



ST. SIMON'S CHURCH, CADOGAN-TERRACE, CHELSEA.

**PETROLEUM AS WAR MATERIALS.**—Now that England and Russia are on the ragged edge of war, it is interesting to notice that the English Naval Architects are busily discussing all kinds of war construction and material. At the last meeting of their association a member read a paper "On Crude Petroleum Experiments for Purposes of Naval Warfare." There are various petroleum equipments, the best known of which consists of a steam cylinder, 15 feet long by 12 inches in diameter, to which is attached a pipe terminating in a nozzle at the bow of a torpedo boat. From this cylinder the Greek fire is ejected with great force, under a pressure of about 500 lb to the square inch. The writer believes that instead of counselling "no quarter" as a corrective of the use of Greek fire in modern war fare, it should be reckoned as a factor in hostilities, and that steps should be adopted to provide our warships with means of defence against it. It was intimated in the paper that there are grounds for the belief that Russia has already recognised the validity of petroleum in war and would probably have used it in the late contest if the experiments which led up to its adoption had been concluded in time. Admiral Selwyn, who expressed an ardent hope that warfare would eventually become so scientific as to be impossible, questioned whether a launch in attacking an iron-clad under cover of the smoke of burning petroleum would not suffer most. He hoped the matter would be gone into in this country, for it was being well considered on the Continent. Mr. McIntosh went into a long description of what might be done by attacking land

fortifications by the aid of lighted petroleum in a favourable wind. Dense fumes would drive the men from the casemates, while a small vessel with long range guns could destroy all the shipping in the harbour. Petroleum could also be used in shells, but he could not recommend crude petroleum.

**CEMENT FOR AQUARIUMS.**— $\frac{1}{2}$  lb. best white lead, ground in oil;  $\frac{1}{2}$  lb. red lead, dry;  $\frac{1}{2}$  lb. litharge, dry; the two last kneaded into the first. You have now  $1\frac{1}{2}$  lb. of the best of putty for resisting water. It will soon become hard and continue so. The glass should be bedded in it, and when neatly finished, put away for a fortnight; then varnish with shellac, dissolved in methylated spirits—say 1 ½ oz. to half a gill—put into a bottle and shaken, will be ready in an hour. It may be coloured, if need be, with a little vermilion. One coat, wherever there is any putty or metal exposed, will be sufficient, and will dry in a few minutes. Your tank will never leak after this if the frame and glass are strong; or 10 parts by measure litharge; 10 parts plaster of Paris; 10 parts dry white sand; 10 parts finely powdered resin, and mix when wanted for use into a pretty stiff putty with boiled linseed oil. This hardens under water, but it is better not to use the tank till about three days. It resists the action of salt water. Another: Mix 3 lb. finely powdered Venetian red, well dried, with 1 lb. oxide of iron, and add as much boiling oil as will reduce it to a stiff paste.