

CORRESPONDENCE

[This department is a meeting-place for ideas. If you have any suggestions as to new methods or successful methods, let us hear from you. You may not be accustomed to write for publication, but do not hesitate. It is ideas we want. Your suggestion will help another.—Ed.]

FORESTRY IN ONTARIO.

Sir,—Mr. A. Knechtel, lately forester for the Forest, Fish and Game Commission of New York State, has joined the forestry branch of the Interior Department at Ottawa. He is a perfect one, by all accounts, and, being a Canadian by birth, will be able to bring forward his splendid knowledge in the encouraging of forestry, not only in this Province, but also throughout the Dominion of Canada. The subject of forestry is a very important one—equally as important as mining, as the country is becoming denuded of the trees to such an extent that before twenty-five years have passed away it will have very few left. Looking at the Old World, and the forestry there, Great Britain, Germany, and France carry the same to perfection. Spain, at one time a magnificent country for its woods, is now nearly a complete desert. Why? Because their fountain heads of trees have all been cut away; consequently the rivers are lower, and ere long the Government of that country will have to resort to irrigation through the instrumentality of artesian wells. It is nearly as bad in our Province, for I remember in my earlier years streams close to this city which were rapid and deep waters. They are now dried up, in a great measure because their fountain heads, the trees, have all been cut away. The Duke of Sutherland and many other of the Scottish nobility have plantations of larch, which, I believe, can be used for buildings when about the age of twenty years, and most of that variety of trees are grown upon very arid land. Why not try them on some of the same sort of soil which we have in Canada, and also in some of the played-out timber limits, of which we have a very large number? Our Provincial Government has now grasped the situation, employing the best of men in their service, and ere long our country will be redeemed and restored to its at one time pristine beauty and usefulness.

Yours, etc.,

George Hawkesworth Armstrong.

44 Pearl Street South,
Hamilton, Ont.

CONCRETE SPECIFICATIONS.

Sir,—In your issue of January 3, 1908, "Associate" enquires regarding the apparently loose method in which concrete specification is drawn up, only the proportions by volume of cement, sand and crushed stone being given.

With few exceptions concrete specifications are worded similar to this in even the largest work, in order to simplify and clearly define the proportions for the contractor. The proportioning depends upon the percentage of voids in the sand, gravel or crushed stone. The engineer or architect in charge has no doubt determined this by experiment previous to drawing up the specifications. The percentages of voids in materials might have been made more uniform by having the sand and gravel screened and the stone specified not to exceed a certain size.

Where specifications err is in the case of a railroad company whose engineers have standardized the proportions by volume of sand and crushed stone without determining by experiment in each case the percentages of voids in the materials. The contractor may, if he wishes, check the

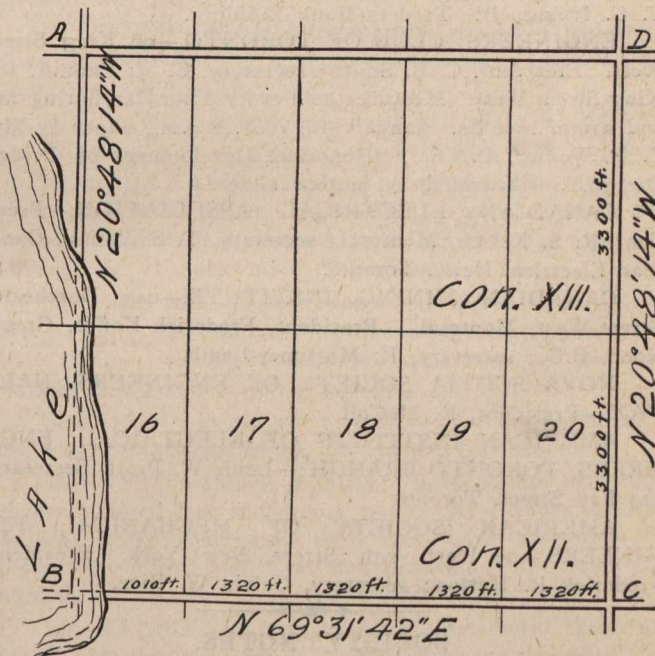
correctness of the proportions by volume as follows: Determine the percentage of voids in a cubic foot of the sand to be used. This may be done by finding the per cent. by volume of water required to fill the voids of a box of the sand which capacity is one cubic foot. For example, the percentage may be about 35; then the proportions of the cement to sand in a mortar should be one part cement to three parts sand. The percentage of voids in the crushed stone or gravel may be determined in a similar manner. For example, the percentage of voids may be 50, and it requires one part mortar to fill the voids in two parts crushed stone or gravel. The correct mixture with these percentages of voids should then be 1-3-6. In all cases the proportion of cement should slightly exceed the voids in the sand, and the proportion of the mortar should exceed the voids in the stone or gravel.

R.

Toronto, Jan. 7, 1908.

RUNNING A LOT LINE.

Sir,—The bearing of A B found by picking up the blaze is N. $20^{\circ} 40' 15''$, while on the original plan it is given as N. $20^{\circ} 48' 14''$.



The line C D can be followed out, and the bearing is the same as on the plan, but the corner stakes and bearing trees, if there ever were any, are lost. How shall I proceed to run the line between Lots 16 and 17, Con. 12?

Yours sincerely,

A. B. C.

CONCRETE HEATER.

Sir,—We expect to carry on our concrete work all this winter. The work we are engaged on will not allow of mixing the concrete in large batches; in fact, we are hand-mixing all the concrete on this job. We would be pleased if you, or some of your readers, could tell us of a cheap method of heating the gravel so that the concrete will not freeze before setting.

Yours truly,

CONCRETE.

Georgian Bay, Jan. 1, 1908.