

mour and its penetration by projectiles. They should be thoroughly conversant with all service ordnance, ammunition and machines. They should be able to shift a gun of any size from anywhere to anywhere else, and I may mention that every British gun in the world, mounted on shore, from the 100-ton guns downwards, has been mounted by the men of the Royal Artillery working under their own officers. Drill, discipline, interior economy, military law, fortification and tactics I need hardly allude to, as with us they are compulsory subjects.

Now we come to the men. They should be of good physique, strong and capable of hard work such as lifting heavy weights, hauling on ropes, etc. The standard of height and chest measurement of the men of the Royal Garrison Artillery is higher than that of any other dismounted troops in the British Army excepting the Foot Guards. They should be educated and of sufficient general intelligence to be fit to learn their trade, viz.: the service of heavy artillery in all its branches. The duties of a modern Garrison Artilleryman are: first and foremost he must be a *gunner* which means that he must not only be proficient in gun drill but must have a knowledge of "elementary" drill in moving ordnance, the preparation of guns for action, their stores, nomenclature and use, the use of tangent scales, sights, the deflection leaf and clinometer, he must be able to lay a gun and be acquainted with the rules for giving deflection, he must know the various kinds of projectiles, their use construction and effect, also the use of gas checks and how to bore and fix fuzes. He must be able to head and unhead powder barrels, knot, reeve and unreeve tackle, and use and apply the same. He should understand gunnery terms and definitions, the cleaning and lubricating of machinery, the working and care of hydraulic jacks, the method of arrangement of contents of shell stores, and cartridge stores, and the rules for the ventilation of the latter. These by the R. A. Standing Orders are considered the ordinary duties of a gunner, but besides these, men have to be trained as signallers, clerks, boatmen, smiths, wheelers, laboratory men, lacquerers, painters, etc., and now a days we have trained layers, range finders, position finders, machinery gunners, telephonists, telegraphists, electricians, photographers, and printers.

EFFICIENCY HOW TO BE OBTAINED.

After hearing such a category of requirements as I have given you, you may well ask how is it possible to obtain such a degree of efficiency? The only way to do it is for both officers and men to devote themselves studiously and rigorously to a routine of drill, instruction, and study in purely Artillery subjects—in plain English to stick to their own job. Gun drill is 'par excellence' the drill of an Artilleryman, and much time and preference should be given to it. Some authorities think the Garrison Artilleryman's carbine (or rifle) should be taken away from him altogether. The annual gun practice is the most important exercise that Artillerymen perform, a liberal allowance of ammunition should be granted for it, and what is not required for elementary or service practice should be fired under service conditions. A successful practice is the proof that a commissioned officer has thoroughly instructed his Battery in gun drill and gunnery. The next most important event in the Garrison Artilleryman's year is the annual five weeks course of instruction and re-drill, which every officer, non-commissioned officer and man should attend. Pecuniary inducements towards individual improvement should be offered, and in the Royal Artillery men get extra pay for being Position Finders Range Finders and Gun Layers. "First-class gunners" also derive certain advantages as regards paid employment. Examinations for promotion should be compulsory for all ranks. Manning of forts by day and night should be frequently practised. There should be a sufficiency of instructional appliances of the most recent pattern. At every Artillery Head Quarters there should be a well equipped drill shed containing a specimen of every gun in the District, also a well stocked model room. Charts, maps, photograph books of foreign men-of-war; descriptive books of the same, and drawings and plates of all Artillery material should be supplied. There should be an Artillery College and a School of Gunnery for the better instruction of all ranks. Reverting once more to drill by the Queen's Regulations, Battalion movements for Garrison Artillery have been abolished except as much as is absolutely necessary for marching past, and it is to be hoped that the

day is not far distant when the G.O.C. will make his annual inspection of the Garrison Artillery when manning a Fort and fighting its guns under service conditions instead of seeing it paraded as a battalion of infantry on the barrack square. I will conclude my lecture by quoting what Lord Harris' Committee said on this subject two or three years ago in its report. It said: "The Garrison Artillery should be trained only at their own duties, be inspected only in the discharge of them, and be judged only by their efficiency in them."

Before sitting down I should like to say that if you find the standard I have depicted of modern Garrison Artillery too high a one, I trust you will not be disheartened by any feeling that it is an inaccessible one to you. Believe me, I did not mean to draw any comparisons, but merely to inform you of the scientific state the Garrison Artillery has been brought to by recent inventions, and I thought it might interest you to learn what we are about in the Royal Artillery. A good Artillery corps is one that makes itself thoroughly efficient with the appliances it has, and never loses an opportunity for improvement. In order that a man may show himself to be a great actor on the stage he must first be tried in a leading part. If the St. Lawrence were as well defended as the Thames, the Montreal Garrison Artillery would have as high a role to play in Canada as their comrades of the Royal Artillery in England, and I am sure they would acquit themselves creditably in that, as well as in any other duty they may be called upon to perform for their Queen and country.

By special request of General Herbert I will now make a few remarks on Batteries of Position, the manning of which is a *role* the Montreal Garrison Artillery would be more likely to be called upon to fill than that of defending a coast fortress from an attack by foreign war ships. The armament of a Battery of Position may consist of six 25 pr. R. M. L. guns, etc.

A FEW REMARKS ON BATTERIES OF POSITION. ORGANIZATION.

The armament of one of these Batteries may consist of six 25 pr. R. M. L's., or four 40 pr. R. M. L's., or of four 20 pr. R.B.L's., or of four 40 pr. R.B.L's. The 40 prs. would require 12 horses each, the 25 prs. and the 20 prs. 8 horses. As a specimen I may state that the war establishment of a 25 pr. Battery of Position with 6 guns is:

Officers including Surgeon and Veterinary Surgeon.....	7
N.C.O's. and men, including 10 artificers.....	182
Riding horses	30
Draught "	124
Saddlery (including officers) sets.....	28
Harness, double, sets.....	62
Guns.....	6
Gun carriages.....	7
Ammunition waggons.....	6
Forge and store waggons.....	3

The Battery might either be drawn by Field Artillery horses with service harness or by country horses with cart harness.

TACTICS.

Supposing the Battery of Position to be a unit of an Artillery command told off as part of a force to try to prevent the capture of some important though unfortified point—this city for instance—by a hostile army, the tactics of the Battery would be similar to those of Field Artillery, acting on the defensive and would be somewhat as follows:

The Batteries of Position would take up positions which command the roads by which the enemy must advance, as a rough rule they could be about 500 yards in rear of the foremost infantry.

THE ACTION (DIVIDED INTO FOUR PARTS.)

(1) On the commencement of an action in its initiatory stage they will open fire on any force of the enemy which may be seen, and will endeavor to prevent the infantry from deploying, thereby delaying the development of their attack, which with a large army, if delayed until afternoon, would probably not be delivered that day at all. They will make every effort to crash the attacker's Artillery should it come into action in small bodies. Break up all formed masses of