long as broad, divided in the centre by a double line; extremities of the cells dentate: breadth, 0·0075 mm. —0·009 mm. Fig. 1.

The two species, *Rhizosolenia Eriensis* and *R. gracilis*, are also present, the former always and the latter quite frequently. As *R. gracilis* has only lately been described by Prof. Smith, by whom it was first discovered in filterings from the Niagara River water supply at Buffalo, its characters are appended:—"Frustules small, slender, round or but slightly compressed; annuli, obsolete; body, smooth; fifteen to twenty times as long as broad; imperfectly siliceous; calyptra, conical; bristle fully as long as the body, or longer; often slightly curved, and, with the calyptra, rigidly siliceous; length, ·004" —·008"." It can be readily distinguished from *R. Eriensis* by its curved bristle, and by the absence of the markings which are so characteristic of the latter species.

It might be observed here in passing that the above are the only two fresh water species of *Rhizosolenia* as yet known, all the others being marine. The presence of these two species, together with others of genera, such as *Stephanodiscus* and *Actynocyclus*, mostly marine, would seem to point to the fact of the connection at one period of the great lakes with the ocean, and the survival of a few marine or brackish forms, which have been able to accommodate themselves to the altered conditions of their habitat.

Desmidiaceae.

Desmids as far as at present known are all inhabitants of fresh water, and, as stated by Wood in his "Fresh Water Algae," prefer "that which is pure and limpid." They have been found in stagnant water, but never in that actually putrid. Next to the Diatoms they are the commonest vegetable forms to be found in the filterings from our water supply, and they seem to be most plentiful in the latter part of winter and during spring. The commonest representatives of this family are several species of *Closterium*, some of which I have not been able to determine.

In every gathering are to be found considerable numbers of a form which is figured by C. M. Vorce in a paper on the "Microscopic Forms observed in the water of Lake Erie," and called by him *Clos. Venus*, but which is much smaller than the form described by Wood under this name, the diameter as a general rule being not more, and often less, than 0·0031 mm. (= 0·00015"). In shape they vary