and see me just the same when his little ship again touches our grand river pier in the port of Augusta, on the dear old Kennebec.

Between the Avon and the beautiful Bedford Basin just before reaching Halifax, this is little of interst. Mr. Charles Dudley Warner, in one of his enjoyable summer books says of this locality: If a man can live on rocks like a goat, he may settle anywhere between Windsor and Halifax. With the exception of a wild pond or two, we saw nothing but rocks, and stunted trees for forty-five miles, a monotony unrelieved by one picturesque feature. Then we longed for the "garden of Nova Scotia," and understood what is meant by that name." Now I think Mr. Warner must have been dozing or absorbed in some interesting book when he passed the little station of Ellershouse, for I think it both pleasant and picturesque. The place is certainly a gem in the midst of much that is dreary to the scenery and landscape along this forty-five miles of wood and rocks. It is but a little hamlet to be sure, still if all trains stop as long here as ours did, it will give the traveler an opportunity to take in two or three pretty residences at the left, some extensive orchards about them, grounds well laid out, and quite a charming bit of hill and dale beside. The apples trees appeared to be quite numberless—one loiterer at the station said there were thousands of them—and the residences of Mr. W. P. Colchester and Mr. Francis Ellershouse were notable for their good appearance. "Mr. Ellerhouse he's n' Europe," said one bystander on the form, "but his wife knows how to manage as well nor he," and I should judge from the looks of the large orchard that the way she managed was certainly well enough,—whether it was better "nor he" or the country.

The approach to Halifax over the Windsor & Annapolis and Intercolonial railways is interesting, the ride along the Bedford Basin being particularly attractive. This is a noble lake, surrounded by high hills, and is the scene of many an exciting contest in rowing by rival clubs. The location of Halifax is commanding, and the harbor one of the finest on the Atlantic coast. The city contains over thirty-six thousand inhabitants, and among the objects of interest to a stranger are the Citadel, Parliament Buildings, the new Provincial building, museum, Queen's dockyard, and many fine churches. But, as my business to Halifax was not for the purpose of sight-seeing, I had little time at my command for that pastime. Here I made the acquaintance of Prof. George Lawson, one of the staff of instructors at Dalhousie College, where I had a pleasant conference with him in his laboratory. Prof. Lawson is also the Secretary of the Central Board of Agriculture of Nova Scotia, and has a fine farm of two hundred acres at "Lucyfield," Bedford. In the Province are ninety-two incorporated agricultural societies, which receive in governments grants nearly seven thousand dollars annually. These societies hold fairs every fall and in many of the larger towns are fine exhibition buildings. The Central Board of Agriculture is composed of six members, from as many representative districts, a district usually being made up of three counties. All the members are appointed by the Lieutenant Governor, and in addition to the six members representing the Province at large, one is appointed in behalf of the government. Prof. Lawson has been Secretary to the Board ever since its re-organization, or for a period of about twenty years, and has proved a most competent officer. I am under obligations to him for many kind attentions, and also to Mr. Crosskill, Deputy Provincipal Secretary, and to W. C. Sterling of the *Morning Herald*. My headquarters in their interesting old city are at the Halifax Hotel.

NOTICE TO NEW SOCIETIES.

New Agricultural Societies whose attested Returns of subscriptions paid were sent in to the Board during the summer, may supplement them by additional Returns of subscriptions subsequently paid up to 31st December. The supplementary Returns must be on the proper form and duly attested, otherwise they will not be recognized.

POTATOES.

Sir J. B. Lawes, writing in *The Rural New Yorker*, says:—Although I consider that the use of complete artificial manures involves too great a cost for their employment in the growth of ordinary crops, perhaps an exception might be made in regard to potatoes, a crop that requires a large supply of both potash and nitrogen.

At Rothamstead we have grown nine crops of potatoes in succession upon land which for fifteen years previously had received no yard manure, and the average yield of the last three crops has been 400 bushels per acre, calculating the bushel to 50 pounds. The manure used each year has been 300 pounds of sulphate of potash, 350 pounds of superphosphate of lime, and 400 pounds of salts of ammonia, while in another experiment instead of the salts of ammonia 540 pounds of nitrate of soda were applied. The produce from both manures has been almost identical.

The sulphate of potash supplies about 130 pounds of potash—and we find nearly the same amount in the crop. The phosphoric acid, is much in excess of the requirements of the crop, and it might be reduced one-half. The salts of ammonia and the nitrate each supply about the same amount of nitrogen—87 pounds—and of this the crop does not take up more than 50 pounds; there is apparently, therefore, a considerable loss of this substance; but at the same time any reduction in the amount of these manures would be followed by a reduction in the crop. The loss of this costly manure ingredient is a most serious matter, as unfortunately there is but little prospect of recovering, in succeeding crops, any appreciable amount of the 37 pounds not taken up by the first. By means of the same mineral manures alone we have grown—over the same period—one-half the crop we obtained by the application of minerals with nitrogen, the soil having supplied a sufficient amount of that substance to give a product of 200 bushels; but one-half of the minerals applied remained inactive in the soil; these, however, might be made available to the crop by an application of nitrogen.

The quantity of potash removed in potatoes is very large. In the 400 bushels it amounts to about 130 pounds. Compare this with the amount removed by animals. An ox, weighing 1,400 pounds, which was killed for the purpose of analysis, contained only two-and-a-half pounds in the whole carcase and offal. Hay is another crop which takes a good deal of potash from the soil, and farmers in England rarely grow either hay or potatoes for sale unless there are facilities for the purchase of town dung. Artificial manures are certainly not used alone by practical farmers in the growth of their crops.

In our experimental field the character of the manure is always represented in the stem and leaves of the plant. Ammonia and nitrate without minerals give a low stem and greenish-brown leaves, which appear in the evening almost black. Minerals without nitrogen give a thin, low stem and yellowish-green leaves, while minerals and nitrogen give a luxuriant, and sometimes an over-luxuriant, stem, with leaves of a bright green. There is no difficulty in accounting for these peculiarities. A plant takes up whatever food is most abundant in the soil, with the hope, as I sometimes put it, that sooner or later it may find the food that suits it best. In the dark-green leaves the nitrogen is in excess; but starch cannot be formed without potash, and the supplies of potash are not sufficient to use up the nitrogen. It is far more easy to change the yellowish-green of the mineral-manured potatoes