

rail-road Directors, in order to facilitate access to the exhibition: and shall make similar arrangements with hotel Keepers and other Individuals, so as to have good accommodation provided for visitors at the usual rates of charge.

20. Be it enacted, That no member of the Board of Directors or of the Local Committee shall be concerned in any contract or work of profit directly or indirectly, as surety or otherwise, ordered to be performed for the use of the Association.

AGRICULTURAL ASSOCIATION OF UPPER CANADA.

NOTICE IS HEREBY GIVEN, that a meeting of the Agricultural Association of Upper Canada will be held on Wednesday the 20th day of February next, at 10 o'clock in the forenoon, at the Court House, in the city of Toronto, for the purpose of considering certain amendments to the Constitution of said Society to be then and there submitted.

By order.

GEO. BUCKLAND, *Secretary.*

Toronto, Nov. 28, 1849.

STEAM APPLIED TO AGRICULTURE.—The following remarks on points that we deem worthy of more attention from Agriculturists than they generally receive, were made by Lord Brougham, at an agricultural meeting lately held at Penrith:—

He had been very much delighted to see so good a show of valuable engines, some of them most ingenious and very reasonable in price, for churning, hoeing, threshing, and so forth. A friend of his, a practical Agriculturist, informed him that a very important step had been taken for the purpose of saving labour, and thereby economising the expense of production, an object which, with care and judicious mechanical contrivances, was always in our power even when we could not increase the fertility of the soil. The most valuable experiments had been made in the application of steam on a small scale. People were apt to suppose that steam could only be employed on a gigantic scale, for locomotion on railways, or in great manufactories of various kinds; and of course in proportion to the size of the engine was its expense both in first cost and in working it by means of fuel. But in the town of Glasgow a person had been able to have a steam engine not larger than a tea-kettle—he had seen such an one himself; in one instance he had heard of one not larger than a teapot, which was quite capable of driving a small turning-lathe on which a cutler could work. Still it might be said this power had only been employed in manufactures; but it might with the greatest possible advantage in saving labour be introduced into agriculture as well as manufactures. Threshing machines, straw-cutting machines, and various other engines, might be worked most advantageously by the application of steam; and he had the most confident, sanguine hope, that he should live to see this new and most valuable extension of the application of steam. What reason had they to doubt that the same wonderful engine which Watt shewed applicable to pump up water from the bowels of the earth, split rocks in pieces, or manufacture the machinery of a watch, shall be applied to something between the two—to some of the agricultural works which could now only be executed by dint of well-paid human labour! He could not help thinking the suggestion well worth the attention of Farmers, that a better system of keeping their accounts, as tending to economy above all, and to regularity, a great source of wealth in itself, should be more generally adopted. He hardly ever knew a great good Farmer on a considerable scale, or one on a moderate

scale, who did not to a certain degree perform the office of his own accountant, keeping a regular set of books, as tradesmen were accustomed to do. It was as necessary for the Farmer, the manufacturer of corn, as it was for the manufacturer of cotton twist or steel blades, to keep accounts of all the details of his business. He never could tell exactly what state he was in—what was his expenditure, what were his gains or losses, without regular and systematic book-keeping. He therefore strongly recommended his agricultural friends, although they might not be so well educated as those he now addressed, and started back from pen and ink, to adopt a good system of accounts.

CONGELATION OF WATER.—Gardeners may learn many useful things by taking a lesson now and then from Natural Philosophy: for instance, it teaches us that in general liquids expand and contract in proportion as they are heated and cooled; but to this law there is a remarkable and anomalous exception in regard to water. When a large thermometer tube is filled with water of the temperature of 60 degrees and placed in a cold situation, or in a freezing mixture of ice and salt, the water goes on shrinking in the tube till it has attained the temperature of about 40 degrees, and then, instead of continuing till it freezes, as is the case with other liquids, it slowly expands, and actually rises in the tube till it congeals. In this case the expansion above 40 degrees and below 40 degrees seems to be equal, so that water will be at the same bulk at 48 degrees and at 32 degrees. This anomalous expansion of water by cold is productive of some important consequences considered as a natural operation; for if water, like other fluids, went on increasing in density till it froze, the consequence would be that large bodies of water, instead of being only superficially frozen in winter, would be converted throughout into solid masses of ice. Let us take a fresh water lake as an example:—The earth being in winter warmer than the air, the heat is withdrawn from the surface of the water by the cold breezes that blow over it, and the whole body of water has its temperature lowered to 40 degrees, which is the point most congenial to fishes and other aquatic animals. The cold now continues to operate upon the surface of the water, but instead of diminishing its bulk, and therefore rendering it heavier than the warmer water beneath, it expands it and renders it lighter, so that, under these circumstances, a stratum of ice-cold water at 32 degrees will be found lying upon the mass of warmer water beneath it at 40 degrees. The influence of the cold continuing, the surface of the lake will soon freeze, but the water immediately under the superficial covering of the ice will be found comparatively warm, and as water is almost a non-conductor of heat, it will be a long time before the ice attains any thickness, and the whole body of water, if of any depth, can never freeze throughout. Indeed, it will be obvious, that the retardation of freezing will be proportional to the depth of water which has to be cooled, and hence some very deep basins or lakes are scarcely ever even covered by ice.—*Scottish Farmer.*

THE evils of the world will continue until philosophers become kings, or kings become philosophers.—*Plato.*

GOODNESS OF HEART is man's best treasure, his brightest honour, and noblest acquisition. It is that ray of the Divinity which dignifies humanity.

PEOPLE who endeavour to attract that attention by dress which they cannot obtain by their intrinsic worth, resemble the soap balloons blown by children; the thinnest bubbles are invested with the brightest colours.