Ether in space, 418. Euclastes platyops, 190. Evans, Dr., on the Bad Lands, 205, 208. Excavation by glacier torrents, 224. Explosions in coal mines, 144. Extinction of life in Lower Silurian, 106. Extinctions of animals, 360, 368. Eyes of trilobites, 81.

Faculties of primeval man, 363. Falkland Islands, 369. Fatty coals, 288. Faye's comet, 418. Ferns, fossil, 148, 163. Filtering action of sand, 232. Fingal's Cave, 34. Finiteness of geologic periods, 370, 397. Finns, 363. Fiords, origin of, 220. Fire, the ordeal by, 28. agency of, in rock formation, 32. the reign of, 49. known to primeval man, 365. energies of, wasting, 398. -damp in mines, 145. -weeds, 251, 260. Firmaments, 426, 427. Fish-garpikes, 120.

" earliest, 126. type unfolded, 317. Fishes, empire of, 164. succession of, 326. Fixed stars in motion, 392. Florida once a coral reef, 201.

growth of, 231. Reef, 327. Flowing oil wells, 284, 285. Folds in the mountains, 310. Food of primeval man, 365.

Footprints of Labyrinthodonts, 173. in Connecticut Valley, 182. not or-

nithic, 185. Foraminifera, nature of, 69. Forbes, E., on footprints, 182. Force, forms of, 393. Forces struggling toward stagnation, 428. Gradational succession of organic types, Forest-growths alternating, 252. Forests encroached upon by prairies, 268, Formations furnishing oil, 288.

Fossils, how and what they teach, 13. Foster and Whitney on Pictured Rocks, 87.

Fracastoro, opinions of, 26. Fragmental rocks, how formed, 133. Freiburg mines, 439. Friction in the heavens, 417. Frog, position of, 167. Frost, invasion of, 214. Fruit in Northern Michigan, 226. Fucoids at Lake Superior, 83. Fundamental plan in animals, 100. Fungidæ, 327. Furrows, glacial, 215, 217.

Gangway in mining, 143. Ganoid fishes, 165.

Garpikes of North America, 120. a retrospective type, 320. Garrigou on primeval man, 366. Gas wells, 283.
" with petroleum, 283.

Gaspé, geology of, 128.

Gasteropods, \$1, 316.
Genesee shale, position of, 127.
" a source of oil, 288. Geographical range of man and animals,

Geological succession of organic types, 336.

Geology in petroleum-finding, 279, 288.

of Europe at man's advent, 361. Georgian Bay, geology of, 225. Gerhard on the prairies, 268.

Germ of American Continent, 73, 97, 132. Germs wanting in lake-sediments, 270.

" present in glacial drift, 270.
Gestation as determining rank, 325.
Glacial epochs, theories of, 441.
" " references on 442

references on, 443. Glacier of Bute Inlet, 212.

" phenomena wanting on Pacific coast, 221.

Glacier action beneficent, 227. general, 375.

Glaciers in temperate America, 214. marks of, 214.

erosion by, 215, 344.
renovating the continent, 219.
existing, 221.
seeds buried by, 270. ..

..

Glasgow (Kentucky) oil region, 288, 292. Glyptonotus antarcticus, 321, 322.

Gneiss, composition and position of, 58. Goal of the struggling forces, 428. God, history of matter leads to, 40.

declared in nebular hypothesis, 46. Goessman on Petite Anse, 306. Gold, how made accessible, 335. Goniatites, characters of, 119.

Goniatites Allei, 116.

Marshallensis, septa of, 119. 315, 316.

Graham's Island, origin of, 23. Grains introduced from the East, 362. Grand Portal, Pictured Rocks, 89. "Sable, Lake Superior, 93.

46 Traverse region, climate of, 226, 227.

Granites, composition of, 52. relative position of, 58.

Graptolites, 316. Grasp of geologic time, 370.

Gravel-beds with human remains, 352. Gray, Asa, against mummied wheat, 261. Great American Desert, 345, 400.

Consolidated copper mines, 439. Green Bay, 124.

Mountains, marks of submergence

Gucumatz in Aztec mythology, 388. Gulf States, surface materials of, 222. " Stream and continental growth, 231.