Governor Hoard knows how pleased I should have been to fight there and then, under his command.

However late these retrospective notes might appear, the subjects treated are all just as fresh and as opportune now as they were a year ago. Perhaps a little more airing out and stirring up of opinions through your most valuable *Dairyman*, may prove useful. [And through the *Journal* as well.

ED. A. B.]

Who started Farmer's Institutes in America? The Hon. C. E. Estabrook thinks he had the first thought of such work, in October 1884. Later on, through the able assistance of the regretted Hon. Hiram Smith, this useful first thought became a most bountiful reality. Hurrah ! for Wisconsin.

Here, in Quebec, we are mighty slow people, with snow drifts some 25 feet high, often in winter, no exaggeration I assure you, and nearest neighbours to the North Pole. Of course, bringing farmers together would be a difficult enterprise, any way. Yet, early in 1870, the Hon. M. Joly de Lotbinière, then as now President of the Provincial Council of Agriculture, organised, with his official helpmates, a regular system of public meetings amongst farmers. They have been continued ever since. I am sure we have had some thousands of them, perhaps a hundred or more the first year, with really good large audiences, considering our bad winter roads. Bringing now 300 or more dairymen and farmers, from all parts of the province, to a three days Dairy Convention is a common matter and three regular sittings a day, from 9 A. M. to 11 P. M. are just sufficient to do a part of the work cut and dried in advance for such meetings. Shall we make it a week's sitting, is now in order, for future discussion amongst us. Have we had Farmer's Institutes and not known it, all that time? Possibly so; for we are here nearly all French Canucks, and know little of your English names for farmers' meetings.

However all this may be, blessed be those, like your revered, late Hon. Hiram Smith, good Governor Hoard, of Wisconsin, and many more, in America, who, through pure charity and thorough love of country, make it a life-study to improve agriculture, and enrich farmers.

Now, please let me roll up my sleeves, [*Rigid stanchions*] and pitch in. Dear Governor how you did pitch into that kindly disposed and thoroughly well meaning-distant relation of our common forefather, Adams (1) for his evident cruelty to animals. Well, he richly deserved it. I suppose rigid stanchions for all beasts, especially good milch-cows, must now be a thing of the past in the whole of your State, but more especially on the Wisconsin State Experimental farm? The stanchions, more especially the rigid, but all of them, deserve all the hard treatment you gave them. I hope that, by this time, they have all been cut up into kindling wood, for the preparation of warm soft cow food on the said experimental farm. Such moderate heat would, no doubt, have helped ventilation in many a nook and corner of those complicated manure-vaults and floor combined—unpatented, I hope—which Prof. Adams advocated at said meeting.

What a pity your excellent farm journal, Hoard's Dairyman, is not an illustrated publication. I would air out a drawing and plan of our modest stable arrangements, here in Quebec, just fitted to suit 98° in the shade, in summer, or 41° below zero, in winter Of course, our cows do not give *much* ?) rich milk in such extreme temperatures. Then they lie, all the year round on dry boards, without as much as one pound of litter, in all, in the twelve months. But remember, we are poor people, and besides, science tells us that good straw is exactly worth, for food, fully one half as much as the best of hay, weight for weight, in well balanced rations. What enlightened dairymen now a days, could afford to bed his cows, even his best, with a half bedding of good hay?

(1) L. H. Adams, Supt. Experimental Farm, Wisconsin.

But, I hear you ask, how much rich milk do you get out of your little Canadian cows, during the year? Well, we happen to have completed daily weighings, for the past year, on all of our stock. The cows weigh about 750 lbs. live weight. They have given from 7000 to 8000 lbs. each in twelve months, and the milk averaged 5% butter fat. Sir J. B. Lawes, the world renowned Experimentalist, shows just such returns, for many years back, with considerable less fat in the milk, however, and with cows weighing 1200 lbs. each; therefore, consuming about a half more in daily rations than ours.—So much for long winters and cold Quebec.—Au revoir.

Quebec, January, 1891. A FRENCHMAN.

AERATION OF MILK.

During the session of November 27th, of the Dairymen's meeting at Sorel, Mr. McPherson reminded the convention that in order to obtain a greater yield from the milk, of superior quality, it should be aërated after it is drawn from the cow.—M. Dellicour, (a European, calling himself an Agricultural Engineer), asserted that aëration must be injurious to milk, since, during the mechanical movement it undergoes in the operation, the *microbes* existing in the circum-ambient air would get into it, and cause its deterioration. This opinion was contested briefly by M. Chapais, the assistant-commissioner of Dairy-industry, at Ottawa. I myself wished to raise an exhaustive discussion in opposition to this theoretical objection, which I hold to be utterly out of harmony with practice, but the time was too much taken up, so I promised the audience to treat the subject in the "Journal d'Agriculture."

According, then, to M. Dellicour, the aëration of milk is injurious to its quality, and, in order to give support to his opinion, he invokes the presence of our terrible enemies, the *microbes* and *bacilli*, which are always so ready to fly to the assistance of theorists in trouble. M. Dellicour will, I hope, pardon me, but I feel obliged to say that his opinion seems to me to have no serious foundation, and I will endeavour to the best of my ability to prove my assertion :

True, it is asserted, and pretty well proved, that the air is more or less peopled with microbes, in proportion to its purity; but, if these microbes always behaved as we are led to believe, the human race would very soon be completely poisoned. If microbes do exist in the air, oxygen also exists in it, and these interesting little animalcules do not like oxygen, which delightful gas is always ready to contend with our malevolent enemies the microbes, which cannot endure its presence, and always retreat before it, when it is not accompanied by mephitic, that is, stinking, gases. It is therefore clear that milk should only be aërated in places where the air is pure, and in that case, the beneficent oxygen gas which the milk seizes upon by affinity, will not dream of allowing the microbes to associate with it.

That aëration purifies milk no one can deny : our learned men say so in their writings publicly, and all thoughtful Canadian and other dairymen know it is so by experience. This purification is due solely to the introduction of the oxygen of the air.

M. Dellicour told us that he had read, very attentively, Mr. Lynch's book on "Dairy-practice." An interesting part of that book has certainly escaped him ;(1) for if he had noticed it, he would have never made the observation I complain of. This is what Mr. Lynch says on the aëration of milk :

"The aëration of milk, that is, its exposure to the air, by imparting oxygen to the milk prevents its deterioration. A thorough aëration will dissipate any bad smells that may have

(1) Mr. Dellicour's answer to this letter will be published in the March number of this Journal, and appears in the February number of the french edition. ED. A. B.