

point or apex in the same direction as the sharp edge of the coulter; at the back of this plug is fixed a rope, upon which is strung as many drain pipes as its length will allow; a simple process is adopted to add fresh coils of rope, as more pipes are required. A hole is then dug in the ground, say two feet deep, and a foot wide, as in the present experiment, gradually sloped at the back, so as to allow the rope with the pipes to enter freely, and the coulter is placed upright in the hole, with its sharp edge and the point of the plug in the direction the drain is to be formed; at the end of the horizontal iron framing, farthest from the coulter, is fixed a horizontal pulley, through which a wire rope is passed, fastened at the other end to a capstan placed at the opposite extremity of the field, up to which the drain is to be formed. Four horses were harnessed to the capstan, which they turned with very trifling exertion, thus drawing the coulter through the land, the plug forming the drain and the rope with the pipes following. The time occupied in laying the nine chains of piping was thirty-three minutes, and the surface land was not more disturbed than if a knife had been drawn through it; when the coulter was drawn up to the capstan it was raised out of the ground, the rope disengaged from the plug, and the horses hitched to the other ends of the coils of ropes, which they immediately drew out, leaving the tiles accurately placed, as was ascertained by digging down to the drain. Another drain was then immediately formed in the same manner, at a parallel distance of about fifteen feet, the capstan in the same position. The estimated expense of draining land in this manner, independent of the cost of the tiles, is about 4d. a chain. From 6000 to 7000 feet can be drained in one day, at an expense of about 30s.—*Architect.*

PROFESSOR JOHNSTON'S NEW WORK ON AMERICA. *

Many of our readers will recollect that Professor Johnston spent about eight months on this continent two years since; a large portion of his time was devoted to the making of an Agricultural Survey of New Brunswick. He visited and lectured in several of the States; his eloquent and comprehensive address delivered before the New York State Agricultural Society at Syracuse must be fresh in the recollection of many. He also paid a short visit to Upper Canada and attended the Provincial Exhibition held at Kingston in September, 1849. In the work before us we have an interesting account of his journeyings and impressions relative to the Agri-

cultural, Economical, and Social condition of such portions of the American Union which he visited, together with the British Possessions north of the American boundary. We have had time only to glance at the contents of these two volumes, which, however, we do not hesitate to pronounce, from what little we have seen and the well known reputation of the author, are well deserving a careful perusal of all who feel an interest in the general condition and advancement of either British America or the United States. We intend to give our readers occasional extracts from this work, commencing with the author's visit to Upper Canada, at the Provincial Agricultural Show in Kingston.

"At 6 P. M. we landed on the pier. I almost felt myself at home again as I set my foot on shore in sight of the British flag; and the kind welcome of a Kingston family added double pleasure to the agreeable week I subsequently spent in this place.

In manners and in sympathies, a sensible difference still prevails between Upper Canada and western New York. Notwithstanding the proximity of the two countries, and the increasing intercourse between them, this will probably long continue to be the case.

Part of the difference which is felt in crossing from either side, may be in idea only, and connected with one's political prejudices, republican or monarchical; yet sensible differences, both in men and women, exist nevertheless. One feels the—*de trop*—the tendency to exaggerate—among the men on the one side, obtruding itself sometimes offensively, especially in the newer States of the Union, and among the newer people. An opposite tendency, and not unfrequently symptoms of discontent lurking at the corners of the mouth are met with along the Canadian border, so often as to arrest attention to the circumstance. But the Upper Canadians have in themselves, and in their country, the materials of a first rate people, if their eager spirit, anxious too speedily to excel, would permit them to proceed steadily on their way.

The Upper Canadian women have their character too. "I'll go over to Canada for a wife when I marry," said a young south shore farmer to his friend. "When I come home at night she'll have a nice blazing fire on, and a clean kitchen, and a comfortable supper for me; but if I marry a New Yorker, it'll be, when I come home, 'John, go down to the well for some water, to make the tea;' or 'John, go and bring some logs to put on the fire, to boil the kettle.'" No, no; a Canadian woman's the wife for me."

* "Notes on North America, Agricultural, Economical, and Social; by James F. W. Johnston, M. A., F. R. S. L. and E., F. G. S., &c., Reader in Chemistry and Mineralogy in the University of Durham; 2 vols. 8vo; Boston, Little and Brown; Edinburgh and London, Blackwood and Sons, 1851." The work may be procured in Toronto, of A. H. Armour & Co., King Street, and we presume of the Booksellers generally.