Archæocidaris, Palæchinus, and Melonites. The blastoids or pentremites, which now took the place in Carboniferous waters that in Silurian times had been filled by the cystideans, attained their maximum development. But it was the order of crinoids that chiefly swarmed in the seas where the Carboniferous Limestone was laid down, their separated joints now mainly composing solid masses of rock several hundred feet in thickness. Among their most conspicuous genera were Platycrinus, Actinocrinus, Cyathocrinus (Fig. 354), Poteriocrinus, and Rhodocrinus. Tubicolar annelids abounded, some of the species being solitary and attached to shells, corals, etc., others occurring in small clusters and some in gregarious masses forming beds of limestone. The chief genera are Spirorbis, Serpulites, Ortonia, Vermilia. Polyzoa abound in some portions of the Carboniferous Limestone, which were almost entirely composed of them, the genera Fenestella, Ceriopora, Rhombopora, Sulcoretepora, Vincularia, Polypora, and Glauconome being frequent. Of the brachiopods (Fig. 355) some of the most common forms are Productus (the most characteristic genus), Spirifer, Rhynchonella, Athyris, Chonetes, Orthis, Terebratula, Lingula, and Discina.[187] Among these are species

Fig. 354.—Carboniferous Crinoid.

Cyathocrinus planus; *a*, calyx, arms and upper part of stem; *b*, portions of the stem; *c*, one of the column-joints showing central canal.

[187] Productus is almost wholly Carboniferous, and in the species P. giganteus of the Carboniferous Limestone reached the maximum size attained by the brachiopods, some individuals measuring eight inches across. Other genera had already existed a long time; some even of the species were of ancient date—Orthis resupinata of the Carboniferous Limestone and the Devonian O. striatula and Strophomena depressa had survived, according to Gosselet, from the time of the Bala beds of the Lower Silurian period. (Gosselet, Esquisse, p. 118.)