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THE COAST DEFENSES OF THE UNITED STATES.

In the House of Representatives on Tuesday, January 25, a letter from Admiral David D. Porter was read in reference to the above subject. It called attention to the defenseless condition of our ocean and lake coasts, and to the want of armed vessels and ordnance. While it is not advisable to admit the propriety of alarming the people of America, there are many facts and views presented in the Admiral's communication that are striking. His remedy, too, is good, if the necessity he insists on be admitted. It is to spend ten millions of dollars each year for ten years to come upon the creation of a navy. If a navy is needed here, this is the only way to acquire it. Unless large appropriations be devoted to it, the best plan is to dismiss the subject entirely.

The perfect ideal of a government is one that confines itself to the regulation of its own affairs only. On the Continent of Europe, where state adjoins state, a perpetual menace exists. The eagerness for the acquisition of new territory, the desire for satisfying old feuds, keep the powers ever in a state of uneasiness. War is always impending. No action can be taken by one state without some reference to its neighbor being discerned therein. To guard against the probabilities of disturbance, large standing armies are maintained, by heavy taxation, and enforced military service is exacted even in time of peace. In consequence, many thousands of emigrants leave the country each year to escape the burden of devoting some of the best years of their life to the camp and drill. Germany and France are each watching the other. Neither seems capable of doing anything that is not construed into some intended attack upon the other's peace. Both these countries are running a hot race in the organization of armies, and a new Franco-Prussian war is looked for any day, while the memory of Sedan is still so fresh. The immense expense entailed by their war expenditures threatens to drive these countries into bankruptcy. No better illustrations of the ill effects upon a nation of the policy or of the unfortunate necessity for holding itself ready for war could be cited. Were France and Germany able to feel that their boundaries were secure, and had neither of them a desire to extend their territory, the standing armies and reserves would be disbanded, navy expenditures would be done away with, and their people would be lightly taxed and in every sense would be freemen.

England, by its insular position, is protected from these evils. In losing her hold upon France, when Calais, "the brightest jewel in the crown of England," was taken from her, she was probably greatly benefited. The more her Hanoverian aspirations are held in check, the better for her. She has no such immense standing army and reserves as the Continental powers maintain. The twenty miles of water between her and the rest of Europe are her greatest blessing.

The United States are yet more fortunate. They are separated by the oceans from all of the great nations. If any country is justified in minding its own affairs only, it is she. She is exempt from the necessity of regulating her movements by those of other governments. This feeling of security has had most beneficial effects upon the happiness and freedom of her people. The old militia service has, to a great extent, fallen into neglect. The present view of the use of a militia is, merely as a national police. No idea is entertained of their constituting a standing army, in the European sense, though service, in a certain sense, is compulsory. No large expenditures have been devoted to the building of the non-productive ships of a navy. The government has concerned itself with very little beyond the strictly internal affairs referring to itself only. The country thus has escaped heavy burdens of taxation. Experiments of the greatest expense in the construction of guns and ships have been conducted by the other powers really for our benefit as much as theirs. We have had to pay for no failures.

Within the last few years a sentiment has been growing in favor of the re-establishment of the navy. The present administration has met the popular views to a certain extent by taking steps in the direction of acquiring war ships. The sentiment has developed quite recently into a feeling of alarm. Meetings have been held and considerable agitation created, with the idea of calling the attention of Congress to the defenseless condition of our coast. Twenty-six prominent sea harbors and all the lake ports have been reported to Congress by the board on fortifications and defenses as utterly defenseless. The assumption made is that any of these harbors may be entered by one or more ironclads and the cities may be devastated or laid under tribute.

We do not believe that a feeling of insecurity should be created. War is not threatening us, and if it were, the danger would be provided for in some way. The efficacy of heavily armored ships is still to some extent an unknown quantity. The ordnance of the present day can pierce anything short of a Gruson turret or some fortification of that sort, too heavy for flotation. A fleet of small armored vessels of high speed, and provided with rams, could be rapidly constructed and put afloat. Much could be done by utilizing the fast river steamers now afloat. Light armor could be placed upon them, enough to resist smaller pieces, and they could be used as rams of satisfactory power. A number of vessels of the smaller class could, by the force of numbers, do effectual service in repelling attack.

Admiral Porter presents his views with much clearness and force. He advocates the immediate purchase of six hundred guns, and the building of ships to carry them. He gives the list of the "real navy" of this country as including eighteen ships, thirteen in embryo, and only one, the Dolphin, complete in all respects as regards armament and equipments in general. He states that we have but twenty-nine high-power guns, against 18,000 distributed between England, Russia, and France. His idea of a suitable American navy includes fifty heavy ironclads and seventy cruisers. Admiral Porter's one hundred million dollar appropriation could be supported, undoubtedly, by the people, distributed, as he proposes it to be, over a period of ten years. But the creation of such a navy would involve an immense sum for its maintenance. When created, it would act as a threat to foreign powers, and might in that way bring war upon us. Possessing such a navy, this country might be tempted into war, to give her ships something to do.

We give some quotations from Admiral Porter's letter elsewhere. Meanwhile, we propose a problem for our readers to solve. Assuming the port of New York to be threatened by ironclads, what could we do with our present means to defend it?

The problem is a good one, as being addressed not only to professional men and to representatives of the sciences, but also to all thinkers, Inventors here have a broad field for study. Those who have never devoted much thought to these special subjects may be the ones who will present the most striking plans. Originality unfettered by previous conceptions sometimes furnishes suggestions of value. The experience of soldiers and sailors, and of artillerists too, may be drawn upon for giving a practical cast to the solution. No limit of territory to be drawn upon for supplies need be included, as Pittsburg, and even the iron regions of the South and West, may be considered as close at hand, in view of the railroad facilities. Thirty days should be the period supposed to be allowed for completion of the defenses. We shall be glad to hear from every one having ideas to present, and trust we shall receive plans worthy of illustration and description in our columns.

A Remarkable Salt Bed.

One of the most remarkable salt formations in the world is located on the isle of Petit Anse, Southwestern Louisiana, 125 miles due west from New Orleans. It is owned by the Avery family. This singular salt deposit is sufficiently unknown to bear the light of a more thorough investigation than it has had. The deposit is pure crystal salt. So far as it has been traced, there are 150 acres of unknown depth, explored 140 feet down. The surface of the bed undulates from one foot above to six below tide level. The earth covering the salt ranges from ten to twenty-three feet in depth, but one hill rises 183 feet above, showing that an after-formation took place. On the top of the salt, beneath the earth, have been found the remains of the mastodon, mammoth sloth, horse (*Equus fraternus*), tusks and bones intermixed with Indian relics, such as arrow and spear points, tomahawk heads, paint pots, mortar and pestle, and pottery of all kinds. The dip of the salt is eight degrees. There is a deposit of pink sandstone quite decomposed, a coal formation thirteen to seventeen feet thick and seventy-two per cent carbon, the lignite cropping out a hundred feet above the sea. Over the salt come pink and yellow clay beds, then the sandstone and then the clay, each stratum trending toward the north. There are also sulphur springs. The salt is a conglomerate mass of crystallizations, which in the mine look like dark salt, but when exposed to the light are seen to be white. By analyses the salt is $99\frac{88}{100}$ per cent pure; the remaining three twenty-fifths is made up of sulphate and chloride of calcium. The position of the salt shows it to be older than the coal and sandstone which lie above it, and also the mastodon and contemporary prehistoric mammals. The deposit was discovered in 1862 while a well was being excavated. It was seized by Jefferson Davis and afterward by Admiral Farragut. It is now worked by a New York concern, which pays the Averys $5,000 per month royalty. To show the value of land here, it may be stated that a single acre, on which grow little peppers, yields a clear profit of $10,000 per year on the well known Tobasco table sauce.—*American Naturalist.*

BY the addition of automatic attachments to a press and pair of gang dies, the Ferracute Machine Company, of Bridgeton, N. J., have succeeded in producing 288,000 lamp collars per day in a single press. This is at the rate of 480 per minute, and affords an explanation of the low prices of some sheet metal manufactures.