

French Lighthouses.—All the lighthouses on the French coast, except three which are provided with the electric light, have been lit since 1873 with lamps burning mineral oil. The luminous intensity of the apparatus has been greatly increased, and notwithstanding the increase a saving has been effected of more than 400,000 francs (\$80,000) per annum, or more than 30 per cent. of the cost of illumination with Colza oil. The use of the mineral oil has not caused a single accident in lighthouses, and after some trials it has also been brought into use for floating lights.—*L'Ingen. Univ.* C.

Nickel Plating by Boiling.—Dr. R. Kaizer prepares a bath of pure granulated tin, tartar and water, which he heats to the boiling point and adds a small quantity of pure red-hot nickel oxide. A portion of the nickel is soon dissolved, as is shown by the green color assumed by the liquid which stands upon the grains of tin. If articles of copper or brass are plunged into the bath they become covered, in a few minutes, with a white, beautiful, silvery metallic coating which consists almost entirely of pure nickel. If a little carbonate or tartrate of cobalt is added to the bath a blueish shade, either light or dark, may be given to the coating, which becomes very brilliant when it is properly polished with chalk or with dry sawdust.—*Mitthgn. d. Bayr. Gewerb.* C.

Mineral Wool Packing.—In many cases steam pipes that were wrapped with mineral wool (slag wool) have become deeply rusted. It was at first suspected that the gypsum was the cause of the corrosion of the iron, but a careful analysis has shown that there were no sulphur salts, and it is now supposed that the rusting was due to the hygroscopic character of the wool. The following plan has been contrived for remedying the evil. Two-parted cast iron muffs are screwed upon the ends and in the middle of each tube, which serve as receptacles for wooden laths. The space between these and the tubes is packed tightly with the wool, about 5 centimetres (1.97 in.) thick, and the whole is wrapped at various places with iron wire, so that the envelope is bound fast to the tube. The laths are first soaked in tar, and the wrapping is also varnished with tar and then surrounded with a shell of sheet iron, which is also wound at different places with iron wire. The ends of the shell are placed in the muffs and those are also coated with tar.—*Dingler's Journal.* C.