CALAMITES.

The calamite was one of the most numerous of the plants which flourished during the time of the coal formation, and of which the coal is often formed. It was a tall, reed-like plant, and as a fossil would be taken by the amateur for a bamboo, for like it, it had a cylindrical stem, articulated at intervals. Some fossils have the marks of vesiculated branches round the articulations—that is to say, branches arranged round the stem in a circle. The only plant now existing at all like the calamite, is the equiseta, or horse-tail of our marshes. But then there is a vast difference in the size, for while the equiseta rarely exceeds half an inch, the calamite averaged from four to five inches in diameter, and has been found as large as three feet across the base. In height it also greatly exceeded the equiseta, for while that seldom rises more than three feet from the ground, the calamite must have often reached the height of from thirty to forty feet. Fossils of this plant abound in the ancient coal formations, but few being found in those of later date, while in the more recent rocks they are almost entirely wanting. There are some very perfect specimens of the calamite in the Mechanics' Institute Museum, from which our readers will be able to form a very good idea of it. They are, we believe, from the Joggins mine, Nova Scotia, a place celebrated all over the world for its coal fossils.

We cannot conclude this short account of the flora of the coal measures, without referring to the conifers and ferns. These two families of plants are chiefly remarkable as being the only ones of that period which bear any affinity to existing types. The first is represented by the pines of our forests, and the second by the beautiful ferns which grow in the damp, shady parts of our woods.

The conifer was a large tree, and grew to a great height, as is shewn by their fossil casts, which are found in the sandstone of most coal fields. In Nova Scotia they are each year brought out in bold relief, by the crumbling away of the cliffs. Many of these casts are very perfect. We have in our possession one of the bark of a conefer, in which every mark (some of them as fine as a hair) on the ridges of the bark is as perfect as on the day it was buried.

The ferns need but little description, as many of them were so like those now existing, that it is almost impossible for even the botanist to distinguish the fossil from the living plant. The ferns of the coal period bore a very large proportion to other plants, being nearly three-sevenths of the whole. No less than upwards of a hundred and twenty species have been discovered, many of them of very beautiful form. Their remains are found in vast quantities in the shale below the coal; indeed, some of the highly carbonised shales seemed formed almost altogether of them. This seems the case with much of the shale at the Grand Lake, which appears to