

## Report of Admiral D. D. Porter.

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(Continued from page 88.)

The chief improvements should be invulnerability and speed, without which latter requisite a ship of war is of little use, except to assist in the defence of fortifications against the attacks of a fleet.

Harbors cannot be protected by forts alone, for experience has shown that even wooden ships with ordinary smooth bore guns can pass the heaviest batteries in comparative safety.

History records among others the following places defended by heavy works that were obliged to succumb to ships, viz., Copenhagen to Nelson, St. Jean d'Acre to the French passage of the Dardanelles to Sir John Duckworth, Algiers to Lord Exmouth, San Juan de Ulloa to the French and to the Americans, Moro Castle to the English.

Among the numerous instances I might cite our own successes of recent date in the South to show that monitors are as necessary in the defence of harbors as are the land fortifications.

For instance, suppose a fleet of twenty iron clads were to attack the forts at the "Narrows," in the bay of New York, and that one of them should get by, what harm could the forts do the vessels after it had once steamed past Castle Garden, where it could with impunity lay the city under contribution and burn at leisure all the shipping?

No enemy would be likely to attempt such a task, however, with a fleet of well built monitors inside the harbor to follow them up.

Forts are undoubtedly most necessary means of defence, but there are none in existence that a modern iron clad fleet could not pass, unless aided by monitors, torpedoes, and obstructions. Ships have a great advantage over forts, for they can retire from an engagement when worsted and return with reinforcements. Ships that can bring ten guns of the heaviest calibre against one most eventually succeed.

All monitors, and, indeed, every vessel of war, should be fitted with a double screw, for the power of turning rapidly will give a ship so fitted great advantage over one with a single screw, a matter fully appreciated by naval men.

I have adverted to the turning of the turrets in monitors. The advocates of the spindle system will, no doubt, raise objections to any other, but one great fault of this plan is, that in a sea way a ship would be filled with water if the turret was raised. A heavy shot, too, that might not penetrate the turret, might, perhaps, unseat it and render it unserviceable.

When steam is down the present method of turning renders it impossible to use the turret, as there is no means of working it.

I have been struck with the objections to the method in use for revolving monitor turrets, when so simple a contrivance might be adopted, as it demonstrated at Harlem Bridge, where 150 tons are revolved by a hydraulic jack in the hands of one man with comparative ease.

There may be objections to the introduction of this plan into monitors, of which I am not aware, but as a practical and simple method it seems to me preferable to any other.

In organizing a system on which a navy has to be built, it is necessary to take into consideration: first, the needs of a country

for the protection of its commerce; second, the extent of coast to be defended and the exposed condition of the seaboard cities; third, the relations of the country with the other powers of the world and advancement continually made in the science of maritime war; fourth, it is necessary to look deficiencies in the face, and at whatever cost, place the Navy in condition to meet any emergency.

This is not the condition of our own Navy at present. When that is fully considered, it would be the height of folly to call it "efficient," for while that delusion lasts no supplies will be given by Congress, and we will grow more and more inferior every year to other powers.

War is at all times a dreadful alternative; still more so when forced upon a nation so utterly unprepared as we are at present.

I speak strongly on the subject because I know the real condition of the Navy and its present inability to meet the wants of the nation, and I may yet live to see my country humiliated, from the fact that no attention has been paid to the recommendations of those whose duty it will be to lead our ships into action or direct their movements in time of war.

Now is as good a time as any to inaugurate a comprehensive system of naval defence, which would be the proper term to apply to the operations of a non aggressive nation, that does not require a navy with which to wage aggressive war, but simply to protect its coasts, cities, and commerce.

We can only maintain our position among nations by following in their wake in naval matters; if we do not, as we once did, set them the example in the quality of our ships and guns,

We have never had a settled policy with regard to the class of vessels we should build, and I here beg leave to suggest a system which, if adhered to, will soon place us in a very respectable condition, enable us to defend our coasts, and do great damage to our enemies.

Owing to the introduction of the torpedo as a means of warfare, it is not likely that any nation will attempt to invade the coasts and harbors of an enemy as they once did, when protected by these devices, in addition to forts, monitors, and rams, nor can the ports of a belligerent be thoroughly blockaded if proper rams and torpedo vessels are built in sufficient numbers to operate outside. It is impossible to protect a harbor by forts and sunken torpedo mines alone, for our experience during the rebellion satisfied us that torpedoes, unless protected by powerful vessels and forts combined, would be almost useless.

There is no difficulty in taking torpedoes up, no matter how carefully planted, if not under the guns of a moving fleet.

What would prevent boats at night from cutting the wires of any torpedo net in the channel leading into New York, if the boats were supported by a powerful fleet waiting to move up to the attack?

Even without groping for the hidden wires, the sunken torpedoes could be shattered by others devised for such purposes, and the mine sprung or destroyed by concussion, leaving the way open.

No better plans for defending channels leading to cities could have been devised than those used by the confederates during our war. Their ports and rivers were full of internal mines and yet, except at Charleston, no fleet was ever stopped by their torpedoes or their batteries which were of the strongest kind. Even at the place I

have mentioned, it was found, after the evacuation, that nearly all the sunken mines had been rendered harmless by salt water or interior condensation. Upon one occasion the iron sides anchored directly over one of these mines, containing a ton of powder, and remained there twenty four hours, while the enemy were endeavoring in vain to explode it by electricity.

To be sure, gun cotton, as at present arranged, does away with the difficulties experienced in those days in exploding submarine mines, but there is no difficulty in breaking torpedo wires, even under the walls of a fort, if not protected by heavy ships and guns afloat.

Even suppose our channels obstructed, and that an enemy does not care to try a passage, the blockade of a harbor is just as humiliating and damaging. Mines planted in channels will not prevent an enemy from shutting up New York at both ends, if he is superior to us in iron clads; and it is, therefore, imperatively necessary that we should at once provide for building annually so many tons of monitors, say five thousand tons for the present, until we have thirty-first class monster rams of great speed, armed with monster guns, in addition to our present force, and at least fifty iron torpedo boats of good speed, and not less than one hundred tons each.

The latter should be hauled up under cover, fitted with all the modern improvements, and kept for an occasion, while hundreds of others could be improvised after the commencement of a war.

This is partly the system pursued by Great Britain. She builds annually twenty thousand tons of naval vessels, and finds it the cheapest way of averting war and protecting and increasing her commerce, which has doubled since 1865, while ours have dwindled away to exactly one half.

Too much confidence is felt by our Army torpedo officers in the effects of the sunken devices on passing ships.

No doubt if a torpedo should explode under a vessel it would instantly destroy her; but out of the many planted on the bottom few have been found effective in time of need, especially after having lain for a considerable period; and then, unless the torpedoes are to be fired upon impact or by circuit closers, they could do no harm to a passing fleet, in a dark night, with lights obscured, at a distance of one hundred yards; and what chance would there be of exploding a torpedo nest at the right time? Even supposing a few ships were destroyed, that would not prevent the others from going ahead.

All this tends to show that it is not explosions on the bottom upon which we must rely, but on torpedo vessels and floating projectiles below the surface of the water.

Recent experiments in England develop facts which were partly known to before, but these trials were conducted on a scale of liberality by the British government which has put at rest any doubts on the subject, and a commander has the satisfaction of knowing that he can run within forty feet of a mine of gun cotton, weighing five hundred pounds, without danger to hull or machinery.

A short time since, a committee of naval officers made some interesting experiments with submerged torpedo mines on the ship Oueron, of 640 tons, 1160 packet steam vessel. The first explosion was with 500 pounds of the Waltham Abbey disk gun cotton, confined in a service mine case.

This was fired at a horizontal distance of 100 feet from the nearest side of the Oueron,