

given, as its mechanism is known only to a few officers of the English service, to whom the secret was confided when purchased by the Government." We suspected, several years ago, when this contrivance was brought out shrouded in great mystery, and when it was captivating many naval officers, who saw it actually go under water, that it was scarcely more than a mechanical toy. The business was managed so adroitly that several foreign governments paid roundly for the possession of the "secret." It is said that, although having the secret, none of the governments who paid for it have been able to construct torpedoes on this plan that will perform their functions satisfactorily. We don't know whether our Navy Department has invested in this contrivance, but we are pretty sure it came very near doing so. Last week we published a full description of the Whitehead torpedo, with an account of the fatal accident caused by the explosion of its air reservoir, under a pressure of some 1,000 pounds per square inch—a pressure which, we need scarcely repeat, is necessary to make the torpedo operate for even a moderate period. We believe that this description will make an end of this contrivance in the estimate of all practical men.

We next come to the Harvey torpedo, adopted in the English Navy "for service at sea," whatever that may be. The grounds on which this is recommended seem to us to be somewhat singular to be advanced by scientific officers like the authors of this report. The report says: "The rope fittings, buoys, etc., commend it to a sailor as something which he can thoroughly understand, and in the use of which he can make himself proficient. Surely, the scientific instruction of the Naval Academy ought to make officers at least able to comprehend any instrument fit to be used in naval warfare. The time has not long passed since rope breechings, wooden gun carriages, and other anti-deluvian fixtures commended themselves in the same manner. The report further says: "To do efficient service with the torpedo, it is indispensable that the vessel using it should have great speed," and that "the fast tugs in New York Harbor, would in case of emergency, form a formidable fleet of torpedo boats to operate the Harvey for the defence of a harbor." There are not three tugs in New York harbor which can stem eleven knots, and not one whose life could not be ended by a 42-pound shot.

Now follows a description of a torpedo, the invention of G. W. Rendel, a member we believe, of the Royal Society—heaven save the mark! This eminent inventor evidently "smelt a rat," when the trials of the Whitehead were noised abroad some years since; and his torpedo is simply an attempt to make a contrivance that will do what that instrument did. To show naval engineers how little practical knowledge Fellow of the Royal Society may possess, we give the following extract from his patent office specification, describing the mode of propulsion. It says: "This is effected by attaching to the projecting head of the piston rod a cross head or frame containing one or more *flaps or valves*, which close for the propelling stroke, and open for the return stroke." It is, in short, the duck's foot paddle which has ruined so many inventors. The report says the "plan proposed by Mr. Rendel commends itself as feasible."

We leave this subject of torpedoes with the remark that the less our Government has to do with any of the movable torpedoes described in the report, the better it will be both for our defence and the Treasury.

On the subject of foreign artillery, its fab-

rication and power, gunpowder, dynamites and other explosives, these two volumes contain a great amount of exceedingly interesting information. And in relation to the subject of armor and its resisting power the results of a vast quantity of experiments are recorded. The two officers compiling the work have displayed unusual industry and comprehension of the value of collecting all the data possible in relation to these subjects, and have furnished us with a work of standard value. We wish, however, they had added an index.

The attention of our readers is directed to the following Qualifications and Terms of Admission to the National Club, Whitehall Gardens, for the Fellows of the Royal Colonial Institute.

"It having been represented to the Council that the formation of a Colonial Club would be very acceptable to many Fellows of the Institute, the Council have as a preliminary step to the accomplishment of that object, entered into arrangements by which a certain number of gentlemen possessing property in the Colonies, or otherwise closely connected with them, but residing in England, may be admitted to all the advantages of the National Club by the year, on payment of Eight Guineas, without Entrance Fee.

Gentlemen whose residence is in the Colonies, but who are visiting England, may be admitted for a year on payment of Eight Guineas; for half a year on payment of Five Guineas; for three months on payment of Four Guineas.

"Gentlemen who are desirous of taking advantage of this opportunity are requested to fill up the accompanying form, and send it to the Honorary Secretary, who on satisfying himself that it is duly filled up, and that the applicant is properly qualified and has paid up his subscription to the Institute, will transmit the application to the Secretary of the National Club.

"The admission of gentlemen to the privileges of the National Club. A copy of the present rules can be seen at the rooms of the Institute.

"The number that can be admitted under the above Regulations being limited, the National Club reserve the right of selection.

"Any gentleman who may wish to see the National Club can obtain a pass from the Honorary Secretary.

C. W. EBBY, Hon. Sec.

Royal Colonial Institute,
January, 1874.

FORM OF APPLICATION.

..... 1874.

Sir—Being desirous of taking advantage of the opportunity mentioned in your Circular of 1874, I shall be obliged by your placing my name on the List of Applicants for admission to the National Club as joining for—

A Year
Six Months.
Three Months.

Name in full..... F.R.C.I.
Bank.....
Residence.....
Profession or Occupation (if any).....
Colonial Club or other Colonial Association of which a Member (if any).....
To the Honorary Secretary,
Royal Colonial Institute, W.C.

REVIEWS.

We have to acknowledge the receipt of a well got up pamphlet of seventy pages entitled "Considerations Sur L'Organisation Militaire," by Lieut. Colonel D'ONSONNENS, Brigade Major of No. 6 Military District.

The distinguishing features of this really clever and interesting Essay is the advocacy of the principle of a permanent force—distributed in proportion throughout the Provinces—the whole force, exclusive of the General Staff, would be 1,911 officers and men, distributed as follows:—

	Men.	Off'rs
Infantry—Ontario.....	1 batt. of 500	26
" Quebec.....	1 " 300	23
" Nova Scotia.....	1 " 200	17
" New Brunswick.....	1 " 150	14
		80
Artillery—Ontario.....	4 batt. of 200	18
" Quebec.....	4 " 200	18
" Nova Scotia.....	2 " 100	9
" New Brunswick.....	2 " 100	9
		54
Cavalry—Ontario.....	1 troop of 50	6
" Quebec.....	1 " 50	6
" Nova Scotia.....	1 " 50	6
" New Brunswick.....	1 " 50	6
		24

It is also proposed to reduce the Active Force to 15,000 men in 188 battalions, or rather *cadres*, distributed as follows:—

Ontario.....	82 battalions,	6,560
Quebec.....	70 "	5,600
Nova Scotia.....	19 "	1,500
New Brunswick....	15 "	1,200
British Columbia,..	1 "	80
Manitoba.....	1 "	80
	<hr/> 188	<hr/> 51,020

The present force in Manitoba to be included in the permanent organization. The whole scheme displays considerable ingenuity—but it would be more costly and not one whit more valuable than our present system. Owing to the Essay being published in French a reprint would be of no practical value to our readers, although the motto on the title page "Ce n'est pas avec de troupes mais avec des troupes bien disciplinées que l'on obtient des succès à la guerre" has been kept constantly in view by the gallant and accomplished author.

The *Aldine* for April opens with a marvelous collection of beautiful illustrations, some of which are the finest yet seen in The American Art Journal, while all reflect great credit upon the enterprising publishers. American scenery, as heretofore, forms a striking feature of this number of the *Aldine*. Five great and remarkable pictures of Lake George and its glorious scenery embellish this number, in which the well-known artist, Thomas Moran, and the engravers, have vied with each other to put upon paper faithful pictures of the most exquisite scenery in