

Robins, the analytical chemist. The method consists in treating chromate of potash and peroxide of barium with diluted sulphuric acid. The operation is performed in a common glass jar or retort, and at the ordinary temperature. To those who are acquainted with the plan hitherto adopted of heating manganese in iron bottles this discovery will need little recommendation, and it is difficult to predict to what discoveries and improvements in the economy of life and light it may lead. Meantime it is interesting that this discovery should have been first introduced to the public within the walls of an institution where the body is so largely benefited by natural processes of oxygenation.

A New Pigment.

A new pigment, says the *Mining Journal*, calculated at the same time to increase the resources of the decorative painter, and to afford a ready means of preserving iron and other metals, has recently been introduced at Paris by Mr. L. Oudry of the Auteuil Electro-Metallurgic Works. He first obtains an absolutely pure copper by throwing down the metal by the galvanic process; he then reduces the precipitate to an impalpable powder by stamping. This powder is then combined with a particular preparation of benzine, and used in the same way as ordinary paint; beautiful bronzed effects are produced upon it by means of dressing with acidified solutions and pure copper powder. The articles painted with the new material have all the appearance of electro-bronze, whilst its cost is less than one-sixth; it will last from eight to ten years. Mr. Oudry also proposes to substitute benzine oil for linseed and other oils, over which it possesses great advantages.

Our Machinery.

What a contrast does the work of the machinists of the present day present to those of a hundred years ago! At one time, as Mr. Smiles observes, an engine of any size, when once erected required the constant attention of the engineer, who almost lived beside it in order to keep it in working order, such was the friction of its parts and the clumsiness of its construction. At the present time, however, almost absolute perfection of working is obtained. When the 5,000 different pieces of the marine engines designed for the *Warrior* were brought together from the different shops of Messrs. Penn, although the workmen who built them up had never seen them before, yet such was the mathematical accuracy of their fit that, immediately steam was got up, they began working with the utmost smoothness. As a new-born child, as soon as it enters the world and expands its lungs, begins to stretch its limbs, so this gigantic engine, immediately steam began to expand in its cylinder, at once exerted its huge members with the smoothness and ease of life.—*Once a Week.*

The Metal Vanadium.

The metal called Vanadium, discovered in English pig iron, is used in the preparation of writing ink. To a solution of nutgalls is added a minute portion of vanadic acid, and the ink thus obtained is intensely black and indelible by the ordinary agents which destroy the color of the ink in common use.

Rat-skin Gloves.

An exchange says:—"It is rumored that a company of Frenchmen has been formed in Chicago, for the purpose of catching all the rats possible, curing their skins and exporting them to Paris, to be used in the manufacture of gloves. For years what is called 'French kid' gloves have been made from the skins of these animals, caught in Paris and other parts of Europe; but the demand being greater than the supply it has become necessary to extend the rat catching arrangements to America, and no finer field than Chicago for such operations can possibly present itself."

How Glass Chimneys were Invented.

Argand, the inventor of the famous lamp which bears his name, had been experimenting for some time trying to increase the light, but to no purpose. On a table before him lay the broken neck of an oil flask. This he took up carelessly, and placed it, almost without thought, over the wick. A brilliant flame rewarded this act, and the hint was not lost on the experimentalist, who proceeded to put his discovery into practical operation at once.

Is Flax Exhaustive?

It is believed by many that flax is an exhaustive crop, but it is to be doubted if it is more so than most of the small grains. All of them are so if the land is continually cropped and nothing returned to the soil. Experiments of Professor Johnson showed that flax is less exhausting than either wheat or oats, judging from the amount of phosphoric acid given by its ash. Dr. Hodges, of Belfast, Ireland, recommends the application of 48 lbs. muriate of potash, 16 lbs. soda ash, 54 lbs. bone dust, 56 lbs. sulphate of magnesia, 34 lbs. gypsum, per acre, as a manure for flax land.

Death in the Sweetmeat Jars.

A child was recently poisoned in Pennsylvania, so that death ensued, from eating apple-butter which had been kept in a glazed jar. This glazing contains an active poison—the oxide of lead—which is dissolved by fruit acids, and is extremely dangerous to life. All such substance as apple-butter and the like should be kept in wood or glass vessels, so as to avoid the possibility of mischief. The above is not a solitary instance, as many similar have occurred.

Lighthouse Illumination.

Lighthouse illumination produced by a magneto-electric apparatus has been in successful operation at the South Foreland and Dungeness beacon for two years. Currents of air produced by the rotation of masses of iron in the neighborhood of powerful permanent magnets generate the current of electricity, which ignites pieces of carbon intensely, thus producing the light.

Preventing Incrustation of Steam Boilers.

Mr. John Travis, of Royston, Lancashire, proposes the use of Irish moss, or silicate, arseniate, or phosphate of soda, to prevent incrustation of steam-boilers. From 6 lbs. to 8 lbs. per week, usually suffices for 40 or 50 horse-power boiler.