

## CONTENTS OF No. 5, VOL. VI.

POETRY.—	Page.
"A Ship in the Face" .....	68
EDITORIAL.—	
Field Fortifications .....	51
The Treaty of Washington .....	51
"Balance of Power in Europe" .....	55
England's Honor in the Dust .....	55
Dominion Board of Trade .....	59
Beauties of Republicanism .....	55
News of the Week .....	57
Reviews .....	57
CORRESPONDENCE.—	
Artillerist .....	49
From Montreal .....	49
Notes and Queries .....	53
Communicated—Brevet-Majors Gifford and Smith .....	53
SELECTIONS.—	
Tactics—(Continued) .....	50
Iron in Canada .....	51
Letter from the Queen .....	53
Deepening of Dominion Canals .....	53
The Swiss Military System—(Continued) .....	53
Germany and her Neighbours .....	50
Loss of a Twelve-ton Gun .....	50
The Launch of Her Majesty's Ship "Hydra" .....	60
Rifled Guns for the Colonies .....	60
Alteration in Equipment of 9-pdr. Field Batt. .....	60
"Commissaries des Königs von der Heine" .....	60
Relative Strength of the British and German Fleets .....	60
The Pacific Railway .....	60
An Austrian Honey Hoard .....	60
The Darica Ship Canal .....	60
Foreign, Military and Naval Items .....	60
REMITTANCES .....	53
MILITIA GENERAL ORDERS .....	62

S. N. PETTENCILL & Co., 37 Park Row, New York.

GEO. P. ROWELL & Co., 40 Park Row, New York.

Are our only Advertising Agents in that city



## The Volunteer Review,

AND

### MILITARY AND NAVAL GAZETTE.

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

OTTAWA, MONDAY, FEBRUARY 5, 1872.

In order to adapt the interior slope of the parapet to the purpose of effective defence it will be necessary torevet it over with sods, wood or stone, and the same operation has frequently to be performed on the exterior slope, the checks of embrasures, the escarpe and counterscarpe.

Sod work forms a desirable revetment (or facing) and may be saved from the ditch during the excavations if the works are on good green sward. It should be laid header and stretcher, the grass downwards, two stretchers to one header, the former being twelve inches square and four inches thick, the latter eighteen inches long, 12 inches wider and the same thickness.

The revetment for the interior slope should be commenced when the parapet had reached the level of the banquette tread, if the exterior slope requires to be revetted it must be commenced on the berm, in laying the courses care should be taken to break joint and to beat down each course firmly, the top course is laid with the grass up, and

care should be taken to make the grass grow, the face should be neatly cut to a line with a sharp spade, if cut from a wet soil they should be allowed to dry a little if put on the work wet they will shrink and cause the revetment to crack in drying.

There is another kind of revetment, a strong mixture of clay and earth well kneaded with water, and if necessary mixed with chopped straw, it is laid in layers of twelve inches thick and two feet broad, it must be put up gradually with the earth of the parapet, rammed well down behind, which should also be observed in the sod facing, the face should be sown with grass seeds, it is called a Pisa Revetment.

This object can also be effected by logs twelve inches in diameter flatted on both sides and pinned together with an occasional tie passing into the parapet, or by layers of three inch plank nailed to uprights set in the parapet.

A Fascine revetment is made by bundles of twigs closely bound together, there are two sizes of fascines; one is nine inches in diameter and about ten feet long, the other which is termed a saucisson is twelve inches in diameter and twenty feet in length.

A fascine is constructed with straight twigs between the thickness of the finger and thumb, they are made as follows:—Two stout poles are driven into the ground obliquely so as to cross each other about two feet above the surface where they are firmly tied together, as many of those as may be required are put up in a straight line about eighteen inches apart, and form a fascine horse on which the twigs are laid to be bound together, two stout levers about five feet, long each are connected near their extremities by a stout cord or chain which should be long enough to pass around the fascine, the levers drawing it tight when pressed down on the twigs which are laid with the small and large ends alternately and they are bound by withes properly prepared by roasting, or stout rope yarn or wire, the ties are placed twelve inches apart, every third or fourth one should be made with an end three or four feet long, having a loop at the extremity to drive an anchoring picket through, in order to form the revetment the first row of fascines is embedded about half its thickness below the tread of the banquette where it is secured by means of the anchoring pickets and by pickets driven through the fascine itself, the knots of the withes are laid inside, and the earth of the parapet packed well behind, a second row is laid on the first and connected with it by pickets driven through both, care being taken to break joints, the top is finished with a row of sods.

A hurdle revetment is made by driving poles of an inch and a half in diameter in the parapet nine inches apart, and in direction of the interior slope weaving twigs between them as in basket work, and securing the whole to the parapet by long withes

and anchoring pickets, the top to be finished with a sod.

A gabion revetment is made as follows—a fascine is first laid embedded as previously described, on this the gabion is set and filled with earth, and another fascine laid on top, the gabion having been given the inclination of the interior slope.

Gabions are extensively used in the attack of permanent works, and wherever it is necessary to place troops speedily under cover it is not much used in field Fortifications, but a knowledge of the manner in which it is constructed may be useful. It is simply a basket open at both ends, its height is usually about two feet nine inches, and width two feet, to make it two hoops, the inner the width of the gabion, the outer one and three-fourth inches wider, are laid on the ground into the space between them, pickets about one and one quarter inch in diameter and three feet long, are driven into the ground at equal distances apart, the hoops which are fastened together by small blocks of wood at intervals being placed between them and lashed with pack thread are slid half way up in the pickets, twigs half an inch in diameter and as long as they can be procured are woven between the pickets like ordinary basket work, when finished near the middle the hoops are taken off, the gabion reversed, and the same operation continued till the work is completed at the centre, the pickets are pointed at both ends.

Sand bags are some times used as revetments when other material cannot be procured, they are made of coarse canvas, the bag being two feet eight inches long, and one foot two inches wide, they are filled with earth to about three-fourths of their capacity, the top loosely tied and they are laid like sod work, their principle use is for temporary shelter.

If it is necessary torevet the scarp, the speediest mode is to do so with heavy timber, a cap sill is embedded along the line of the berm, a ground sill is laid below the bottom of the ditch, rebates are cut in both and thick plank placed side by side therein, the cap is retained in place by pieces dovetailed into it at right angles about ten feet apart, passing under the parapet, the slope of the planking should be one in ten, the counterscarp should be treated in a similar manner; if rivetted with stone, it is simply a wall built perpendicularly. Material for the construction of any or all those classes of works are to be found easily in Canada, and the construction of any class of fortifications can be readily effected. In all cases the works should be neatly and carefully finished, especially attention should be paid to ramming home the earth in parapet and banquette as settlement or shrinkage would be a fatal defect.

ENGLAND'S greatest naval victories were won with long 32-pounders, weighing about 56 cwt. To-day guns are manufactured