

GUNNER'S BUGLE CALL FOR DINNER.

LEARNING TO SHOOT.

Uncle Sam's Marine Gunners Are Carefully Trained.

The gunner on the modern warship must be a man of education. He must be an engineer, a mechanic, a mathematician, a logician, as well as a marksman.

In the recent explosion of a gun aboard the battleship Missouri, as also in the disasters to the Russian fleet, where crews blew up their own ships with their own mines, one may see how necessary it is that the marine gunner of to-day should serve a long and exacting apprenticeship. He must be able not only to sink his enemy, but also to prevent being sunk himself.

Carefulness, therefore, is the first law of the gunnery schools which this government has established, and since the Missouri catastrophe the United States naval instructors have laid stronger emphasis than ever on this fundamental precept. For example, an apprentice is not even permitted to scour the brass works in a gun turret with a gritty substance, unless under special order, lest he may leave some grains behind which under friction would generate a spark and perchance blow up a gun crew by igniting a loose charge of powder.

Here is the exact language of the rule:

"Emery, brick dust and gritty substances are not to be used on any part of the mechanism (of a gun) except by trained men when ordered to do so."

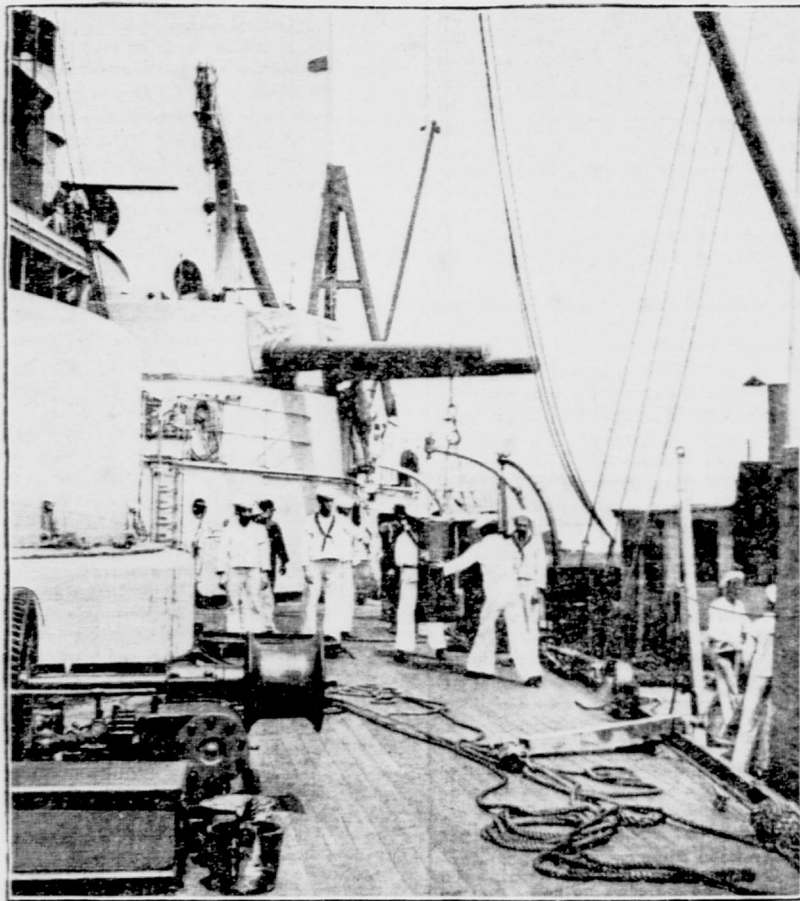
Before a gunner is permitted to fire cannon he is required to spend seventeen weeks in study. He is not even allowed to handle a piece of ordnance until he has learned all its various parts and their uses. He must keep aloof even as an infant from a box of matches. Not until he knows its chemical ingredients, its peculiar characteristics, its ignition point, its manner of explosion, is he allowed to touch a grain of powder.

Despite the perils which attend the handling of cannon, more American sailors to-day than ever before are ambitious to become gunners, or "gun pointers," as they are technically called. A natural enthusiasm among the men has been intensified by a recent order that a first class gun pointer for one of the larger size guns be allowed \$10 a month in addition to his regular wages, and that other gunners shall receive proportionate extra pay. Prizes are also offered the champion gun pointers of a ship, as the result of official tests of marksmanship.

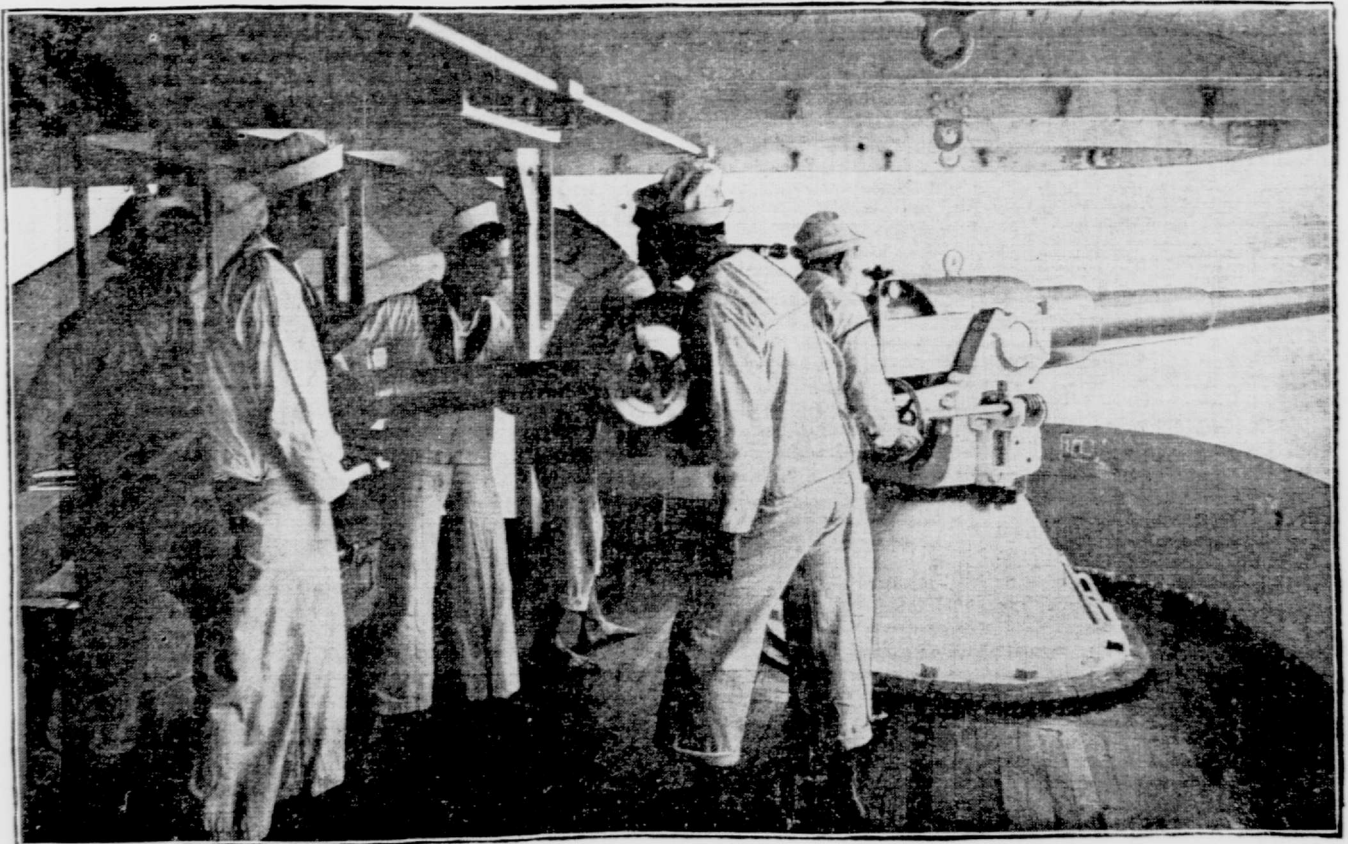
Whatever may be a sailor's station aboard ship—whether he be an officer or a plain seaman—he may be admitted to a school for gunnery, if he has a good record and shows himself fitted for the work. He must have proved himself a good shot with the rifle or other small arms. He is then sent to the ordnance shops at Washington, where he begins a study of the very rudiments of the gunner's art. For instance, an instructor takes a class of twenty-five apprentices for a lesson on the "general description of ordnance." He brings before his class a breech-block of a one pounder Hotchkiss, a four inch cartridge, a blue print of a breechloading rifle, and a field gun. Taking the field gun, he explains in detail such parts as the "breech," "muzzle," "bore," "chase," "trunnions" and "rifling." He will also take up the subject of calibre, which he says expresses the length of a gun. To find out the length, he will say, multiply the calibre by the diameter of the bore. Thus a six inch gun of 40 calibres is twenty feet long.

The first half of each classroom hour is used by the teacher for such demonstrations, then the pupils ask what questions they please, and afterward he asks them questions. Every Monday morning the class is examined on the work of the preceding week; which is by no means small, for the student is required to "stay at it" six days a week, from 8 a. m. to 4:15 p. m., with only a short respite for luncheon.

The blackboard is an important factor in



LOADING AMMUNITION ON A WARSHIP.



TARGET PRACTICE ON A WAR VESSEL.

teaching a novice the theory of gunnery. He must indeed turn artist frequently and draw such pictures as that of a projectile being discharged from a gun and its course through the air. In this way he learns how the motion of the shell is affected by the resistance of the air, the force of gravity and the rifling of the gun. A six inch shell, for instance, which leaves a gun at a rate of 2,500 feet a second, is so impeded by the air that it goes only 2,300 feet in the first second, and in that length of time it drops 16 feet.

For the purpose of training the gunners still more thoroughly in the mechanism of guns they are put to work in the shop where ordnance is made. For instance, a pupil may be assigned to construct a miniature gun, so that he must procure the metal from the foundry himself and cast the mount. In this way he familiarizes himself with the machines in the shop, the lathes, shapers and milling machines. He is also required to take a huge gun entirely apart and then reassemble the pieces. He is taught to draft sections of ordnance on blue prints, so that he learns something of the profession of a naval architect. At the end of his first four months he is expected to go into a shop and reproduce any section of a gun that has been broken.

After completing such a course of study devoted to the gun, the apprentice is required to spend three or four months in learning how to handle high explosives. This part of his training is given him at Newport. He is taught all the secrets of the submarine mine, which also makes necessary his mastery of the first principles of electricity. He learns, too, the peculiar dangers of the three chief kinds of powder used in the navy, how black and brown powder leave a refuse in the gun which must be swabbed out with great care, how smokeless powder gives 25 per cent more velocity to a projectile, and how it ignites at 200 degrees less heat than the other powders, but is less susceptible to friction.

So it happens that when a youth has been graduated at a gunnery school he can do almost everything with a big gun except shoot. Even after graduation he is not permitted to fire full charges of ammunition at first, but he obtains experience as a marksman by what is called sub-calibre practice. An ordinary rifle is fastened to a big piece of ordnance, so that the bores of both are parallel, and he fires the small bullets at a miniature target, although using the sights and firing mechanism of the big gun.

He spends several weeks aboard such a training ship as the Amphitrite at such practice, and later when he is assigned to a warship he is made gun pointer of one of the ship's guns. To this particular cannon he must stick. He is expected to become as much a part of it as its sight or firing string. He must learn its individual traits, for every gun has its own personality. And then, finally, when his superior officers regard him eminently trustworthy and experienced, he is allowed to participate in the manoeuvres, such as were recently held at Pensacola, Fla. Then at last he handles his gun as in actual war.

A SEASONED RUSTIC.

The young daughter of a prominent New-York financier, who had passed most of her years either in the city or at the large summer resorts, recently paid her first visit to a real country home. She was anxious to show that she was not altogether ignorant of rural conditions, and when a dish of honey was set before her on the breakfast table she saw her opportunity.

"Ah," she observed, carelessly, "I see you keep a bee."—(Harper's Weekly.)