

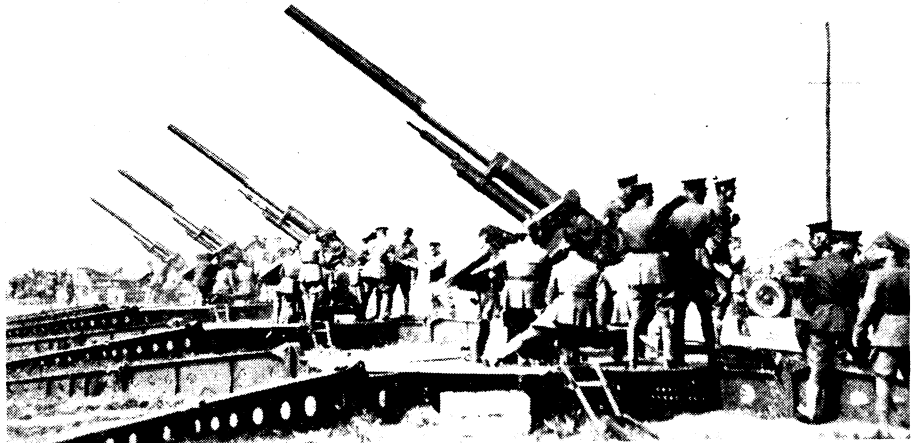
New Mobile Antiaircraft Gun Mount

Aviation—Ordnance

A new type of mount for anti-aircraft guns, which will be practically as mobile as ordinary field artillery carriages and yet as solid and stable a firing base as the concrete foundations now necessary, is being tried out at the Aberdeen Proving Grounds. Ordnance officers declare themselves very well satisfied with the new device, whose existence has only recently been made public, after more than a year of secret preliminary work.

The mount is a radical departure from the wheeled types of mount hitherto tried for anti-aircraft artillery. These shook and shifted so much under the stress of firing that they were all discarded as of no value. The new mount consists of four long steel beams that lie flat on the ground, spreading out from the gun platform at their center like the legs of an enormous insect. Each leg is jointed, and is pivoted at the point of attachment to the gun platform, so that it can be folded compactly alongside it, and the whole lifted on rubber-tired wheels to be towed by a tractor or truck.

The mount can be prepared for action from march order in about ten minutes, and restored to march order in little more than the same time. Concrete gun foundations, the only other type giving comparable



NEW MOBILE GUN mount, as used with a battery of anti-aircraft guns at the Aberdeen Proving Grounds, in Maryland. Note the folding spider-like legs, projecting from each corner, which stabilize the mount

stability under firing conditions, require several days for their preparation.

The gun used on the new mount is the recently adopted standard three-inch Army antiaircraft piece, which throws a 15-pound shell to a height of 12,000 yards and an extreme horizontal range of 19,000 yards. Crack gun crews have worked up a firing speed of 30 rounds a minutes with this gun, thus enabling a battery of four pieces to attack a plane with something over a quarter of a ton

of steel and TNT in the space of a minute.

A feature of the new gun is the easy removability of the liner or inner tube when it has become worn out with constant firing or otherwise damaged. The old liner can be taken out and a new one slid into place, under field conditions, in about 30 minutes. This will enable a battery to keep the field constantly, avoiding slow and costly returns to the arsenal for relining.

Science News-Letter, October 20, 1928

Americans Furnished Fuel for Zeppelin

Aviation

Three thousand cylinders of special gas fuel for the German dirigible Graf Zeppelin were provided at Lakehurst, N. J., to fuel the ship for its return voyage across the Atlantic.

Unlike the Blau gas fuel that the airship used on its voyage to America, the million cubic feet of American product is made from fractionated natural gas and is a synthetic mixture of ethane, about the density of air, methane, lighter than air, propane and butane, both heavier than air. These gases are carefully proportioned until the resulting mixture has a density of 1.05, only slightly heavier than air. Arrangements for the supply of this gas by a Louisville, Ky., concern were made by the U. S. Navy as an act of courtesy to the German ship which is the guest of its sister, the dirigible Los Angeles, in its large two-berth hangar at Lakehurst.

Both the German Blau gas, so-called

because it was first made by a German by that name, and the American substitute, allow the dirigible to carry fuel which adds practically no load and does not make the ship lighter when it is burned, since it is nearly the weight of air. The fuel gas is carried in extra ballonets at the bottom of the giant envelope.

Blau gas is made by the distillation or cracking of gas oil, one of the heavier constituents of the refining of petroleum. In Germany it is obtainable commercially for heating and illuminating purposes and a plant is located at Friedrichshafen, the home port and place of manufacture of the Graf Zeppelin.

The use of air-weight gas fuel eliminates the necessity of a water-recovery apparatus such as devised by American government engineers for the conservation of weight on the dirigible Los Angeles. Any fuel when

burned produces water by the union of the hydrogen of the fuel and the oxygen of the air and as this water is about equal in weight to the fuel consumed, it will maintain equilibrium of the ship if it is condensed from the exhaust gases and conserved. Such water recovery has worked successfully on the dirigible Los Angeles and it will be a question for future experience to determine which system will be used on the dirigibles of the future. Not all the fuel of a trip can be carried in the form of fuel gas, however, and Graf Zeppelin relies largely on gasoline as the hundred or so Zeppelins did before her.

Science News-Letter, October 20, 1928

In law courts of medieval London a group of ruffians might be sentenced to hang, not for any specific crime, but because they were notorious thieves.