

Draining Quicksand.

To the Editor of THE CANADA FARMER.

SIR,—Having seen a communication from a ditcher and underdrainer from the township of Missouri, asking for information respecting an effectual way to drain quicksands, I write to inform your correspondent and others that I have drained some quicksands in this neighbourhood on several farms, and have found no difficulty in doing the work thoroughly by the following process. I first dig a ditch for drain-tile, a little larger than is necessary, and then take tan-bark, where it can be procured, and put a layer, about one inch or so in thickness, all along the drain; then lay the tile (which should be round outside and with a round bore, so that they will lie any side down that they will fit best) placing them as tight together as possible with a pipe-tile layer, an instrument any blacksmith will make for fifty cents. I then place another layer of tan-bark on the top and sides, thus enclosing the tile in tan-bark, and then fill up the drain as usual. If tan-bark is not procurable, fine gravel will do as well or better. The pipes should have a gradual descent.

I don't think that stone drains can be made to answer in quicksand, and as they are more expensive than the tile drains, and neither so safe nor effectual, I don't see anything to recommend them, other than that if the land is drained, that alone is a great gain, let the drain be composed of what material it may.

The reasons which lead me to the conclusion that stone drains are more expensive may be summed up in a few words. In the first place, the drains have to be cut larger than for tile, thus causing more work, and consequently more expense. Secondly, a thousand pipe-tiles, two inches bore, a quantity calculated to lay upwards of sixty rods, can be procured at the tile-yard for six dollars, now, it will easily be seen that this length of stone drain could not be laid for double that amount, more particularly if prepared as recommended by the English draining Engineers, i.e., each stone being broken until it will go through a ring two inches in diameter, and then shovelled into the drain without regard to order, but just levelled along the bottom of the drain, and sods, straw or brush laid over them. I believe it would be better to haul stones into the road, and haul tile five or six miles, if a person wants a satisfactory job done. I believe the reason given by your correspondent for making his drains narrow, to give the pressure to keep the drains clear, is a correct one, that being the chief recommendation for drain-tile. The channel being straight and clear, there is no reason why well-baked tiles, well laid, should not last as long as grass runs.

A PRACTICAL DRAINER.

Appleby P.O., Halton, July 22, 1867.

Discoveries of Minerals.

To the Editor of THE CANADA FARMER.

SIR,—Discoveries of minerals, gold, silver, lead and coal, have been found in this vicinity, in minute quantities, it is true, but genuine. I have specimens of the above which I picked out of the rock myself. The coal seems to be of the purest quality, and burns much clearer than any we import for blacksmiths' use. There is an abundance of iron ore here, also of iron mica, carbonate of iron, &c., oxidulated iron, which is said to be very rich in metal, but it is comparatively valueless for want of coal. But it is quite possible that seams of coal of sufficient thickness to pay the working might be found at no great depth, if a capitalist should come along, who would be speculative enough to risk a few thousand dollars in looking for it. The coal above referred to is found in a seam about half an inch thick, in color it is a bright black, the fracture resembles that of hard pitch, and it affords no ground for the professional cry of bituminous shale. In this vicinity also are found copper pyrites, grey copper, atacamite, sulphuret of lead, &c., &c.

The above discoveries were made by the Rev. Doctor Shaffranck, minister of the Church of England, a German gentleman, and a naturalist of the first order, also honorary corresponding and associate member of twenty-seven European natural history societies.

ARNDPRIOR, 1867.

NOTE BY ED. C. F. The first geologists have repeatedly given it as their opinion that no coal in workable quantities will ever be found in Canada—as we should have said till recently, meaning in the Provinces of Quebec and Ontario. The grounds for this belief are, that all the important coal fields of the world, except that of Virginia, which occurs much higher in the series, that is, in a more recent era, are found in a formation known as the carboniferous, which, in these Provinces, is represented only by a few small, isolated patches in Gaspe. A few thin seams of coal have been found in the formation immediately underlying this, but not in a sufficient quantity to repay the cost of working.

Ditching Machine Wanted.

GEO. A. MANCER, of Innisfil, writes:—"I noticed an article in the CANADA FARMER, on draining wet lands, a subject which is, I think, of great importance to the farmer in many ways. But as to the easiest and cheapest method of digging those drains I may be a little dark, and would like to see if I could not get it done by horse-power and machinery, or some other way. Please let me know, as well as others interested in the same way, through the CANADA FARMER, as soon as you can."

NOTE BY ED. C. F.—We are not aware of any ditching machine that is in actual operation in Canada. Henry Carter, of Aylmer, Co. Elgin, exhibited such an article at the last Provincial Exhibition, and obtained a prize, but we do not hear that it has been very fully tested in the field though competent judges affirm that if it were made sufficiently strong it promises to be highly practical and useful. The matter is one of considerable importance, and we trust will engage the inventive genius and mechanical skill of some practical machinist. In the absence of machinery, the work is to a certain extent effectually performed by a strong team attached to a good strong plough, throwing out a broad furrow, ten or twelve inches deep.

HORSE HAY-FORK.—"G. A. B. will find his question answered in the CANADA FARMER for June 15th."

The Canada Farmer.

TORONTO, CANADA, AUGUST 1, 1867.

The Provincial Exhibition for 1867.

The prize list for the approaching Exhibition of the Provincial Agricultural Association has been published for circulation. The Exhibition, by the system of rotation adopted since the first formation of the Association, takes place this year at Kingston, on the last week in September, commencing on the 23rd of the month, and lasting till Friday, the 27th, inclusive. The local committee in that city have been at work for about six weeks in putting their buildings in a state of proper repair, and have, we understand, made considerable progress already towards the completion of their work. The prize list in the agricultural department exhibits no marked changes from that of last year; but a prominent feature, though not a new one, adopted some two or three years ago, is that which permits the competition of exhibitors from all parts of the world. The development of Canadian agriculture and manufactures is observable in the gradual abolishing of restrictions on exhibitors, until now the world is invited to a contest of skill with our Canadian artisans and farmers in their different spheres. For the last two years, a gradual increase in the number of foreign exhibitors has been observable, and where these have proved the masters, their success has proved of benefit to our home producers in stimulating them to additional exertion, and has led to many valuable improvements—especially in some of our most promi-

nent manufactures. The amount of money offered for prizes remains at about the same figure. Some unimportant alterations have been made in the details of a few minor classes of the agricultural productions, but the only one of any prominence is that regarding the Prince of Wales' prize of \$60, which is this year given to the best pen of Cotswold sheep, consisting of one ram and five ewes, not over two shears. A change in the rule regarding the shearing of sheep has also been adopted—the Committee of the Association appointed to revise the prize list having adopted a resolution requiring sheep on exhibition to be shorn on or after the 25th April, instead of the 1st, as previously. In the poultry classes, some alterations from last year are observed—two or three sections having been dropped and others inserted. The Fruit-Growers' Association have offered some suggestions to the Board this year, which have been also embodied in the prize list. Competitors can now receive one premium in each section, instead of in each variety of fruit shown, as formerly. This will open a wider competition, especially among professionals, any one of whom was heretofore debarred from taking more than one prize for apples, grapes, or any other similar article. Now, however, each section is open to the competition of every exhibitor. The only noticeable alteration in the implement classes is, that a prize for a gang plow is introduced. In domestic wines, a different classification has also been adopted. Instead of the prizes being offered for the best specimens from the Catawaba, Isabella, or other grape, the list now standing for the best dozen of dry, sweet and sparkling wine, as the case may be. The change is thought by fruit growers to be advantageous, as the old classification does not allow that competition which will prove the most advantageous to fruit growers.

Regarding the change in the Arts and Manufactures department, the Journal of the Board makes the following summary:—

"Last year the Committee having charge of this department secured a great many improvements, both in the arrangement of prizes and the classification of goods. In the Fine Arts classes especially was this observable. Previously, no distinction was made between original works and copies, and the terms 'professional' and 'amateur,' as applied to artists, were indefinite, and generally so differently understood in their application, even by those who were without doubt professional artists, as to result in continual difficulties, and in numerous protests being made to the Association. The terms have now a published definite meaning, which cannot be misunderstood by exhibitors. This year further improvements have been made by striking out the entire list of prizes for 'professional copies,' and reducing the number of prizes for 'amateur originals.' The Committee have thus been enabled to add a few prizes to the remaining divisions, and also slightly to increase the several amounts offered to prizes to both professionals and amateurs."

"In the Prize List the Fine Arts have been separated into two classes. The number of entries, and the merits of the several productions, having progressed so rapidly during the past two or three years, have rendered this change necessary, so as to enable the Judges to complete their onerous duties either in proper time, or with satisfaction to themselves or the exhibitors. The first class now comprises all works in oil, statuary and photography; the second class, all water colours, pencils, crayons, sepias, pen-and-ink sketches, &c. This change, we have no doubt, will give satisfaction."

"It will be observed that the class heretofore termed 'Decorative and Useful Arts,' has been superseded by what is believed to be a more correct classification, its several sections having been distributed into classes with which they respectively the nearest assimilate. With so limited a number of classes, there will always be a difficulty in arranging many articles in the proper positions; the only alternative is to place them with things similar in materials or uses, or that will best come under the consideration of the same committee of judges. Thus, in the new class we have designs, materials and workmanship in building construction, and such other articles as might most fittingly be judged by a committee of architects and civil engineers, rather than by any of the other committees of judges. In the various departments of wood, iron, leather and woollen manufactures, these are severally placed with the