

amount and accuracy of the knowledge of physical and political geography, of manners, customs, etc., displayed by intelligent children of both sexes. Well-drawn maps, often executed at leisure-hours by the pupils, are commonly exhibited on these occasions.

"7. The elements of physical science, the laws of natural philosophy, and the most striking phenomena of natural history, form subjects of useful and very attractive lectures in many good schools. These subjects have been introduced within the last few years, with great advantages to the pupils.

"8. The principles of political economy, with especial reference to questions which touch on the employment and remuneration of labor, principles of taxation, uses of capital, etc., effects of strikes on wages, etc., are taught with great clearness and admirable adaptation to the wants and capacities of the children of artisans, in the reading-books generally used in the metropolitan schools. I have found the boys well acquainted with these lessons in most schools which I have inspected in the course of this year.

"9. Drawing is taught with great care and skill in several schools by professors employed under the Department of Science and Art."

If any boy in Upper Canada has failed, either through his own neglect or want of opportunity, to attain to anything approaching the above standard, he should now avail himself of the facilities afforded by well appointed Mechanics' Institutes in several of the towns and villages, to perfect himself as far as possible in the most useful of these studies, through the instrumentality of the evening classes. The exercises are generally conducted in an interesting manner, the fees for instruction are but nominal, and no excuse can exist for not profiting by them.

Fresh Beef from Salt Junk.

If a piece of salt meat be put in water either in a vessel the bottom of which is made of a bladder, or in a bag made of untanned skin, and this placed in another vessel of water, the salt will be gradually drawn out of the meat, and pass through the parchment or skin, but the juices of the meat will be left behind in the first vessel. Brine in the beef barrel contains a considerable portion of the juice of the meat, which may be saved by filling the inner vessel with it; the salt from both brine and meat will pass through the membrane. The process is to be continued until salt enough is extracted to leave the meat and liquor palatable. This method is known and practised upon by sailors in the Mediterranean Sea, who inclose their salt junk and a portion of the brine in a "water skin"—that is, a bag made of goat skin for holding water. This is attached to a line, thrown over-board, and towed through the water until the meat and liquid are freshened to the same degree as sea water. The liquid is then used for soup, and the meat cooked as wanted. A similar operation may be made very useful by soldiers in camp where fresh meat is unobtainable, and families where salt junk forms the staple diet several months in the year.—*Grocer.*

Superphosphates for Bread.

When 10,000 lbs. water, 1,000 lbs. oil of vitriol, and 1,400 lbs. burnt bones, are agitated together briskly for 18 hours, then drawn off and lxivated, the result is a liquid superphosphate of lime, free from gypsum. This is patented, and so are others by the same inventor. "These superphosphates are used in the preparation of self-raising flour, by sifting intimately together 1.66 lbs. of carbonate of soda, 3.69 lbs. of the diluted superphosphate, and 191 lbs. of flour. They are also used in the manufacture, of what is called yeast powder, or baking powder, by intimately mixing superphosphate and bicarbonate of soda, in the proportion of 20 parts of the former to 9 of the latter. It is also proposed to prepare packages containing parcels of equivalents of soda and superphosphates for given weights of flour—as for 25 lbs. for example."—*English Patent dated Feb. 10, 1864.*

Presence of Mind and Common Sense.

If a person swallow poison deliberately or by chance, instead of breaking out into multitudinous or incoherent exclamations, despatch some one for the doctor; meanwhile, run to the kitchen, get half a glass of water in anything that is handy, put into it a teaspoonful of salt, and as much ground mustard, stir it an instant, catch a firm hold of the person's nose, the mouth will soon fly open—then down with the mixture, and in a second or two up will come the poison. This answers better in a large number of cases than any other. If, by this time, the physician has not arrived, make the patient swallow the white of an egg, followed by a cup of strong coffee, because these nullify a larger number of poisons than any other accessible article, as antidotes for any poison that may remain in the stomach. If a limb or other part of the body is severely cut, and the blood comes out by spirts and jerks, be in a hurry, or the man will be dead in five minutes; there is no time to talk or send for a physician—say nothing, out with your handkerchief, throw it around the limb, tie the two ends together, put a stick through them, twist it around tighter and tighter, until the blood ceases to flow. But to stop it the tie must be above the wound, or it does no good. Why? Because only a severed artery throws blood out in jets, and the arteries get their blood from the heart; hence, to stop the flow, the remedy must be applied between the heart and wounded spot—in other words, above the wound. If a vein had been severed, the blood would have flowed in a regular stream, and, on the other hand, the tie should be applied below the wound, or on the other side of the wound from the heart; because the blood in the veins flows towards the heart, and there is no need of so great a hurry.

Tinder.

When a piece of paper is set on fire, it all burns up except the tinder—which comes from the hot blaze unburned. And yet, if a spark fall upon this tinder it will catch fire and burn far more readily and surely than paper will. Why does it not burn in the blaze with the other portions of the paper? Paper is made mostly of vegetable fiber, which is composed principally of carbon, oxygen and