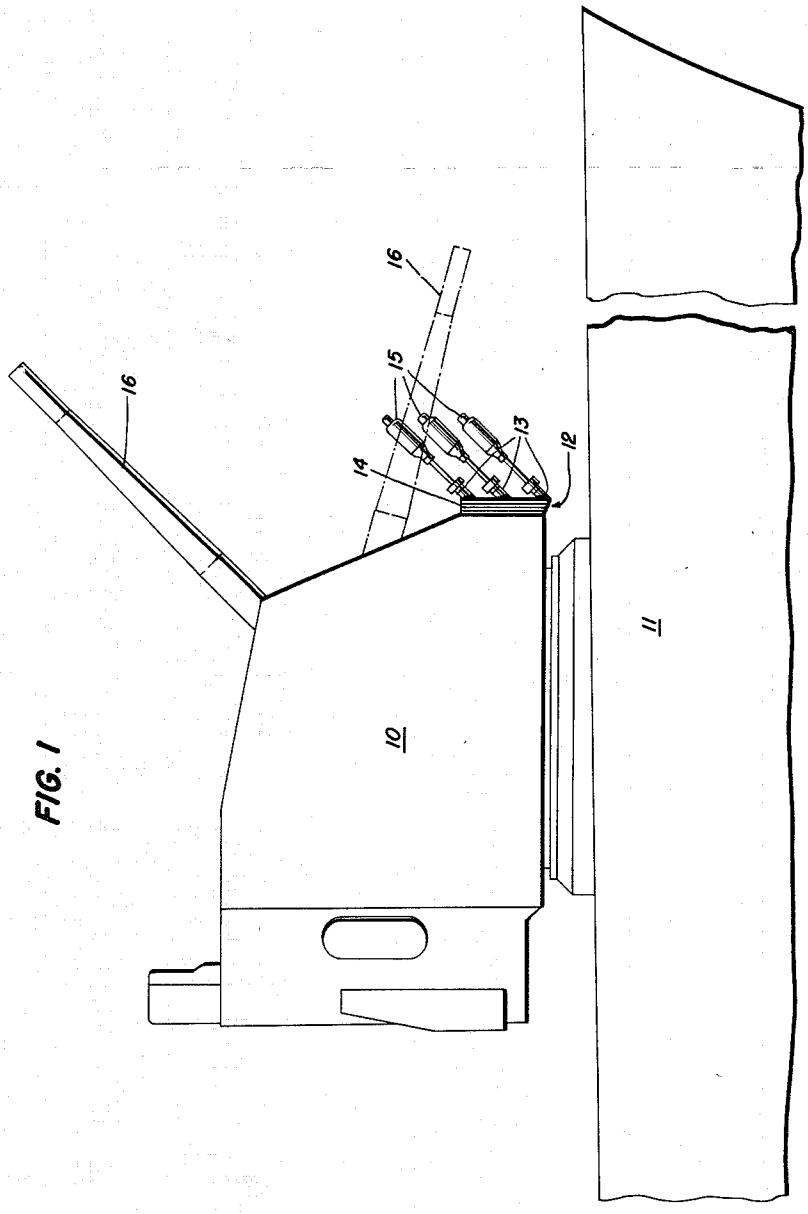


FIG. 1

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2 Sheets-Sheet 2

FIG. 2

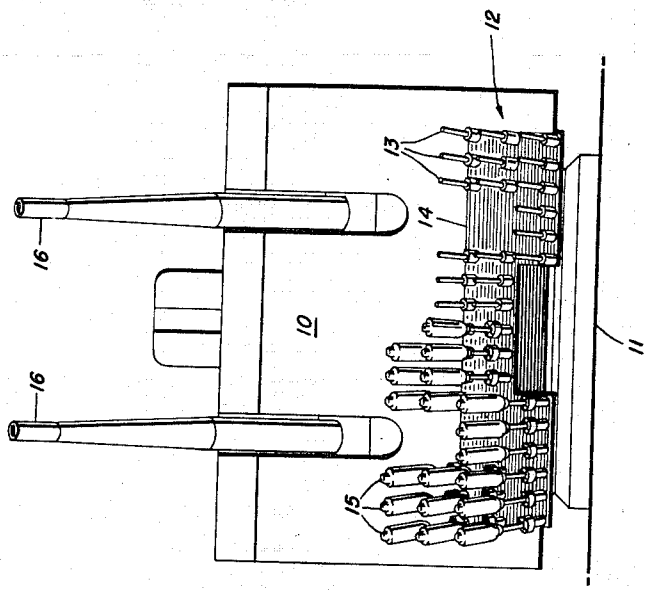
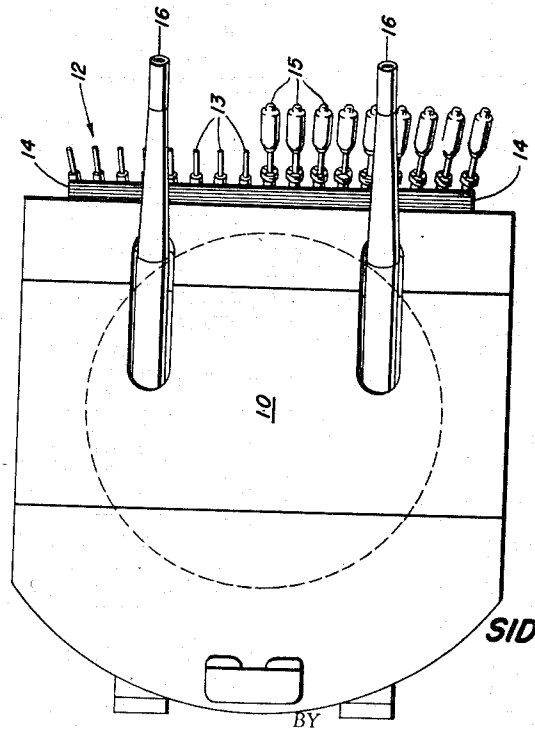


FIG. 3



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COMBINATION OF HEDGEHOG PROJECTOR AND GUN MOUNT

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Application April 16, 1953, Serial No. 349,330

3 Claims. (Cl. 89—1)

(Granted under Title 35, U. S. Code (1952), sec. 266)

The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

The present invention relates to missile launchers and more particularly to a launcher of the hedgehog projector type constructed in such a manner that it may be installed on a gun mount.

Heretofore missile launchers of the charge projector type such, for example, as the hedgehog projector have been mounted substantially flush or parallel to the deck of a vessel. Such a mount required the sacrifice of a considerable amount of deck space for the accommodation of all the projector mechanisms, which space, if released, could be utilized for other purposes. Moreover, such a manner of mounting the projector resulted in either the requirement of maneuvering the vessel in order that the charge projectors could be trained on a target or, in the alternative, the use of a heavy, trainable installation designed specifically and solely to accommodate the hedgehog projector type of missile launcher. In those installations which have required a maneuvering of the ship in order to train the launcher, it has been found that training operations were extremely slow, and particularly so when the mount was installed upon a large vessel. Consequently, this type of mount has not been considered to be satisfactory.

The present invention avoids the disadvantages of the hedgehog projector and mount combinations in prior use by providing an explosive charge projector of the hedgehog projector type which may be installed on the trainable mount of a deck gun thereby releasing the deck space and weight which would otherwise be occupied by the projector and training mechanisms. In addition, the combination of the present projector and trainable gun mount provides an extremely rapid method of orienting and stabilizing the projector mount in respect to the target.

With the foregoing in mind it is an object of this invention to provide a hedgehog projector gun mount combination whereby the hedgehog projector may be quickly oriented and stabilized relative to the target without altering the course of the vessel.

Another object of the present invention resides in the provision of a hedgehog projector which requires no deck space for mounting purposes.

Another object resides in the provision of a trainable and stabilized hedgehog projector which adds less to the total load of the vessel than conventional projectors of the same type.

An additional object is the provision of a trainable hedgehog projector which requires no training mechanism other than that normally provided for a deck gun.

Yet another object of this invention is to provide a quickly trainable and stabilized hedgehog projector which does not require a separate training and stabilizing mechanism individual thereto.

Still another object resides in the provision of a dual

purpose weapon capable of simultaneously delivering both area and precision fire upon the same or different targets.

Other objects and many of the attendant advantages of this invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings wherein:

Fig. 1 is a side elevation view of the hedgehog projector installed on a gun mount in accordance with the present invention;

Fig. 2 is a front elevation view of the combination hedgehog projector and gun mount of Fig. 1, some of the spigots being shown without charges to better illustrate the manner in which the projector cooperates with the gun barrels when the latter are in a depressed position; and

Fig. 3 is a top plan view of the combination hedgehog projector and gun mount as contemplated by the present invention.

Referring now to the several figures of the drawing wherein is disclosed a gun mount generally designated by the reference numeral **10** rotatably mounted upon deck **11** and is thereby trainable in azimuth with respect to the deck.

It will be understood that the inventive concept herein disclosed of a combination hedgehog projector and gun mount is not limited to the type gun mount disclosed but is applicable in connection with any gun mount that is trainable in azimuth, has adequate strength for sustaining the firing load of the projector, and has a sufficiently large available surface to which the projector may be attached.

Similarly, the invention is not confined to the type of missile launcher disclosed, it being understood that any type of missile launcher which may be fired from a gun mount or a mount of any other weapon may be employed as herein disclosed. One projector which has been found to be satisfactory is that disclosed and claimed in the copending application Serial No. 302,284, filed August 1, 1952 in the names of Charles A. Johnstone, Sidney Hersh, Marvin H. Meekins and Larry Shiller. Further details of the specific structure of the charge projector illustrated therein is deemed unnecessary in the present application.

The projector **12** disclosed herein as illustrative of one manner in which the present invention may be practiced includes a plurality of spigots **13** mounted at approximately a 45 degree attitude in respect to the deck and mounted so as to effect a divergence or convergence of the trajectories of the various charges fired depending upon the explosive pattern on the surface of the sea desired to be obtained.

As is well known, the gun mount **10** customarily is provided with front shield plates (not shown) which form part of the mount armament. Such shield plates may be removed and the beam structure **14** which forms a mounting base for the spigots **13**, may be substituted for the shield plates. In this manner, beam structure **14** functions not only to support spigots **13** but also to act as a shield in substitution of the removed shield plates. It will be apparent that the beam structure **14** imposes the firing load of the spigots **13** and the charges **15** impaled thereon directly onto the existing strong points of the gun mount carriage.

When it is desired to train the projector on a target, it is only necessary to move the gun mount **10** by actuating the train power drive therefor (not shown) to thereby train the gun mount on the target without necessitating an alteration in the heading of the ship. Not only may the projectors be fired to cover an area target but the guns **16** may also be fired simultaneously therewith or at an earlier or later time. The present invention,

therefore, serves to convert a conventional gun mount and its associated armament into a dual purpose weapon which may be employed for simultaneously effectuating precision and area firing techniques. At the same time a substantial weight saving in the total load of the ship is accomplished and a considerable area of deck space is made available for other important purposes such, for example, as the installation of additional weapons and/or armament.

The firing circuit which forms no part of the present invention may include an interlock to prevent firing when the gun barrels 16 are depressed below a safe position.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. A trainable mount for supporting a plurality of elevatable guns and comprising a front plate, a portion of said front plate being vertically disposed and located at a trainable lower front edge portion of the mount, an armored beam structure rigidly carried by said portion of said front plate and extending transversely thereacross and substantially the entire width thereof, a plurality of spigots for charge projection therefrom spaced vertically and horizontally with respect to one another in a substantially uniform pattern of a generally reclining E-shaped configuration and rigidly mounted on said beam structure with the discontinuities in the mutual spacing thereof providing for elevational and depressional movement of said guns, said spigots being positioned at an angle of substantially 45 degrees with the plane of the beam structure.

2. A trainable mount for supporting a pair of spaced elevatable gun barrels and comprising a front plate, a portion of said front plate being located at the lower front edge portion of the mount, a vertically disposed armored beam structure rigidly carried by said portion of said front plate and extending transversely thereacross and substantially the entire width thereof, first, second, and third groups of spigots disposed in a reclining E-shaped configuration for supporting and launching charge projectiles, the spigots in each group being vertically and horizontally spaced in relation to one another, said first and third groups being rigidly mounted on opposite end portions of the beam structure, and the second group being rigidly mounted on the intermediate portion of the beam structure and transversely spaced from the first and third groups to permit entry of the gun barrels when said barrels are depressed in elevation.

3. The trainable mount of claim 2 wherein each of the spigots of each of the groups are positioned at an angle of 45 degrees to the surface of the beam structure.

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Disclosure of 4.5 inch rocket launcher T–34 on page 186 and of 7.2 inch rocket launcher M–17 on pages 192–193 of "Weapons of World War II," Barnes, copyrighted in 1947.