

**ACCIDENT TO THE REVENUE CUTTER "GRESHAM."**

On April 26 the United States revenue cutter "Gresham" stopped at Ogdensburg, N. Y., on her way from the upper lakes to the scene of naval activity. The "Gresham" is 205 feet in length and draws about 12 feet of water. She was built in Cleveland and is very fast. This and other new cutters were transferred from the Treasury to the Navy Department at the beginning of hostilities. The "Gresham" was unable to proceed on her journey on account of her length, which was greater than the locks of the St. Lawrence canals, just below Ogdensburg, and her draught was also greater than the depth of water in the canals. In order to make the journey to Montreal, where she was to be put together again, the boat had to be cut in two, and the draught of the two sections lessened by pontooning. A section of the boat about 35 feet in length was cut from the rest of the boat, the parts were separated, and wooden bulkheads were built across the ends. Each pontoon was secured to the sides just forward of the propeller to lessen the draught of the stern sufficiently, and smaller pontoons were placed under the forward quarter to support and steady the boat section. Before hauling the boat out upon the marine railway, the anchors, chains and other movable things were unloaded upon the deck to lighten the load, and about the first part of the third week in May the boat was replaced in the water and the work of reloading the anchors was about completed when, according to accounts of men of the crew and workmen in the shipyard, all of the heavy articles were loaded upon the upper deck, instead of upon the lighter, which could accompany the boat through the canals. Naturally, the load on the deck made the boat section top heavy, and on Tuesday, May 17, it was noticed to have quite a list to starboard. This list increased rapidly, and was further aided by the breaking loose of a rapid-fire gun mounted in the boat, which was quickly followed by the capsizing of the boat section, which sank in about 35 feet of water between the piers of the dock. In turning over the gun was thrown out upon the dock, as was also one of the anchors. Fortunately, no one was killed and only one man was slightly injured. Had the accident happened some twenty minutes before, the casualties would probably have been many, as some twenty-five men were at breakfast in the section of the vessel which sank, and it is likely that many of them could not have escaped in safety. The forward section which sank weighed about 85 tons, and some of the plates which projected from both sections were badly twisted, owing to the close proximity of the two sections of the boat. The Ogdensburg Marine Railway had the contract for taking the boat to the canals, and they conducted the wrecking operations. An inspection was made since the forward section has been raised, and it disclosed the fact that many of the plates were bent and the vessel was leaking badly. The accident is generally accounted for on the theory that the pontoon on which the section rested was filled with water. This is another theory in addition to the one already advanced. Preparations are in progress for taking the cutters "Algonquin" and "Onondago," now building at Cleveland, through the canals. It is considered that the revenue cutters will not return to the lakes, owing to the fact that they cannot be gotten through the canals without cutting them again. It is probable new cutters will be built for the lakes.

To restore to aluminum its white color, which has become gray, the following is recommended: Dissolve 30 grammes of borax in 1 liter of water and add a few drops of ammonia to the solution. With this mixture wash the articles.—Die Mappe.

**Height and Distance from Sea Affecting Climate.**

The effect of elevation in lowering temperature depends upon the fact that, as heat is very slowly communicated from stratum to stratum of the air, and as the air is warmed chiefly by the surface of the earth, the lowest layers are the warmest, and the temperature on the tops of mountains is therefore much lower than on the plains below, says The Sanitarian. The difference is, however, far more marked in the day time than at night and in summer than in winter. During severe frosts the conditions are generally reversed, and the temperature rises with height instead of becoming lower, so that a thaw often sets in upon the hills while the frost is still unbroken in the valleys below. If the air were perfectly dry, the rate at which the temperature would fall would be 1° F. for every 180 feet ascent. Inasmuch, however, as the atmosphere contains moisture, which is liable to be condensed by cold, the latent heat given out in condensation dim-

inishing the strata of air coming in contact with it, and thus moderates the heat in summer and the cold in winter. It is on account of this specific heat of water that insular climates are more equable than continental, the summers being cooler and the winters warmer.

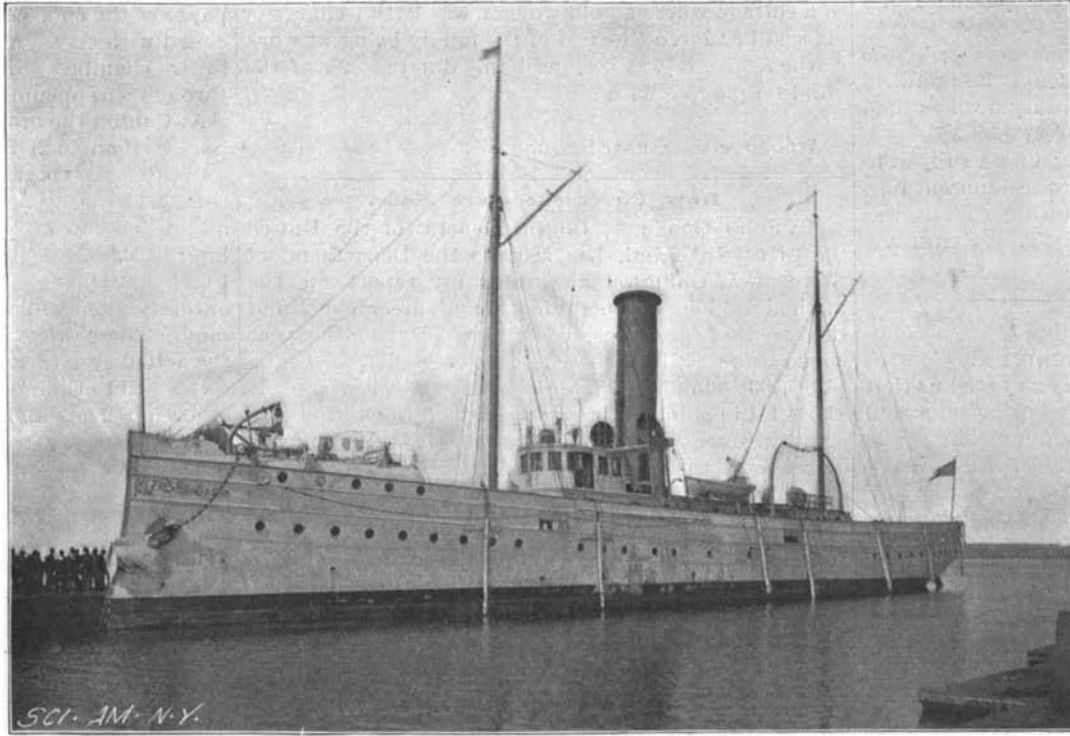
**The Philippines as a Trade Center.**

American interest in eastern affairs has witnessed a veritable boom since that memorable first of May this year. That, at least, would seem to be the first conclusion arrivable at, when the immense mass of information regarding Asiatic trade conditions and outlook which has been published is considered. That the basis of much of this very apparent popular demand for information is the thrifty American anxiety to look for possible trade extension in that direction, seems quite evident. That this trade extension may be greatly accelerated by the obtaining of a base in Asiatic

waters from which American interests may operate seems likewise accepted. One development of this popular interest is witnessed in the preparation by the Bureau of Statistics of the Treasury Department of a series of tables concerning the trade done between the United States and a number of countries of Asia in the vicinity of the Philippines. Of course, it is well known that the most thickly populated countries on the face of the globe are situated not far from the Philippine Islands, China and British India being citable as notable examples in this latter respect. While, of course, supplies for the vast population that lies within measurable distance of the Philippines, variously estimated at from 800,000,000 to 900,000,000, might not be so valuable or expensive individually as is the demand from our own or European sources, still the vast number of people to be supplied with products, a number of which can be and are made in surplus quantities in the United States, renders any statistics of this character of live commercial interest.

To the group of countries adjacent to the Philippines, including China, British India, the East Indies, Japan, Corea and Asiatic Russia, the exports of the United States are shown to have increased from a sum slightly in excess of \$27,000,000 in 1893 to nearly \$62,000,000 in 1897, and yet in spite of this growth our shipments to those countries make up less than 6 per cent of their total imports. Most of these imports, too, are of products largely produced in the United States. For instance, Chinese imports in 1896 included \$64,000,000 worth of cotton goods, over \$4,000,000 worth of woolen goods, large quantities of flour and machinery also being imported. That we have already enjoyed some of this trade seems certain from the fact that the ex-

port of cotton cloth from the United States to China increased from 27,000,000 yards in 1893 to 140,000,000 yards in 1897, and our total exports of merchandise to China in 1897 were three times as large as in 1893. Our exports of cotton cloths to British India also show a heavy gain, while to the Dutch East Indies our exports doubled in the four years mentioned, the chief articles of shipment being naval stores and mineral oils. A steady growth in our trade with Hong-Kong, which is the distributing point of that part of the world, shows a gain of nearly 50 per cent over 1894. Perhaps the greatest gain, however, is that shown in our trade with Japan, which in 1897 was more than four times that of 1893. It will be gathered from the above statistics that the Philippines might, under favorable circumstances, possess a value as a commercial center little if any inferior to their acknowledged importance as a military and naval base, and it is, perhaps, not too rash to suggest that Manila might in time even rival Hong-Kong as a distributive trade center.



THE UNITED STATES REVENUE CUTTER "GRESHAM," AT OGDENSBURG, N. Y.



ACCIDENT TO THE "GRESHAM" AFTER BEING DIVIDED TO PASS THROUGH ST. LAWRENCE CANALS.

inishes the rate of cooling, so that the rate of lowered temperature, as a general rule, may be taken as 1° F. for every 300 feet in altitude. Solar heat, being the source of all energy, exercises supreme control over climatic conditions. Radiant heat, or the heat radiated from the sun, although possessing great power of warming solid and fluid bodies on which it falls, has little power of heating the air through which it passes. Were it not for the watery vapor contained in the atmosphere, radiant heat would pass through it without raising the temperature. It is the shade heat, or the heat reflected from the surface of the earth, whether land or water, and directly warmed by the radiant heat emanating from the sun, which regulates the temperature of the air. Winds, for example, convey over immense distances the temperature of the regions from whence they arise; while owing to the greater specific heat of water, which is as four to one compared with that of land, water takes longer to warm as well as to cool. Hence, the sea remaining open, except in the polar regions, is constantly modi-