London, and in one these, the *Minerva*, Mr. Whittemore sailed in the spring of 1799. He was absent a year, his return voyage occupying 59 days.

On the 3d of March, 1809, the patent was extended by a unanimous vote of Congress, for 14 years from the expiration of the first term. In 1812, the Legislature of New York passed an act incorporating the "New York Manufacturing Company," with a capital of $800,000, of which $300,000 was directed to be employed in the manufacture of cotton and wool cards. On the 20th of July, 1812, this company bought of the Messrs. Whittemore their patent right and entire machinery for $150,000. In 1818, the company sold all of its manufacturing property to Samual Whittemore, a brother of the inventor, who is reputed to have made a very large fortune in the manufacture of cotton and wool cards.

After the sale of his interest in his patent, Amos Whittemore purchased a pleasant estate in West Cambridge, and retired from active business. Here, after a pure and blameless life, he died in 1828, at the age of 69 years.—*Scientific American.*

Miscellaneous.

Purification of Coal Gas.

It has already been observed that dry hydrate of lime ceases to absorb sulphuretted hydrogen gas, in the purifiers, before being saturated with that gas. By observations upon the absorption of the pure sulphuretted hydrogen by hydrate of lime, I find that the latter ceases to absorb the gas, even in the most favourable circumstances, when a quantity which varies from one-fourth to one-half of an equivalent of gas is absorbed, instead of a whole equivalent, as might be expected; and that, of the small quantity absorbed, a portion is taken up by the hydrate of lime, slowly and with difficulty. I am convinced from these experiments that the quantity of sulphuretted hydrogen which hydrate of lime can take up in the dry purifiers is not under estimated at one-fourth of an equivalent. It is also to be observed that, unless attention be paid to have the hydrate of lime in a certain state of dampness, the absorption may be considerably less. Now, the hydrate of lime may be made to occasion the absorption of two whole equivalents of sulphuretted hydrogen, or eight times the above quantity, and this large absorption to take place with increased force, and with certainty at all times, by preparing it in a particular manner. Three and a half parts of quicklime are slaked with a solution of nine parts of anhydrous sulphate of soda, in 14 or 15 parts of tepid water. This gives a mixture of 4½ parts of hydrate of lime with about 20 parts of crystallized sulphate of soda, which is dry, or only slightly damp, It is the matter to which the coal gas is to be exposed in the dry purifiers. To prepare this mixture, instead of dissolving the anhydrous sulphate of soda, it may be ground, and be mixed with the quicklime, previously slaked in the usual way. An addition of 11 parts of water is then made to the mixed powders—[3½ parts of quicklime, slaked, 9 parts of ground sulphate of soda, and 11 parts of water]—which water combines with the sulphate of soda, and gives a dry powder, consisting of hydrate of lime, with crystallized or hydrated sulphate of soda. This mixture (however prepared) absorbs sulphuretted hydrogen with unabated vigour, till completely saturated, and then has an olive-green colour, and consists of sulphate of lime or gypsum, and the bi-hydrosulphuret of sodium. This residuary product would, I believe, bring a price equal to that of the sulphate of soda consumed, or perhaps considerably greater. The soda-makers could economize it in different ways. If water be poured over the mass, the bi-hydrosulphuret of sodium is, I find, dissolved out with much ease, and a pure pulverulent gypsum remains, which might be available as manure. The solution of bi-hydrosulphuret of sodium evaporated to dryness may be readily reconverted into sulphate of soda, by a slight roasting, with access of air, one proportion of the sulphur escaping in the form of sulphurous acid. It could be managed, in favourable circumstances, to throw the latter into a sulphuric acid chamber. Otherwise, carbonic acid gas (as by Gossage's patent) might be passed over the residuary matter in question, without dissolving it, and the sodium converted into carbonate of soda, with the escape of two proportions of sulphuretted hydrogen gas, which last would be burned in the sulphuric acid chamber; or the solution of the bi-hydrosulphuret of sodium, separated from the sulphate of lime, might be treated by itself with the carbonic acid, and the soda converted into carbonate of soda, with the recovery and useful application, as before, of the sulphur; or carbonate of soda may be used instead of sulphate of soda, but is not so cheap.

Sulphate of soda may be added to the liquid lime-purifiers with the same advantages. T. G.

We have used this mode of purification (which we have taken the liberty to insert) with great success both in this country and abroad. It was pointed out some years ago to the Editor by Professor Graham, the present Master of the Royal Mint. It may be observed that the above process also removes the ammonia from the gas, the sulphate of lime which is formed being the active agent. Care must be taken not to use the sulphate of soda as obtained in making nitric acid from nitrate of soda. The dry method of purification by the above system is to be preferred to the wet method.—*Sanitary Reporter.*

Preservation of Meat.

The importance of preserving meat, whether for our sailors or for other purposes, cannot be overrated, and various ways of effecting this object have been, from time to time, devised. The methods hitherto adopted, on a large scale, have been the packing of cooked meat in air-tight cases, or impregnating it with salt, and keeping it in barrels immersed in brine. The first, though effectual for preserving the meat for almost any length of time, leaves the flesh, even when the utmost care is taken in the process, more or less insipid and tasteless; the second though also preservative for a considerable time, renders the meat not only flavourless, but absolutely extracts from it, as Liebig tells us, nearly all its nutritive properties, as well as those peculiar properties which