

ADMIRAL SAMPSON.

Acting Rear Admiral William T. Sampson is very much in the public eye at the present time, when at any moment we may expect to hear that his fleet has attacked the Spanish Cape Verde fleet.

Admiral Sampson was born in Palmyra, N. Y., February 8, 1840. His father was a farmer, and could not afford to allow his son to devote much of his time to his school books. When old enough he went to school, but it was necessary for him to do much of the hard work known to farmers' boys. The young man had an insatiable desire for information, and, despite the fact that he had less time to devote to his studies than any of the rest of the boys in the Union School, he soon distanced them in the race. Young Sampson was offered the appointment to the Naval Academy by a Congressman. He entered the Naval Academy in 1857, and graduated first in his class three years later. His first cruise was made in the frigate "Potomac," in 1861, and in 1862 he was commissioned a lieutenant. He was detailed to the ironclad "Patapsco" in 1864, and in June, 1865, while he was executive officer of this vessel, he was ordered by the admiral of the fleet to enter Charleston Harbor and to remove or destroy all submarine mines and torpedoes by which the city was protected from invasion. This was an exceedingly difficult task, for as soon as the ironclad entered the harbor, she was met with a rain of bullets from sharpshooters. Seeing a number of his men killed, Lieut. Sampson ordered them all below, while he remained as a target for the rebel rifles. The men had scarcely obeyed the order when the ironclad was blown up by a submarine mine. The vessel sank, carrying seventy of the crew with her. Lieut. Sampson was blown out one hundred feet, but was rescued with twenty-five of his men. He was attached to the Naval Academy from 1868 to 1871; in 1874 he was made a Commander. In 1879 and 1882 he commanded the "Swatara" on the Asiatic station. During the two years which followed he was stationed at the Naval Observatory, and during that time was a member of the International Prime Meridian and Time Conference. He had charge of the torpedo station in 1885 and 1886, and was also a member of the Board on Fortifications at the same time. He was appointed Superintendent at the Naval Academy in 1886 and held this position until 1890. In 1889 he was promoted to the rank of Captain, and in the next year was placed in command of the cruiser "San Francisco." In 1892 he was made Inspector of Ordnance, and in 1893 he was made Chief of the Bureau of Ordnance. He held this position until the "Iowa" was ready to be commissioned, when he was detailed to that vessel. When the fleet was sent to Havana, Capt. Sampson was placed in command and raised his flag on the cruiser "New York." At the outbreak of the war with Spain he was made Acting Rear Admiral by President McKinley.

In the navy he is regarded as a great authority on torpedo work, and his lectures at the War College have produced a profound impression all over the world. He devised the double-deck or superimposed turrets which are now being put on the battleships "Kearsarge" and "Kentucky" in conjunction with Lieut. Joseph Strauss. While Chief of the Bureau of Ordnance he assisted in the construction of the great gun factory at the Washington navy yard. Personally, Admiral Sampson is well liked, and he might often be seen in Washington playing tennis with Secretary of State Olney. He is of slight build and his shoulders are a trifle rounded. His eyes are blue and his beard and hair are gray, and though a man of few words he is very affable. He is regarded as being very resourceful in an emergency and there is no question of the wisdom of the authorities at Washington in putting him in command of the fleet at the present time.

How Dewey Obtained His Plans of Manila.

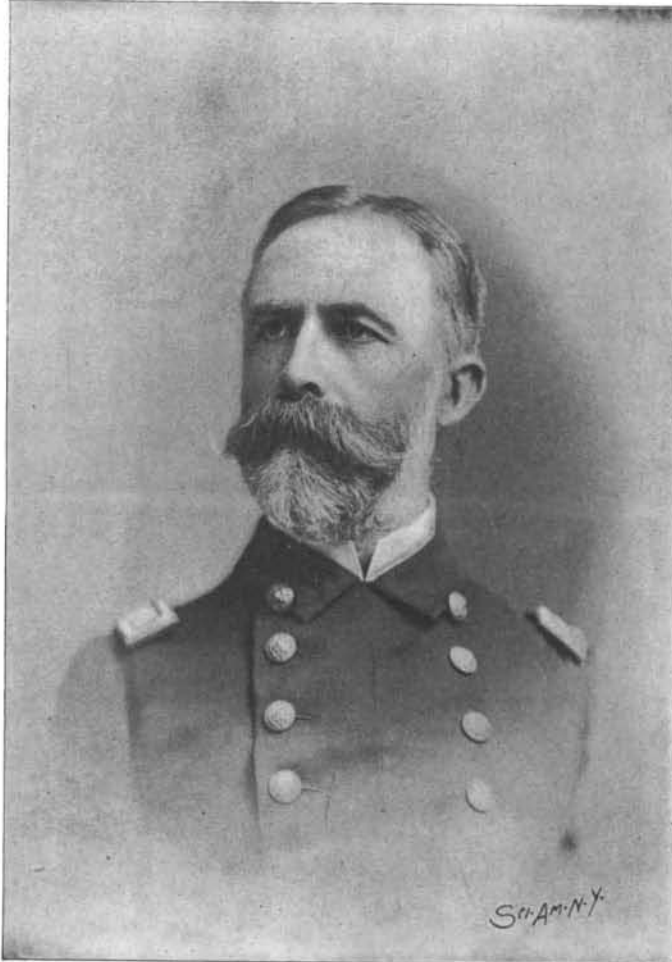
Mr. William Doherty, an American ornithologist and entomologist of reputation, has just returned to this country from the Philippine Islands, via Hong-Kong and San Francisco. His latest distinction was in successfully passing the Spanish customs officers at Manila with the complete plans of the city, the harbor, fortifications and minute details of the armament. It was a dangerous proceeding, but Mr. Doherty carried it out successfully. The plans and drawings were concealed in a newly laundered shirt which was folded, pinned and banded in the usual style and put with other clothing in his trunk. He arrived in Hong-Kong early in April and at once delivered these most important papers to Commodore Dewey on the "Olympia."

A CURIOUSLY annoying theft is that of a negative film of the late solar eclipse, taken for the cinematograph by one of the British astronomical expeditions to India. Between Buxar, in India, and London a box was opened and only the eclipse film taken.

Patents and Warfare.

If all of the inventions directly traceable to the inspiration of war and to the feverish preparation for hostilities should be put to use to-day, the men of the navy would be kept pretty busy and the coast defense force would have to be largely increased. Nearly all of these thousands of devices for the destruction of hostile ships and men require operators possessed of more or less scientific training. Thus, when the day arrives when the "war" patents realize the expectations of their owners, fighting, both on sea and land, will become so dangerous and destructive that either whole fleets and forts and armies will be annihilated, or the very terrible aspect of such war will bring about a forced and lasting peace among the nations of the earth. This remarkable tendency in inventive genius makes it necessary to safeguard the Army and Navy Departments against the specious pleas of cranks of all kinds who are attempting to foist upon the heads of bureaus scores of crazy schemes which may be infinitely more destructive to our own side than to the enemy.

This avalanche of patented problems for war cannot be too closely scrutinized. A limit must be set, too, in the morale of the devices. For instance, every responsible government chief may well hesitate about adopting the patent of that inhuman genius who proposes to annihilate whole armies, or entire crews of warships, or the complete force in a fortification by means of a powerful gas which suffocates every living being. Such devices go along with the electrical patents to slay the enemy at wholesale at an entirely safe



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distance. We are not ready for that horrible weapon yet. Submarine boats may also be still classed among the extra-hazardous implements of warfare.

Civilians probably do not understand that the navy and the army distrust inventions which propose to do away with fighting. What with five thousand dollar range finders and thirty-five hundred dollar automobile torpedoes, and expensive guns and submarine boats, and dirigible electric torpedoes and searchlights, and two million dollar battleships and harbor mines and sixteen-inch guns, fighting has become more and more scientific, but there is still the element of danger that the true soldier loves, and which he cannot escape.

The wizard Edison suggests the use of large numbers of canister lights. He would fill the canisters with calcium carbide, with a small quantity of calcium phosphide mixed in. These canister lights could be placed in the water near the patrol boats or fired half a mile away from a mortar. Acetylene gas would be given off from the contents of these canisters and this would be ignited continuously by the presence of spontaneously inflammable phosphureted hydrogen. Thus, great numbers of cheap lights could be placed over an area equal to a square mile, or even more. These lights burn for a long time and reveal the approach of hostile torpedo boats, which seem to be so much feared.

Then there is an invention which resembles bottled lightning. The electricity is stored in condensers which hold as much as a celestial thunderbolt, and

anything can be destroyed by it. It is unfortunate that one of the scientific experimenters with this terrible weapon was recently killed by his own lightning.

An electrical bomb has been almost completed. The flying projectile unrolls and carries along a copper wire connected with a powerful dynamo. When the bomb alights, it can be exploded by touching a button at the firing station.

Mr. Seely, in the Patent Office, has got up an electrical gun which will throw a continuous stream of projectiles containing high explosives. The range is six miles. Two Russian inventors have a device for boring the bottom of a hostile ship full of holes. This is to be done from a submarine boat or otherwise, and the holes are made by an electrical contrivance which causes the metal of the armor to melt and run down, thus leaving the hole.

Capt. Zalinski furnishes his new destructive device, which is a flying torpedo fitted with a dry battery. This is to be thrown alongside an enemy's ship and the water energizes and explodes the affair, and probably destroys the vessel.—Army and Navy Journal.

The Lobster Before a Class in Cookery.

Teachers of cooking in the public schools of New York City, where a good deal of attention is now given to this subject, have recently had the advantage of some most valuable instruction at the biological laboratory of Prof. C. L. Bristol, of the New York University. Of late special attention has been paid to those products of the animal kingdom that serve man as food, with a study of the digestive processes of the lower animals as a foundation for the study of the human alimentary system. In connection with this branch of the subject Mrs. Mary E. Williams, supervisor of cooking in the public schools, says: "Considering the prevalence of indigestion, I cannot see why anyone should be surprised because cooking teachers study digestive processes;" and in one of her recent practical lectures the subject was the lobster.

Mrs. Williams said: "There is no way to get the eatable part out of a lobster except by dissecting it. Then the animal has some unpalatable little green glands, which serve it as kidneys, and which cooks often fail to remove. They quickly decompose and generate a violent poison, and if teachers in cooking convey no part of their biological knowledge but this to their classes, it can scarcely be said to have been acquired in vain. The kidneys of fish also have an injurious effect if not taken out. The lobster is a most curious animal.

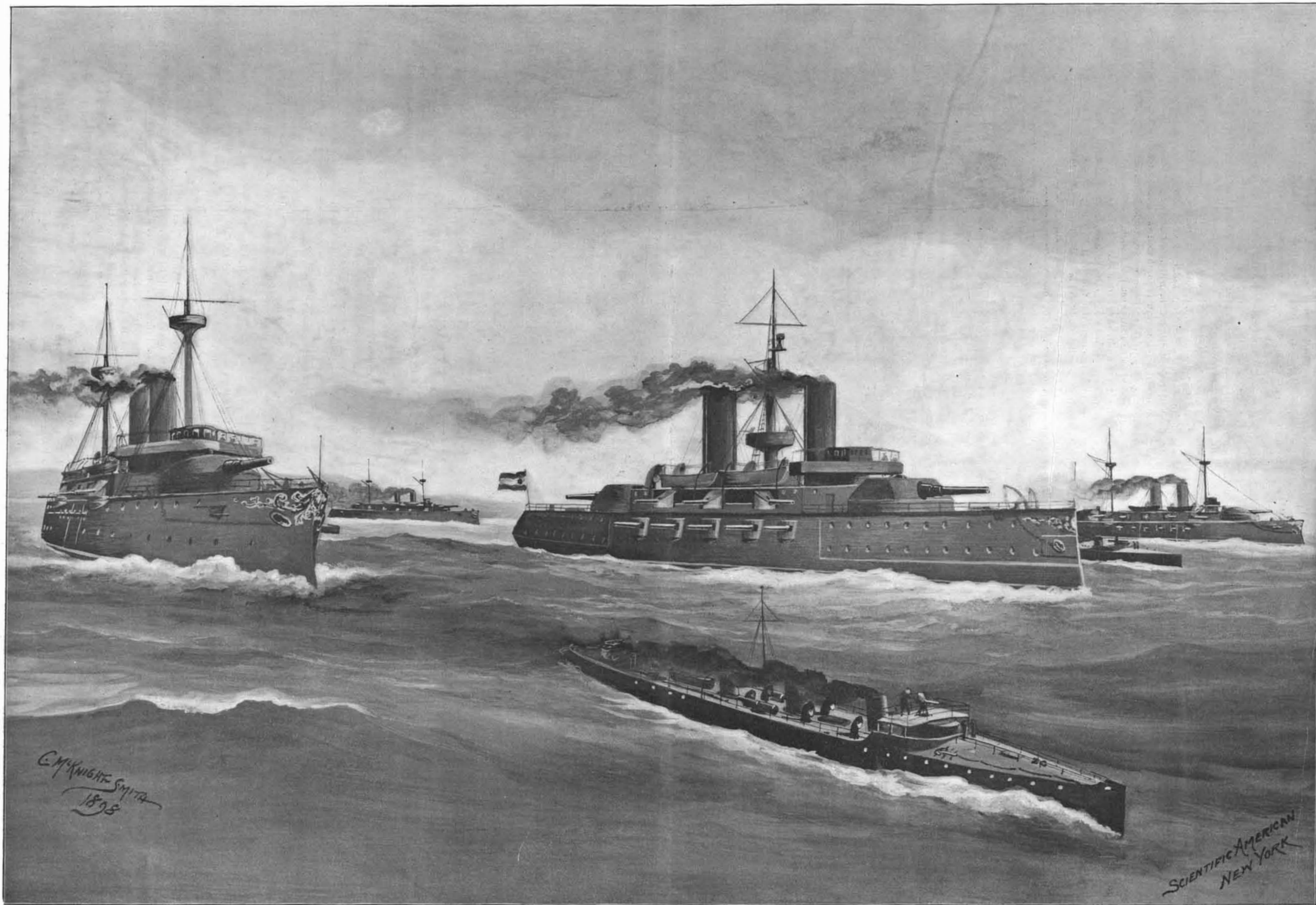
"Its stomach is located in its head and provided with teeth, and it gets a new tooth every year. The shedding of the skull is an operation which no scientist has ever been able to explain. The animal has extremely large legs in comparison with its joints, and yet it gets out of its coat of mail by drawing these huge limbs through the tiny joints. As might be expected, it is completely exhausted by the time it has accomplished the feat, and always crawls under a rock or into the sand for a couple of days to rest and let its new shell harden."

Prof. Bristol says that all animals are just as odd as lobsters when one gets acquainted with them, and his pupils appear to find them all equally interesting. Many of the teachers, instead of going home after the lecture, stay in the laboratory all day, and they have entirely conquered the usual feminine aversion to animals of the small and wriggling type. They can handle a live crawfish with as much unconcern as if it were a kitten, and when the teachers take outings in the country, the wildflowers have a rival in the various unpleasant things that grow in stagnant pools.

The Current Supplement.

The current SCIENTIFIC AMERICAN SUPPLEMENT contains many articles of timely interest. The death of Mr. Gladstone has been the event of the week, and "Gladstone and his Place in the History of his Time," by Mr. George W. Smalley, gives the views of one who had a rare and intimate opportunity for acquainting himself with the life and character of the statesman. Gladstone's latest portrait is the subject of the first-page engraving.

"Admiral Cervera" is accompanied by a portrait of this Spanish admiral, who is in command of the Cape Verde fleet. "American Competition with France in Agricultural Products," from a French point of view, discusses an important economical problem. "The Latest Discoveries of the Antiquity of Man," by Prof. D. G. Brinton, is an important article by a great anthropologist. "The Gold Fields of Australia" describes these important mines. "Malay Life in the Philippines," by W. G. Palgrave, is concluded in this number. This is one of the most interesting accounts of the Philippines which we have seen. "The Schneider-Canet Quick-Firing Breech Mechanism" describes one of the latest modern guns. "The Making of a Stained Glass Window," by L. F. Day, is a very full article.



"Vizcaya."

"Almirante Oquendo."
"Furor."

"Christobal Colon."
"Pluton."

"Maria Teresa."
"Terror."

ADMIRAL CERVERA'S "CAPE VERDE" FLEET.