

ards the exact prototypes of those of Paris. The Government of each country will take upon itself the verification of each of these standards."

The *Scientific American* says:—"Responsive to the first recommendation of the Commission we notice that in our own state the metric system of weights and measures has recently received a new and powerful impetus. At a recent meeting of the Teachers' Association of the State of New York, after an able discussion of the subject it was concluded that the system should be taught in the common schools and academies of the State. We understand that text books adapted to the system have been under preparation, and will be ready for use at the beginning of the next academic year. Several of the colleges also have added the metrical system to the ordinary subjects of examination for matriculation. If these plans are faithfully carried out, the final abolition of our present incongruous weights and measures is near at hand."

Would it not be well that our educational authorities should give this subject some consideration? It would be a sign of progress if our young Dominion take an early and decided step to prepare for the introduction of this system into Canada.

Preparing Oxygen.

We may call the attention of our readers to a process for preparing oxygen which is very simple and inexpensive. It was proposed some time ago, by Mr. Mallet, to take advantage of the well-known fact that subchloride of copper, when exposed to the air, absorbs a large quantity of oxygen, producing an oxychloride of the metal. The latter when gently heated, readily parts with the oxygen which it has absorbed, and returns to its original condition. Thus, by alternate exposure to the air and heating, it can be made to play the part of an effective separator of oxygen from the atmosphere. We will now give a few details of the new process.

PREPARATION OF SUBCHLORIDE OF COPPER.—This salt is prepared with moderate facility by digesting four parts of finely-divided metallic copper and five of the common black oxide of the metal in hydrochloric acid. Prolonged digestion is required in order to affect this object, together with the presence of a sufficient excess of acid. The whole is evaporated to dryness as quickly as possible, and the dry residue preserved for use.

PREPARATION OF OXYGEN.—The subchloride of copper, prepared as above, is very finely powdered and intimately mixed with half its weight or rather more, of fine white sand. A little water is then added, and the mixture well agitated in a large vessel. After a few hours it will have absorbed all the oxygen from the air which it is capable of doing; and, when required for use, the mixture should be placed in a suitable gas-generating vessel, and gentle heat applied. Oxygen is then steadily given off in considerable quantity and may be collected in the usual way.

The residue in the retort, when moistened with water and exposed to the air as before, absorbs a fresh quantity of the gas, which may be obtained by heating, and this succession continued for a considerable time.—*British Journal of Photography.*

The Suffocation of Fires.

ONE of the most notable instances of extinguishing a fire which could not be reached by water was that of a coal-mine in Scotland, in 1834. It had been burning thirty years, and baffled all efforts to extinguish it. Mr. Goldsworthy Gurney, who was distinguished for the application of the steam jet for ventilating mines, was asked if he could extinguish it. He undertook the work. He covered the openings of the mine, leaving only two holes, into one of which he drove, by the steam jet, the products of combustion from a coke fire, a mixture of impure carbonic acid and nitrogen. In about six weeks the fire was extinguished. The difficulty was chiefly in cooling the heated mass, so that when fresh air was admitted combustion could not recommence. This was effected by mixing the spray of water with the jet of suffocating gas. Well purified gases of this kind would suffocate fires in stores, without soiling the goods.—*American Artizan.*

Arbitration in the Building Trades.

The carpenters and builders of the Potteries and Newcastle have, instead of striking or locking out, adopted the sensible plan of submitting their difficulties to arbitration—one arbitrator chosen by each side, with Mr. Forbes, architect, as umpire. The result is a series of rules just issued. The working hours are to be 56½ hours per week, except in the winter months, when they will number 54½, at 6¼d; superior workmen to be rated; overtime to be reckoned 1½ hour per hour till eight, and 1½ hour per hour afterwards. Within a mile, the workman is to walk in his own time; beyond a mile an hour per three miles, to be paid in going only; beyond three, a sum to be agreed. Disputes are to be settled by six masters, six men, and an umpire. Objections to a rule or rules are to be specified on the 31st December, by requisition of six men to six masters, or *vice versa*, and a settlement thereof to be effected before March 1st.—*Builder.*

How to Judge the Character of a Horse.

I offer the following suggestions, the result of my close observation and experience: If the color be light-sorrel or chesnut, his feet, legs and face white—these are marks of kindness. If he is broad and full between the eyes, he may be depended on as a horse of good sense, and capable of being trained to anything: as respects such horses, the more kindly you treat them the better you will be treated in return. Nor will a horse of this description stand a whip if well fed. If you want a safe horse, avoid one that is dish-faced. He may be so far gentle as not to scare, but he will have too much go-ahead in him to be safe with every body. If you want a fool, but a horse of great bottom, get a deep bay with not a white hair about him. If his face is a little dished so much the worse. Let no man ride such a horse that is not an expert rider; they are always tricky and unsafe.

If you want one that will never give out, never buy a large over-grown one. A black horse can not stand heat, a white one cold. If you want a gentle horse, get one with more or less white about the head, the more the better. Selections thus made are of great docility and gentleness.—*Country Gentleman.*