

the commander of any fleet may if he thinks proper, avoid a ramming combat altogether, so long as his engines remain unharmed. We do not say that naval actions will not be fought with rams, but we do say that as regards British ships at all events, unless the fight takes place in some land locked estuary, an admiral may totally eschew ramming if he thinks proper, and fight to the end with his guns and his guns alone.

So far we have spoken only of ordinary ironclad ships fitted with ram bows and mounting heavy guns, but it might perhaps be possible to add to our fleet ships built specially for ramming, which would constitute extremely dangerous foes to any ironclad afloat. The ram should be a short ship of moderate dimensions, and capable of running, for a short time at all events, at a very high speed. She should be fitted with special appliances for enabling her to turn on her heel, so to speak. Such a vessel would be much more handy than any ironclad, and being also faster, it might be all but impossible for a large ship to avoid her. The small ram would carry no guns, and she might be almost filled with engines and boilers. Even then, however, it would be difficult to get the extreme speed which would be essential in such a ship. She would require to be heavily plated of course. The cost of such a vessel would be moderate, and her efficiency as a weapon of naval warfare would no doubt be high. But such a craft would be practically of little value unless she combined a speed of something not less than 18 knots with a power of turning on her own centre in about a minute and a half. Whether such a ship can or cannot be built we shall not stop to consider. If she could be built she would introduce a new element into naval warfare, and render necessary important modifications in opinions regarding the efficiency of rams.

Cavalry of the Future.

From the concluding chapter of General Rodenbourg's History of the Second Dragoons, now in the press of D. Van Nostrand.

The foregoing imperfect record of the experience of a cavalry regiment in the service of the United States gives some idea of what that arm is capable in similar regions and under like conditions.

Instead of losing its prestige and importance as an auxiliary in modern warfare—as some military pundits, unduly prejudiced in favor of some other arm, may claim—it is absolutely essential to the completeness of great military operations. Nay, we go further, and say that, with a large and well organized cavalry command and a fair proportion of light artillery, a good general may go anywhere in a hostile country, accomplishing by its aid the greatest results.

For has he not the three great tactical bodies represented? Put improved small arms in the hands of such men as repulsed a part of Lee's infantry at Cold Harbor and Five Forks, and upon more than one occasion in the Shenandoah, and are they not a very respectable substitute for foot troops?

Mount the same men, and behold the active, wiry, irresistible cavalry which, under Buford, Gregg, Torbert, Merritt, and Custer, on the one hand, and Stuart, Fitz Lee, Hampton, and Robertson, on the other, were, during four years of war, by turn victorious. Ten thousand such soldiers—formidable alike as horse or foot—require a peculiar leader: perhaps General Sheridan will furnish the recipe.

We have no idea that the cavalry of the

future will displace regularly-organized foot-soldiers. With the natural attachment of our race to glorious traditions, the superb record of the infantry masses in recent great wars, and the reluctance of a nation to take the initiative in such an experiment, the last-named arm will continue to constitute *pièce de résistance* at each bloody banquet which may be set before the nations of the earth, for years to come.

At the risk of being considered an enthusiast, and chimerical, we cannot resist the expression of our humble opinion that the principal obstacle in the way of supremacy for our favorite arm is the fact of its costly nature and the difficulty of keeping a large force of it, in time of peace, prepared for war.

Again, cavalry will seldom be used mounted in attacking well organized bodies of infantry, formed in compact masses, and prepared with the bayonet to resist a charge of horsemen. Although history shows instances of successful charges under such circumstances, yet "it is not war." Opportunities are sure to occur in the course of a battle when the mounted troops may decide the issue, or improve an advantage, as a reward for discreet management previously.

The "coming" cavalry, in our opinion, will be essentially dragoons, and the prejudice still existing in European armies against such an "anomalous" organization will pass away before the progress of military enlightenment.

By proper instruction it may be adopted to any country, while its actual use will necessarily depend upon the physical conformation of its field of operation.

It should always be maintained as a separate organization, equivalent to a *corps d'armée*; never detached in bodies smaller than a brigade, to operate permanently with a larger infantry force; never weakened and demoralized by escort and orderly duty with other corps. For this latter very necessary service some of the best men, accustomed to the care of horses, might be selected from the infantry of the army in the field, and temporarily mounted, as was occasionally done during the civil war in this country.

To protect the front of an army in repose; to lead its advance; to skirmish with and "develop" the enemy; steal upon and "take" a hostile battery; pursue and harass the foe when partially disorganized or neglectful on the march; or, in case of reverse, to furnish the rear guard, vailing from too inquisitive eyes and ears the movements of the slower infantry and artillery—all this is still expected of the dashing and tireless horseman. And when, "cutting loose" from the main army, he hovers around the enemy, destroys or obstructs his communications, captures his supplies, and returns full of news, and ready to take the war path again at a "moment's notice," he is only doing that for which he was "created" (in a legislative sense), and which no other arm could possibly do so well.

The writer has not enumerated among the possible duties of mounted troops that they shall be competent to reconstruct (although they may destroy) railroad bridges; or, dismounted, repulse with their carbines three times their number of well-reasoned infantry; or (herding their horses) be metamorphosed into ship and house carpenters, masons, and labourers, to build quarters from material standing in the forest or buried in the earth, to be cut or quarried and hauled many miles by their own hands, and, withal, to be ready for instant Indian ser-

vice or a visit from the inspecting-general—naturally less ready for the inspection than the scout.

It is believed that the authorities have seen the folly and extravagance of employing so expensive an arm in performing duties pertaining to a Staff Corps, and that gradually, as the truest economy, the cavalry, at any rate, will be exempted from duty so foreign to the purpose for which it was organized.

On the subject of the improvement of the cavalry the author says, under the heading of "Instruction" and "Mounting":

Establish a Cavalry School for Practice, to which all recruits should be sent as soon as practicable after enlistment. Quarters and stabling should be provided for one thousand men and two hundred and fifty horses. The staff of the School should consist of a superintendent (field officer), an instructor (captain), an adjutant (lieutenant), as many assistant instructors (lieutenants, who should also command recruit companies) as the superintendent may deem necessary. The detail to be for two years. A competent swordmaster and veterinary surgeon should also be attached to the non-commissioned staff. The superintendent of the School to be selected from the field officers of cavalry, with reference to his ability to organize and discipline mounted troops, and not alone as a reward for long or distinguished service; the same rule to apply in selecting his subordinates, who should be taken from officers who have commanded companies in the field for periods amounting in the aggregate to one year. In addition, all newly appointed officers of cavalry should serve at the School (as supernumeraries) for two months (at least) before joining their regiments. A permanent detachment of steady, well-set-up sergeants and corporals, detailed every two years from cavalry regiments, will constitute the regular garrison of the post for duty with the recruit companies, etc. This detachment to be mustered and commanded by the instructor.

The system of instruction to comprise the "School of the Soldier" to that of "the Squadron," all ceremonies, etc.; also a system of light gymnastics. Especial attention to be given to sabre exercise and target practice. Military etiquette and deportment should be carefully taught and enforced. Small detachments, under a commissioned officer, should frequently be led into the adjacent country and accustomed to the details of marches, scouts, outpost duty, etc. The most capable soldiers should be instructed and exercised in all the functions of non-commissioned officers; taught self-reliance, precision, and promptness and, above all, the art of governing themselves and those placed under their charge. When not on duty, the men should be encouraged in all athletic exercises and amusements practicable. A suitable library and reading room should form part of the equipment of the school. In the "School of the Soldier" more attention might advantageously be given to the promotion of celerity of movement and preparation for sudden emergencies. The promptness with which soldiers are made available in case of unexpected attack or any other "alarm" has been known to win more than one battle.

About 100 of the Italians lately working on the Credit Valley Railway have gone to Manitoba. They intend taking up land together and forming a sort of Italian colony. They are industrious fellows, and deserve to succeed.