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## The Canada Farmer

TORONTO, CANADA, JULY 15, 1876.

### Experiments with Blue Lights.

We have already recounted General Pleasanton's theory regarding the increase of temperature in rooms and greenhouses, by the use of alternate blue and white lights. Further experiments conducted by him and based upon the same theory are both curious and interesting. He prepared an experimental grapy in 1861, and, at a venture, adopted every eighth row of glass on the roof to be violet colored, alternating the rows on opposite sides, so that the sun in its daily course should cast a beam of violet light on every leaf within. In April he proceeded to plant cuttings of vines of twenty varieties, and soon after, the growth began and progressed so rapidly as to attract general attention. In September Mr. R. Buist, a noted horticulturist, on entering the grapy, was lost in amazement at what he saw, and said that, although he had visited some of the best vineries and conservatories in England and Scotland, in the course of an experience extending over four years, he had never seen such a growth before. On measuring some of the vines, he found them to be 45 feet in length, and an inch in diameter at the distance of one foot above the ground. In subsequent years the same remarkable growth was exhibited, the vines continuing to bear large crops of fruit without intermission ever since.

The General next proceeded to experiment on animal life. He built a piggery and introduced into the roof and three sides of it, violet-colored and plain glass in equal proportions. The experiment, though not remarkably successful, was sufficiently so to afford him some encouragement. His next subject was a bull calf, puny and feeble at birth, and in this case, the result has been "extraordinary" the animal maturing into one of the best developed of its kind. He also found similar effects from testing the efficiency of the same force on fowls and fishes; "they grew much more rapidly and to a larger size than when exposed to simple sunlight alone." It appears, from some of the experiments recorded, that it is immaterial through what medium the blue or violet light is transmitted. In one case Mr. Buist simply painted the inside of his panes a light blue, with the same effect. In another, in which a delicate child was claimed to have been restored to health, the medium was the blue drapery of its bedroom. This latter case is attested by Commodore Gainsborough of the American service. And a third, still more noteworthy, was that of a Philadelphia physician's wife, whose case had been despaired of by the medical fraternity, but who "rapidly and entirely recovered under the influence of the blue light." Such is the testimony afforded regarding this new theory, which, however, will be received with an ample admixture of caution until each one has tested the matter for himself.

### Dangers of Spontaneous Combustion.

Several instances having been recorded recently of fires originating apparently from old, greasy dish-cloths thrown away on kitchen waste-shelves, men of science have given their attention to the subject and, after careful experiments, announce the following curious results. It is determined by experiment that a handful of cotton waste soaked in boiled linseed oil, placed in a chamber at a temperature of 170 deg. Fah., will take fire in less than two hours. If raw linseed oil be used, the time occupied is from four to five hours, and with rape oil about six hours. Coal-oil takes about the time last mentioned, under 132 deg. Fah. Castor oil, under like circumstances, is very

slow, and at the end of two days, waste saturated with it only became a mass of charred cotton. Lard oil produces rapid combustion in about four hours. Sperm oil, on the other hand, refuses even to cause a charring of the waste. Seal oil, of a strong fish odour not unlike sperm, has produced rapid ignition in one hundred minutes, temperature being as last stated. The heavy oils from coal and shale, being chiefly the higher olefines, have a remarkable effect in preventing oxidation, through giving a certain protection from the air. Mixtures of these oils with 20 per cent of rape oil gave no indication of heat whatever at 170 deg. Fah., and even seal oil, with its own bulk of mineral oil added to it, did not at 135 deg. reach a temperature sufficient to char cotton. As a general rule, it may be laid down that spontaneous combustion of refuse, soaked with vegetable or animal oils, will occur whenever the conditions are such that a temperature of at least 175 deg. continues for several hours. Cotton will burst into flame, wool, on the other hand, becomes a black mass. Equal weights of cotton and oil produce the most rapid inflammation. Combustion may be checked or stopped by the addition of mineral oil. Wherever vegetable or animal oil (other than sperm) is largely used, therefore, whether for lubricating machinery or oiling tissues, it would seem to be a safe precaution to add to it as large a proportion of mineral oil as possible, if such addition is compatible without interfering with the use of the material.

### Canadian Horses for England.

The suggestion, first broached by the *CANADA FARMER*, as early as April last year, relative to the raising of Canadian horses for England, has, we are glad to observe, not been without effect. By recent English advices we learn that a number of animals purchased in the neighborhood of Toronto and Montreal, arrived in London last month by the Dominion Line. The cost of transit was \$50 a head from Montreal. The average price at which they were bought here was \$120, and in England they sold readily at from £75 to £60, (\$275 to \$300). One fine upstanding bay horse, which cost in Toronto \$102, was purchased for a gentleman's brougham for \$315. It is further stated, as the opinion of many English judges, that Canadian bred animals are better suited to the British market than Kentucky horses, such was the interest manifested in this, the first consignment of Canadian horses, that an effort was made to put them on exhibition at the Agricultural Hall. Owing to the Horse Show, however, the effort was impracticable, till most of the lots were purchased. But it is very likely that the next arrivals will be shown there. The speculation on this occasion was a private one, but it serves to show that if relative prices continue anything near what the importer has realized, Canadian farmers will find it decidedly advantageous to breed more horses.

### Frozen Meat from Australia to Great Britain.

The growth of meat in Australia is so far in excess of the requirements of its people that the pastoral tenants have, according to seasons and circumstances, either to boil down the surplus, or else "tin" and export it as preserved meat. Although both these processes have been carried to a high degree of perfection, there exists a prejudice in the old country against the meat so prepared, and particularly so among the classes for whom, from its cheapness, it is thought to be best adapted. This being the case, and the matter being of too great moment to colonial interest to be allowed to languish, a Mr. T. S. Mort has come to the front and announced, after an experience of eight years at a cost to himself alone of £100,000, that he has perfected appliances both to freeze the meat exported and to keep it frozen in transit, so that, on its arrival in England, the entire carcasses can be handed over as sweet and fresh as when killed. As far as successfully accomplishing all he sought for on shore, there is no doubt of that, as meat kept at the works for months has been tested by hundreds and no difference in flavor or appearance could be detected between it and ordinary butcher's meat; out of course, the stowing it in a ship's hold and sending it through all changes of climate involves a special adaptation for the sea voyage of means only hitherto proved suitable on shore and there is therefore a new element of risk, which has hitherto been felt that he should not

have unanimously arranged to raise £25,000 for the sole purpose of sending a trial shipment to England. Mr. Mort foregoes all claims for patent right profit, and also arranges to go personally in charge, so that in the event of there arising some unforeseen difficulty, his inventive genius may be at hand to promptly remedy or remove it. Over £18,000 has been already collected towards carrying out the experiment, and we may therefore expect to hear with in a very short time of 500 tons of frozen fresh meat being on its way from Sydney to London. Should it succeed fully, it requires no prophet to foretell what a real blessing it will prove to the whole of the lower and middle classes at home.

### Canadian Canned Meat.

The promoters of the North American Packing Company, located on the bank of the Lachine Canal, near Wellington Bridge, Province of Quebec, have recently been visited by members of the Montreal city council, who furnish some interesting particulars regarding the extent of the establishment, and its various operations. The cattle shed is 110 feet long, by 27 feet in width. It contained, at the time of the visit, thirty-five, distillery-fed, Ontario steers, averaging about 1,300 pounds each. The slaughter house, 50 x 45 feet, has a gutter running through it, and communicating with a large sewer by which all refuse is carried off. Here five men are kept constantly employed in skinning and dressing meat. On this occasion an animal was despatched in 13 seconds. From the slaughter-house the dressed carcass is transported, by means of a hoist, to the "boning room." This latter is about 50 feet square, and affords employment to from 30 to 50 men, who, ranged around five tables, extract all the bones. The average quantity of meat "boned" per day is 15,000 pounds. After the meat has been boned and carefully cleaned, it is taken to the "bath house," about 50 feet square, and boiled for two hours in two pound tin cans, which are arranged in iron racks or cradles, 24 in each rack, and deposited in one or other of five different baths, each capable of holding 550 cans. After boiling for the time specified, the cans are removed and their "brongues" (small soldered spaces in the top) opened to let out the air. This done, they are again closed, and the meat is subjected to five hours' additional cooking. The boilers supplying hot water for this latter process, are 14 x 4½ feet, and ten men are employed in the department. Next follows the cooling process which is facilitated by a stream of cool, fresh water being allowed to play upon the cans for about eight hours. These are finally removed to the "retort" where they are again heated, the object being to give firmness to the meat, and render it more susceptible to an equal distribution of "stock" or gravy poured over its surface. Adjacent to the main establishment is the tin can manufactory, which, with its forming machines, dies, double acting power-presses, swedging machines, paint shops &c., gives employment to forty additional men and ten girls. The bones extracted, as already alluded to, are placed in what is called the "digester," a strong metal vessel with safety valves, and subjected to a high steam pressure which causes their juices to exude in the form of "stock" or gravy for preserved soups and other similar purposes. The company's business is now very fairly established, and, according to all accounts, rapidly increasing.

### Montreal Agricultural and Horticultural Society.

The Montreal Agricultural and Horticultural Society has issued its first Report on the different varieties of fruits which have proved best adapted to the Province of Quebec. A brief description is given of each variety, such as will serve as a guide to intending planters and propagators. The paper on pears partakes more of the nature of an individual report, many of the kinds enumerated having been comparatively untried, or tested to a very limited extent. Apples are adjudged in order of preference as follows: 1, Fameuse; 2 and 3, Red Astrachan and Alexander; 4, Duchess of Oldenburg; 5, St. Lawrence; 6 and 7, Peach of Montreal, and Golden Russet of Western New York. Of Grapes, the "Montreal Beauty," a variety almost unknown outside the province is well spoken of. The tree, says the Report, is rather large, with a very close and upright head which remains so until the weight of fruit presses it down and open. It bears heavily but