

little water, may lie in shoal water along the ship channels, thus rendering an approach of the deep draught iron-clads impossible. But, we now propose to go into the deep water with our light draught, low vessels. It needs no demonstration to show that a bold, enterprising commander of a heavily armored ship, with his superior number of men, may board and capture these low decked vessels unless protected by the deck scrapers, the elongated shells which may be instantly exploded whenever required. It is quite true that the deck scrapers are of little utility in monitors with *laminated armor*; since these vessels might be disposed of by their antagonists, by a few well directed rifle shot at convenient range, as demonstrated by the rifle practice at Finspång.

"Our readers who are familiar with the subject are aware that Captain Ericsson's defence of the monitor system, published in this and leading European journals, has been based on the assumption that the turret plating, as well as the side armor, is composed of *solid plates*. We are not aware that any successful demonstration has yet been published disproving this proposition that, for light draught, no other form of iron clad can compete with the monitor. We need scarcely remind our readers that several northern European powers early adopted the monitor system; but the significant fact demands special attention, that the German Empire, with the light of experience and in the face of all objections raised, is now building monitors for its coast defence. In view of the foregoing facts the country, no doubt, expects to be informed of the causes which have operated to induce the Navy Department to abandon the monitor system so far as to deem it unnecessary to substitute solid plating for the inefficient laminated armor. We have no reason to suppose that Congress would have refused to grant an appropriation necessary to procure solid armor, if informed that without it we are unable to make any defence against even a weak enemy possessing iron clad ships and modern rifled ordnance. Unfortunately our opponents understand the matter perfectly well; they know that the heavy ten inch Armstrong rifles of the *Arctics*, at short range, can send their pointed projectiles in at one side and nearly out at the other of our laminated turrets. At long range, the penetration will be sufficiently deep to strew the turret flooring with fragments of broken bolts and plates, as shown by employing moderate charges during the Swedish target practice before referred to.

We strongly recommend the Secretary of the Navy to ask Congress again for an appropriation to put our best monitors in order, stating specifically that it is for the purpose of covering them with solid armor. That Congress is willing to perfect these vessels we infer from a recent grant of \$50,000 merely for a patented plan (Wilmart's) of raising the turrets by hydraulic pressure—more particularly as the plan, was of questionable utility, it having been demonstrated by competent judges to be not only imperfect, but dangerous, on the ground that any defect, the smallest leak, for instance, of the hydraulic apparatus, would render it impossible to turn the turret. \$500,000 would probably supply deck scrapers for this whole fleet of monitors.

A writer in the current number of *Naval Science* mentions as one of the principal means of harbour defence in this country "batteries of guns manned by the Royal

Artillery." Now the fact is, that as matters stand at present we should, in the event of war and a threatened invasion, have comparatively few Royal Artillery available to man our coast batteries, and it is undeniable that we should have to trust mainly to the Militia and Volunteer corps for what may be called the garrison artillery defence of the country. For it must be remembered that in the event of a European war, a large extra force of Royal Garrison Artillery would probably be required for Malta and Gibraltar, and possibly for some other foreign stations. Then the Field and Horse Artillery battalions at home would have to be put on a war establishment, which would be done by filling up the horse from the field, and the field from the garrison batteries. Moreover, it is by no means improbable that one or more new field artillery brigades would be raised, and this would occasion a further drain on the garrison branch of the regiment. According to a recent return, the garrison artillery force in the United Kingdom consists of 8350 Royal Artillery, 13,050 Militia Artillery, and 34,000 Volunteer Artillery. From these figures and from what has previously been stated, it is easy to see, that in the event of war, we should have very few coast "batteries manned by the Royal Artillery"; and it is therefore obvious that the burden of the work would fall upon the Militia and Volunteer Artillery. This circumstance greatly enhances the importance of our auxiliary artillery—that is to say, relatively to the regulars, the auxiliary artillery occupies a more important place in our military system than the auxiliary infantry, because in the event of war, the former will have to act more independently of the regulars than the latter. Such a consideration should prompt the authorities to encourage volunteer artillery corps in every possible manner, and it should also stimulate the members themselves to attain a high standard of efficiency, when they reflect that if their services are ever required for the defence of the country, they will not—like the rifles—be brigaded with regulars, but they will probably be called upon to man some fort entirely by themselves. And, it need hardly be said, that there is no branch of the Service in which Volunteers can become so thoroughly efficient as in the garrison artillery, for its various duties involve on the whole the individual exercise of a larger amount of intelligence than infantry work requires. As regards this qualification, Volunteers, being taken from a higher social class are undeniably superior as a body to the regulars; and, moreover, as artillery exercises do not demand the "wooden wall" rigidity and absolute silence enforced at company or battalion drill they are less irksome to civilians, and, therefore, often more cheerfully and satisfactorily acquired. In view of the very important part which it thus appears, the Volunteer artillery must play in the defence of the country, it might be well for them to be contented with the sphere of duty above indicated, and not aim at distinguishing themselves in field battery work—a branch which, upon the whole, it seems better to leave entirely to the Royal Artillery. As we pointed out in our remarks on the Volunteer's last week, there is a great probability of these valuable troops (the volunteer artillery) being greatly augmented, or very long by the conversion of the rifle volunteers of our maritime districts into artillery. The sooner a movement of this sort takes place spontaneously the more effective will the artillery be when the homeing change takes place.

The foregoing from *Broad Arrow* shows that the opinion with respects to the auxiliary force is undergoing a rapid change in England. It is not over two years since Sir HORSBURY recommended that *volunteer artillery* should be suppressed, and, gave what was then called good military reasons which were endorsed by military organs for the measure. We have always entertained great contempt for opinions advanced in favour of mere specialities, and can only say that at the time we thought the gallant General was altogether awayed by the narrowest of professional idiosyncrasies inasmuch as the training of an efficient artillery man demanded in the recruit more than the ordinary intelligence to be found in the rank and file of an army, and that the volunteer force supplied what was wanting in that particular abundantly. From the foregoing by our contemporary it is evident that this fact has been at last recognized, and that the difficult problem of providing sufficient *gunners* for home defence, is about being solved in a perfectly natural as well as national manner and that the volunteer force of Great Britain will furnish the vast mass of the army of national defence, leaving to the regular forces alone the duty of foreign service. In any future contest it is evident that the services of a much larger body (in proportion to the whole force) of artillery than that hitherto assigned to army corps must be employed, and it would be wisdom to set about training those men in time—moreover actions in the field will be fought with "guns of positions" and not with light field pieces in the manœuvring of which much more cavalry drill is requisite than special artillery knowledge—whereas "guns of position" require all the training and the highest at that of a special arm of the service.

If we do not greatly err the introduction of the "Monierist System of Mounting Ordnance" will so far revolutionize field artillery that there will be two batteries, of guns of position to one of *field artillery* so called, and as the manœuvring of heavy guns require training as well as intelligence the Volunteer Organization at home, and abroad is the proper mode by which a force peculiarly adapted for artillery service can be supplied.

We are indebted to Lt. Col. McPHERSON, of the Militia Department, for a copy of the last published "Army List," Dec. 8th, 1873.

A special despatch to the *Daily Telegraph* from St Petersburg says an article in the treaty between Russia and Bokhara, abolishing slavery, is directly due to the exertions of Secretary Schuyler, and all members of the American legation at St Petersburg.

The financial condition of Flavia is becoming still more unsettled. The trades are striking for payment in gold.