

sembles the finest gold, and at the same time is not only capable of being cast in moulds but also forged under the hammer like the softest iron, which metal in strength it far surpasses. Reid and Sons, gold and silversmiths, in Newcastle, also manufacture articles of this metal. Availing themselves of the brightness and cheapness, Reid and Sons have taken out a patent for manufacturing watch cases of this metal. These cases can not be distinguished from gold, and are as cheap as silver. From the above, when it is remembered that aluminium is incorrodible, and never blackens even in the most impure atmosphere, there appears every reason to hope that before long it will find extensive employment in the manufacture of our country.—*Artizan*.

Diamonds used for Boring into Hard Rock.

An instrument is now being employed in France, made out of a tube furnished with a circular cutter of rough diamonds. It is caused to revolve, and as it enters into the stone the cutter scoops out a cylinder which is afterwards easily taken out of the tube. Holes in hard granite for blasting purposes, 47 millimetres in diameter, and from 1.10 metres to 1.20 metres deep, are thereby bored in one hour. This would require two days work in the ordinary way. The diamonds, when examined through a magnifying glass, do not seem at all injured.—*Cosmos*.

They do as their Father did.

The most ignorant labourer knows that the rain-drops, falling on his dung-heap bring with them silver pieces. He knows that the refuse, sweltering in the ditches of his village, and poisoning the air, would fructify his corn fields. He nevertheless stands by with indifference, like his father before him, and, for the same reason, because things were the same in the good old time. In the same way (continues Liebig), the municipalities of large cities spend annually immense sums on their sewerage. They put the means of reproducing the bread of millions beyond the reach of the farmer. The farmers look on this with indifference. They however think it a praiseworthy undertaking to fetch the same elements from America, several thousands of miles away.

Worth Knowing.

One pound of green copperas costing seven cents, dissolved in one quart of water, and poured down a privy, will effectually concentrate and destroy the foulest smells. For water closets on board ships and steamboats, about hotels and other public places, there is nothing so nice to cleanse places, as simple green copperas dissolved under the bed, in anything that will hold water, and thus render a hospital or other place for the sick free from unpleasant smells. For butcher stalls, fish markets, slaughter houses, sinks and wherever there are offensive, prurid gases, dissolve copperas and sprinkle it about, and in a few days the smell will pass away. If a cat, rat, or mouse dies about the house and sends forth an offensive gas, place some dissolved copperas in an open vessel near the place where the nuisance is, and it will soon purify the atmosphere.

Manufacture of Saltpetre.

Saltpetre is obtained in the Mammoth Cave, Kentucky, and considerable quantities were obtained from this source during the war of 1812. It is derived chiefly from the excrements of bats, &c. Most all the saltpetre which is employed for the manufacture of our gunpowder comes from India. It is not known whether any saltpetre is now obtained from natural sources in the Southern States. If the Secessionists were deprived of this substance entirely, they could not carry on a war. The nitrate of soda is very abundant in many parts of the world, and were it not so deliquescent, it would answer just as well for making gunpowder as nitrate of potash. The formation of natural saltpetre is a very slow process, requiring about two years to complete. During the French Revolution 2000 tons were made in one year in Paris; and were foreign supplies cut off, twice the quantity could be made in the same space of time in the city of New York with its present number of inhabitants. In Sweden each peasant who owns a house is bound by law to make a certain quantity of saltpetre every year for the use of the State. In Spain, Egypt, Persia, and especially in India, vast quantities of this salt are made annually; and it is not only a source of great profit but of warlike power to Great Britain.—*Scientific American*.

Magnified Photographs.

The *Times*, referring to the closing *Soirée* of the British Association at Cambridge, says that M. Claudet exhibited, by the aid of the oxyhydrogen light, the enlarged images of the solar camera thrown on to a screen. A number of *cartes de visite* were enlarged, showing the great perfection of proportion and the natural expression which may be imparted to portraits when they are taken in a very short sitting. In order to show the working of the solar camera, it was placed in a room adjoining the great hall. M. Claudet exhibited in this manner pictures of persons enlarged to the size of nature, and some considerably larger, from small *cartes de visite*. The effect was very striking and beautiful. He also exhibited some photographs, taken by the Comte de Montizon, of all the most curious animals of the Zoological Gardens, and some views of Java, taken by Messrs. Negretti and Zambra, with instantaneous views of Paris by Ferrier, showing the Boulevards full of carriages and people, as they are in the middle of the day. One of the principal objects of M. Claudet was to explain how it is possible to trace or draw with pencil on canvas those enlarged portraits when they are to be painted, and for this purpose how it is even more advantageous to apply the colours, not on a surface containing the chemical substances of photographic pictures, but on the usual medium employed by artists without the black shadows forming the delineation of photographs.

Purity of Frozen Water.

M. Robinet has made a variety of experiments to ascertain how far water is freed from saline impurities by congelation; and his results go to show that the small amount of lime and magnesian salts in potable waters is forced out in the act of freezing as completely as the more soluble salts