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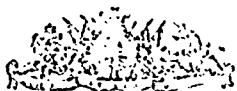
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The Volunteer Review,

AND

MILITARY AND NAVAL GAZETTE.

"Unbribed, unbought, our swords we draw,
To guard the Monarch, fence the Law."

OTTAWA, TUESDAY, JUNE 2, 1874.

TO CORRESPONDENTS.—Letters addressed to either the Editor or Publisher, as well as Communications intended for publication, must, invariably, be *pre-paid*. Correspondents will also bear in mind that one end of the envelope should be left open, and at the corner the words "Printer's copy" written and a two or five cent stamp (according to the weight of the communication) placed thereon will pay the postage.

LIEUT. J. B. VINTER, of Victoria, is our authorised Agent for Vancouver Island, British Columbia. As is also Captain H. V. EDMONDS for New Westminster and adjacent country.

THE article on "Torpedo Attack and Defence," which is appended shows with what ease those boasted weapons of Marine Warfare can be rendered effective. We have always rated them at their proper value and are not surprised at any manifestations which may arise. They are not even useful in defence of a roadstead and much less in an action at sea.

"Captain Harvey, R.N., the inventor of the towing Otter torpedo, lays it down as a primary rule in his tactical instructions for the use of the weapon that an attack upon ships by torpedoes should always be made, if possible, under the cover of night. It is evident that such a rule applies with much greater significance when an attack is made upon ships lying at anchor in a roadstead

than under other conditions, and it was with reference to those, most probably, that Capt. Harvey arrived at his conclusions, and also only in relation to the torpedoes of the present, which have to be taken to the enemy, and not to those of the future, which we are promised shall be fired from a tube fixed below a vessel's water-line, and which will thus take the form of submarine artillery. The Naval Torpedo Committee have given the subject of attack by torpedo boats at night upon ships at anchor considerable attention, and have proved by experimental practice that in the majority of instances the torpedo attack upon the ship must be successful. The *Monarch*, one of the ships experimented upon, was anchored at Spithead, and on one occasion was considered to have been made almost impregnable against any attack by a strong crimoline framework of booms and spars built up round, supplemented by her boats rowing-guard round her within hailing distance. The ship had also the advantage of knowing that a boat torpedo attack would be made upon her, and the time when the attack might be expected. Notwithstanding these important advantages in the ship's favor the torpedo boats—steam gunnaces—burst through the *Monarch's* cordon of guard boats, got over the difficulty of the projecting crimoline spar defence, and struck the frigate with their dummy torpedoes. These results proved that any vessel lying at anchor at night must be fatally deficient in her defensive powers in a want of means for searching with lightning quickness and distinctness the surface of the water to a considerable distance around the ship.

To supply this want, respectfully Mr H. Wilde of Manchester, some time since submitted to the Admiralty a proposition for the use of one of his electro magnetic induction machines, fitted with a proper apparatus for projecting the beam of light produced upon distant objects. One of these machines has been fixed on board the *Comet*, twin screw gun vessel at Portsmouth (one of the short and light draught boat carrying one 18 ton gun on a raising and lowering platform, on the Armstrong-Rendel plan) and was tested during the nights of Thursday and Friday, under the supervision of Captain Boys, commanding the *Excellent* gunnery establishment, and members of the Naval and War Office Torpedo Committees, with the most complete success.

On Thursday, the *Comet* left Portsmouth Harbour for the eastern entrance to Spithead, from the channel at about 8 p.m.; but half an hour before leaving a first experiment was made with the machine and its projector lens in throwing the beam of light round the upper part of Portsmouth Harbor. The results were startling. The gunnery ship *Excellent*, with her tenders and the boats alongside and at the bottom, long lengths of sea wall enclosing the dockyard extension works, the mudbanks—it being nearly low water—the *Asia* and the vessels about her and further away Fareham Creek, Her Majesty's yacht *Victoria* and *Albert*, the *Glutton* monitor, and the few men-of-war boats moving about between the ships at the time, all stood out with wonderful distinctness, as the electric light touched them. But, beyond all others, the *Glutton*, in her French grey paint, given her as an invisible dress at certain distances by daylight, shone out in weird splendour. It needed no subsequent experiment to prove that a vessel painted in neutral color must stand out very much more distinctly under the influence of the electric light than another vessel at the same distance, and painted with the ordinary black coating of our broadside ironclads. When the *Comet* subsequently left

the harbor and had taken on board the members of the Torpedo Committees off Southsea, she steamed to a position off Brading and the east end of the Isle of Wight and anchored, attacks being then made upon her by two steam pinnace torpedoes, from directions unknown on board the *Comet*. When the boats had been away a certain time the electric light was brought into play, its beam sweeping the surface of the water and in each instance discovering the torpedo boats before they could lessen a mile distance between them and the *Comet*. Discovered at such a distance, their attack, of course, was considered to have utterly failed.

On Friday the *Comet* was anchored in Stokes Bay, near the west end of the measured mile, and buoyed off for the speed trials of Her Majesty's ships. Captain Boys and the members of the Torpedo Committees made a number of experiments with the light, upon which official reports will be made, as will also be done with the experiments conducted on the previous day. If we knew, which we do not, the exact details of all these experiments, comment upon them here would be out of place as anticipating the reports to be yet made by Capt. Boys and the members of the committees. What was evident to all afloat and on the look-out for the trial of the new light on the nights of Thursday or Friday was that its power was immense, and of this we may speak freely and yet briefly. On Friday, as on Thursday, no boat could approach the light within a mile without being at once discovered, and the grey or white painted steam-pinnace was always much more prominently and longer in view under the light than the other in its coat of black paint. In a boat at 2000 yards distance from the *Comet*, and with the beam of light brought to bear upon the boat, the *Times* could be read with the greatest ease.

The subject of *Electoral Warfare* occupied the attention of the Society of Telegraphic Engineers during two sittings in February last, and we republish from *Broad Arrow* of 11th April, the discussion which Mr. HOLMES' paper on that subject evoked.

From the examples given it is evident that for coast defence electrical or mechanical torpedoes are alike inapplicable and inefficient. The Paraguayan War is no exception to the general rule, because whatever torpedoes were used were operated in comparatively calm water, and the result as far as the operators were concerned was not encouraging. "Those who did not blow themselves up died during the war," and other causes beside the dread of submerged mines operated to keep the formidable fleet HERR VON TREVENFELD speaks of at bay.

Notwithstanding Mr Holmes' declaration "that an electrical system of torp. does for land defence was a much more difficult task than the protection of a coast by like means." We believe that any man particularly acquainted with the use of Glycerine, Dualine, gun cotton or any of the new explosives will be of opinion that land defence with such agents is a comparatively easy task, but that the real difficulty with sea torpedoes by the same means arises from physical obstacles which no art or power can overcome.