

The horrible war which has been imposed upon us, has already made a big step in that direction.

In order to save the world from Prussian hegemony, in order to stop the grasping hand of Germany over every liberal thought and generous instinct, we cannot have enough of the support of the United States alongside that of the European Allies. And this brotherhood of our armies has made indispensable, more particularly between our two countries, the scientific and industrial alliance which is necessary to conduct this war, — a war more scientific than anyone ever might have imagined.

Without citing too many examples, our metallurgists have already brought to you precious improvements in the manufacture of steel; from your side, you bring us a solution, and perhaps two solutions, to the worrying nitric acid problem.

This fecund collaboration should continue after our victory.

Yesterday we exchanged professors; to-morrow we shall exchange students. Thanks to the zeal of my devoted collaborator, Engel, thanks to the friendly efforts of some among you, quite a number of American chemists have already subscribed their names for membership in the Société de Chimie Industrielle which recently has been founded in Paris, and I hope that at our return in France, we shall be able to reciprocate and to increase the number of members of the American Chemical Society.

In this way, the field shall have been well prepared for the exchange of ideas which will precede our common efforts.

In their own turn, other elements of intimate collaboration will present themselves to reinforce all that exists already, and if I am enabled, within a few years, to visit again your beautiful land, I have the firm conviction that I shall be able to bring then the greetings of a newer France to a still greater America.

## CURRENT INDUSTRIAL NEWS

### ESTIMATION OF TIN IN LOW-GRADE STUFF

Mr. A. Adair contributes to a recent issue of the *South African Mining Journal* a method of estimating tin in low-grade ores, tailings and slimes. The method is stated to have been devised on account of the difficulty which the sodium peroxide and other fusion methods present, owing to the trouble experienced in separating the tin from the excessive amounts of gelatinous silica produced, for, in practice, evaporation with hydrochloric acid to render the silica insoluble results in large losses of tin as stannic chloride. The method described depends on converting the stannic oxide into its phosphide without fluxing the gangue. The metal is then dissolved and readily separated from the non-gelatinous silica. The ore is roasted or treated with nitric acid and washed free from pyrites. It is then ground to impalpability and mixed with 0.4 its weight of dry ammonium phosphate and 0.2 charcoal, both ground finely and well mixed. For 5 g. ore take an annealing cup and grind a lid to it till it closes all around. The inside is wetted and rubbed with a little black lead to get a good coating for polishing when dry. A kerosene blast lamp and jacket are used, first heating gently for 20 min. and then at a red heat for one-half hour, cooling off with the vapor of the lamp. Any charcoal remaining is blown off and the ignition transferred to a porcelain crucible and ground to the finest powder. It is transferred to a flask and wetted with alcohol. 25 cc. of boiled hydrochloric acid are added and the mixture left in a warm place over night, by which time the tin is in solution and easily filtered from the gangue and charcoal. Results on a sample of ore containing 1.5 per cent stannic oxide, from seven successive tests, gave an average value of 1.21 per cent.—A. McMILLAN.

### COCONUT INDUSTRY

From a recent report it would appear that the coconut industry of Trinidad and Tobago, which has been affected by prolonged droughts in previous years, has now recovered. The export figures for 1916 show an increase of 3,000,000 nuts above the number exported in 1915. On the other hand, however, the export of copra has decreased by about 1,000,000 lbs., which works out at about 2,500,000 nuts, so that the real increase for 1916 is only 500,000 nuts. The cultivation is being rapidly extended. The following figures show the distribution of the coconuts among the various countries:

	Nuts	Copra (lbs.)
United States.....	15,576,595	2,928,944
United Kingdom.....	1,783,364	410,904
Canada.....	484,800	.....
British West Indies.....	1,604	.....
Other Colonies.....	2,844	.....
<b>TOTAL.....</b>	<b>17,849,207</b>	<b>3,339,848</b>
<b>VALUE.....</b>	<b>\$484,270</b>	<b>\$228,665</b>

—M.

### STARCH SUBSTITUTES IN GERMANY

In all countries, says the *Oil and Color Trade Journal*, 52 (1917), 985, articles which were quite common prior to the war have now had to be replaced by others, either because the importation of the necessary raw materials from foreign countries has ceased or because such raw materials are being employed for other purposes to better advantage. Some interesting data regarding starch substitutes have recently been published by Dr. R. Koenig, who has investigated several types. At the beginning of the war starch substitutes in Germany consisted chiefly of potato flour mixed with chalk ground as fine as possible. When potato flour was no longer available, admixtures of powdered gelatine, white glue and fine white chalk were used. The percentage of chalk increased very rapidly as gelatine advanced in price so that in one instance it was found that the percentage of chalk increased from 20 to 35 per cent in 14 days. Although these products, as long as the glue was not of a yellowish color, were fairly satisfactory, still their price was generally out of all proportion to their actual value. Other preparations placed on the market consisted of crystallized bitter or "cat" salts, water and burnt magnesia. The latter was afterwards sold as "fatless" washing medium. This contained 70 per cent bitter salt, 23 per cent water and 70 per cent magnesia. The salt was dissolved in water and the magnesia thoroughly stirred in till dissolved, whereupon it was allowed to stand in moulds for some hours till it stiffened through the formation of oxysulfate.—M.

### SALTPETER PRODUCTION IN INDIA

From the bulletin issued by the Agricultural Institute, Pusa, it would appear that, subject to certain conditions being realized, there is a good opportunity for developing the production of saltpeter in India. The general conclusions arrived at are as follows: (1) The present sources of saltpeter are not fully utilized on account of the drawbacks at present associated with the *nuniah's* business and the low price of crude saltpeter; (2) artificial niter-beds, on account of the favorable soil and climatic conditions in Bihar would probably form a useful added source of saltpeter; (3) the present methods do not allow of recovery of all the nitrate present in the earth worked. It is to be determined whether a better method of extraction could be devised capable of being carried out and whether the efficiency of this method would necessarily depend upon some relaxation or revision of the restrictions at present imposed by the Salt Department; (4) the present conditions of trade in this commodity require examination to determine whether a great demand for Indian saltpeter would result from organized efforts to improve them such as the elimination of the middleman and the standardization of the product itself.—M.