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DEPARTMENT OF THE INTERIOR  
UNITED STATES GEOLOGICAL SURVEY

CHARLES D. WALCOTT, DIRECTOR

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BIBLIOGRAPHY AND INDEX

OF

NORTH AMERICAN GEOLOGY, PALEONTOLOGY, PETROLOGY  
AND MINERALOGY

FOR

THE YEAR 1901

BY

FRED BOUGHTON WEEKS



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1902

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LETTER OF TRANSMITTAL.

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DEPARTMENT OF THE INTERIOR,  
UNITED STATES GEOLOGICAL SURVEY,

*Washington, D. C., July 22, 1902.*

SIR: I have the honor to transmit herewith the manuscript of a Bibliography and Index of North American Geology, Paleontology, Petrology, and Mineralogy for the Year 1901, and to request that it be published as a Bulletin of the Survey.

Yours respectfully,

F. B. WEEKS.

Hon. CHARLES D. WALCOTT,

*Director United States Geological Survey.*



# BIBLIOGRAPHY AND INDEX OF NORTH AMERICAN GEOLOGY, PALEONTOLOGY, PETROLOGY, AND MINERALOGY FOR THE YEAR 1901.

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By FRED BOUGHTON WEEKS.

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## INTRODUCTION.

The preparation and arrangement of the material of the Bibliography and Index for 1901 is similar to that adopted for the previous publications (Bulletins Nos. 130, 135, 146, 149, 156, 162, 172, 188, and 189). Several papers that should have been entered in the previous bulletins are here recorded, and the date of publication is given with each entry.

*Bibliography.*—The bibliography consists of full titles of separate papers, arranged alphabetically by authors' names, an abbreviated reference to the publication in which the paper is printed, and a brief description of the contents, each paper being numbered for index reference.

*Index.*—The subject headings, their subdivisions and arrangement, are shown in the classified key to the index, which immediately precedes the index. Reference is made in each entry by author's name and number of article in the Bibliography.





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- 163 **Cooper** (A. S.). The origin and occurrence of petroleum in California.  
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- 164 **Corless** (C. V.). The Coal Creek colliery of the Crows Nest Pass Coal Co. [Canada].  
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- 181 — Notes on the Ordovician rocks of southern Indiana.  
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- 194 — — Second Branchville paper.  
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- 195 — — Third Branchville paper.  
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- 196 — — Fourth Branchville paper—spodumene and the results  
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203 — Peneplains of central France and Brittany.

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- 284 **Ford** (W. E.), **Penfield** (S. L.) and. On calavarite.  
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- 397 **Hovey** (Horace C.). The lead and silver mines of Newbury [Massachusetts].  
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- 409 — The geology of central Cape Cod [Massachusetts].  
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- 413 **Kemp** (James Furman). The Albany meeting of the Geological Society of America.  
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- 425 ——— Composite genesis of the Arkansas Valley through the Ozark highlands.  
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- 471 — Prospecting for oil in Colorado.  
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- 477 — Some Idaho mining districts.  
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- 494 **Leverett** (Frank). Old channels of the Mississippi in southeastern Iowa.  
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- 495 **Lindgren** (Waldemar). Metasomatic processes in fissure veins.  
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- 656 — The Pottawatomic and Douglas formations along the Kansas River.  
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- 657 **Ropes** (Leverett S.). [Corundum of North Carolina.]  
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- 658 **Rowley** (R. R.). Two new genera and some new species of fossils from the Upper Paleozoic rocks of Missouri.  
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- 663 **Rutland** (Joshua). Mammals and reptiles; or what was the Ice ages?  
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- 671 **Sardeson** (Frederick W.). Problem of the Monticuliporoidea. I.  
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- 676 — The lower Silurian formations of Wisconsin and Minnesota compared.  
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- 682 **Schuchert** (Charles). On the Helderbergian fossils near Montreal, Canada.  
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- 683 **Scott** (Dunkinfield Henry). Studies on fossil botany.  
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- 684 **Scott** (W. B.). Historical geology.  
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- 685 — Earth carrying.  
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- 686 **Seeley** (Henry M.). Sketch of the life and work of Augustus Wing.  
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- 691 — Abandoned meanders of Spy Run Creek [Indiana].  
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- 692 **Shaler** (N. S.). Broad valleys of the Cordilleras.  
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- 702 **Simonds** (Frederic W.). The minerals and mineral localities of Texas.  
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- 703 **Sinclair** (William J.). The discovery of a new fossil tapir in Oregon.  
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- 704 **Slosson** (E. E.), **Knight** (W. C.) and. Alkali lakes and deposits [Wyoming].  
See Knight (W. C.) and Slosson (E. E.), 451.
- 705 — The Dutton, Rattlesnake, Arago, Oil Mountain, and Powder River oil fields [Wyoming].  
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- 706 **Smith** (Alva J.). The Americus limestone.  
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- 710 **Smith** (James Perrin). The border line between the Paleozoic and Mesozoic in western America.  
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- 715 **Spalding** (E. P.). The quicksilver mines of Brewster County, Texas.  
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- 717 — The physiography of the Copper River basin, Alaska.  
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- 718 — See **Cross** (Whitman), 176.
- 719 **Spencer** (Joseph William Winthrop). On the geological and physical development of Antigua.  
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- 720 **Spencer** (Joseph William Winthrop). On the geological and physical development of Guadelupe.  
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- 721 ——— On the geological and physical development of Anguilla, St. Martin, St. Bartholomew, and Sombbrero.  
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- 722 ——— On the geological and physical development of the St. Christopher chain and Saba Banks.  
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- 723 **Spurr** (Josiah Edward). Origin and structure of the Basin ranges.  
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- 724 ——— Variations of texture in certain Tertiary igneous rocks of the Great Basin.  
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- 725 **Stanton** (Timothy W.). [Report on Cretaceous fossils from the John Day Basin, Oregon.]  
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- 726 ——— Chondrodonta, a new genus of ostreiform mollusks from the Cretaceous, with descriptions of the genotpye and a new species.  
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- 727 **Stearns** (Robert E. C.). Fossil land shells of the John Day region, with notes on related living species.  
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- 728 **Stevens** (E. A.). An occurrence of limburgite in the Crípplé Creek district [Colorado].  
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- 730 **Stokes** (N. H.), **Merrill** (George P.) and. A new stony meteorite from Allegan, Michigan, and a new iron meteorite from Mart, Texas.  
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- 731 **Stose** (George W.). [Review of "Allegany County, Maryland."] Science, new ser., vol. 14, pp. 181-182, 1901.
- 732 **Stone** (George H.). Note on the minerals associated with copper in parts of Arizona and New Mexico.  
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- 733 ——— Note on the extinct glaciers of New Mexico and Arizona.  
Abstract: Science, new ser., vol. 14, p. 798, 1901.  
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- 734 **Stretch** (R. H.). The Silverton mining district, Snohomish County, Washington.  
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- 735 **Taff** (Joseph A.). A comparison of the Ouachita and Arbuckle Mountain sections, Indian Territory.  
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Briefly describes sections of Paleozoic rocks.
- 736 ——— Colgate Folio—Indian Territory.  
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- 737 **Talmage** (J. E.). A recent fault slip, Ogden Canyon, Utah.  
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Gives a brief account of the phenomena.
- 738 **Taylor** (F. B.). Glacial phenomena in eastern Ontario.  
Abstract: Science, new ser., vol. 13, p. 138, 1901.
- 739 **Tays** (E. A. H.). Genesis of ore deposits.  
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- 740 **Tight** (W. G.). Pre-Glacial drainage in southwestern Ohio.  
Science, new ser., vol. 14, pp. 775-776, 1901.  
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- 741 **Todd** (James E.). River action phenomena.  
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Discusses the variations in phenomena of river action in time of flood and the formation of silt and loess deposits.

- 742 **Todd** (James E.). Some problems of the Dakota artesian system.  
Abstract: *Science*, new ser., vol. 14, p. 794, 1901.  
*Sci. Am. Suppl.*, vol. 52, p. 21504, 1901.
- 743 — Moraines and maximum diurnal temperature.  
Abstracts: *Science*, new ser., vol. 14, pp. 794-795, 1901.  
*Sci. Am. Suppl.*, vol. 52, p. 21504, 1901.  
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- 744 **Turner** (Henry W.). The geology of the Great Basin in eastern California and southwestern Nevada.  
Abstracts: *Jour. Geol.*, vol. 9, p. 73 ( $\frac{1}{2}$  p.), 1901; *Geol. Soc. Am.*, *Bull.*, vol. 12, p. 498 ( $\frac{3}{4}$  p.), 1901.  
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- 745 — Perknite (lime-magnesia rocks).  
*Jour. Geol.*, vol. 9, pp. 507-511, 1901.  
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- 746 — The mines of Esmeralda County, Nevada.  
*Mg. and Sci. Press*, vol. 82, pp. 73-74, 1901.  
Contains notes on the general geology of portions of the County.
- 747 **Tyrrell** (J. B.). Report on the east shore of Lake Winnipeg and adjacent parts of Manitoba and Keewatin, compiled by D. B. Dowling.  
*Can. Geol. Surv.*, new ser., vol. 11, Rept. G., 96 pp., 3 pls., 1901, published in 1900.  
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## U.

- 748 **Udden** (J. A.). Geology of Louisa County [Iowa].  
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- 749 — Geologic of Pottawattamie County [Iowa].  
*Iowa Geol. Surv.*, vol. 11, pp. 202-277, pl. 6, figs. 13-15 and map, 1901.  
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- 750 **Ulrich** (E. O.). Systematic paleontology, Eocene Arthropoda.  
*Md. Geol. Surv.*, Eocene, pp. 116-122, pl. 16, 1901.
- 751 — Eocene Molluscoidea (Bryozoa).  
*Md. Geol. Surv.*, Eocene, pp. 205-222, pls. 59-60, 1901.

- 752 **Upham** (Warren). Artesian wells in North and South Dakota.  
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- 753 — Pre-Glacial erosion in the course of the Niagara gorge, and its relation to estimates of post-Glacial time.  
Am. Geol., vol. 28, pp. 235-244, 1901.  
Gives the author's views of the glacial history of the region and discusses their bearing on estimates of post-Glacial time.
- 754 — The antiquity of the races of mankind.  
Am. Geol., vol. 28, pp. 250-254, 1901.  
Reviews the evidences indicating the pre-Glacial origin of man.
- 755 — [Review of "Iowa Geological Survey, volume 11."]<sup>1</sup>  
Am. Geol., vol. 28, p. 258, ( $\frac{1}{2}$  p.), 1901.
- 756 — The Toronto and Scarboro drift series [Ontario].  
Am. Geol., vol. 28, pp. 306-316, 1901.  
Quotes Coleman's description of these beds and discusses the bearing of the evidences on the existence of interglacial epochs of moderate oscillations of the ice border.
- 757 — [Review of "Geological Survey of Canada, Annual Report, new series, volume 11, 1898."]  
Am. Geol., vol. 28, pp. 321-322, 1901.

## V.

- 758 **Van Hise** (Charles R.). Some principles controlling the deposition of ores.  
Am. Inst. Mg. Engrs., Trans., vol. 30, pp. 27-177, figs. 1-10, 1901.  
Abstracts: Am. Jour. Sci., 4th ser., vol. 11, p. 90 ( $\frac{1}{2}$  p.), 1901; Eng. & Mg. Jour., vol. 72, pp. 699-702, 1901.  
This subject is discussed under the following general heads: Three zones of the lithosphere; the water content and openings in rocks; physico-chemical principles controlling the work of underground waters; general geologic work of underground waters; the precipitation of ores by ascending waters; precipitation of ores by ascending and descending waters combined; the association of certain ores; concentration; enrichment and diminution of richness in depth; special factors affecting the concentration of ores, and the classification of ore deposits.
- 759 — The iron-ore deposits of the Lake Superior region.  
U. S. Geol. Surv., 21st Ann. Rept., Pt. III, pp. 305-434, pls. xlviii-lix, 1901.  
Describes the general stratigraphy and occurrence of iron ores in the several districts of the Lake Superior region. The Mesabi district is by C. R. Van Hise and C. K. Leith. The Vermillion iron-bearing district is by C. R. Van Hise and J. Morgan Clements.
- 760 — The geology of ore deposits.  
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- 761 **Van Hise** (Charles R.). [Discussion of "Ice ramparts," by E. R. Buckley].  
 Wis. Acad. Sci. Arts and Letters, Trans., vol. 13, Pt. I, pp. 158-162, pls. 14-18, 1901.  
 Compares the phenomena of ice deformation with those of crustal deformation.
- 762 **Van Ingen** (Gilbert). The Siluric fauna near Batesville, Arkansas, I.  
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 Describes the geologic relations of the strata. Includes a bibliography.
- 763 — The Siluric fauna near Batesville, Arkansas.  
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 Describes the characters of the various species collected.
- 764 — [Paleozoic rocks of northwestern New Jersey.]  
 Abstract: Am. Geol., vol. 27, pp. 42-43, 1901.  
 Contains considerable data on the Paleozoic strata and faunas of New Jersey.
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 Braunite, Merrill, 545.  
 Buhrstone, Merrill, 545.  
 Building stone, Darton and Keith, 200.  
 Building stone, Gould, 301, 304.  
 Building stone, Lakes, 472, 473.  
 Building stone, Miller, 548.  
 Building stone, Norton, 568.  
 Building stone, Russell, 662.  
 Building stone, Smith, 706.  
 Building stone, Udden, 748.  
 Calcite; eale spar; Iceland spar, Merrill, 545.  
 Carbonite or natural coke, Merrill, 545.  
 Celestite, Merrill, 545.  
 Cement, Blatchley, 67.  
 Cement, Kummel, 455.  
 Cement, Russell, 662.  
 Cement, Siebenthal, 701.  
 Cerite, Merrill, 545.  
 Chalk, Merrill, 545.  
 Chemawinite, Merrill, 545.  
 Chromite, Merrill, 545.  
 Clay, Babcock, 34.  
 Clay, Buckley, 94.  
 Clay, Darton and Keith, 200.  
 Clay, Gould, 301.  
 Clay, Mason, 528.  
 Clay, Miller, 548.  
 Clay, Udden, 748, 749.  
 Clays, Merrill, 545.  
 Coal, Babcock, 34.  
 Coal, Becker, 50.  
 Coal, Blakemore, 65.  
 Coal, Calvin, 100.  
 Coal, Campbell, 105.  
 Coal, Catlett, 121.  
 Coal, Corless, 164.  
 Coal, Crane, 168.  
 Coal, Darton, 198.  
 Coal, Diller, 231.  
 Coal, Gould, 301.  
 Coal, Haseltine, 341.  
 Coal, Hills, 374.  
 Coal, Ingall, 401.  
 Coal, Keyes, 438.  
 Coal, Lakes, 463.  
 Coal, Lakes, 465, 466.  
 Coal, McCalley, 511.  
 Coal, Miller, 548.  
 Coal, Purington, 636.  
 Coal series, Merrill, 545.  
 Cobaltite, Merrill, 545.  
 Colemanite, Merrill, 545.  
 Columbite and tantalite, Merrill, 545.  
 Copper, Becker, 50.  
 Copper, Biddle, 60.  
 Copper, Grant, 313.

**Economic products described—Continued.**

Copper, Kummel, 456.  
 Copper, Lowry, 500.  
 Copper, McCormick, 515.  
 Copper, Stretch, 734.  
 Copper, Vaughan, 769.  
 Copper, Weed, 795.  
 Corundum, Ropes, 657.  
 Corundum and emery, Merrill, 545.  
 Cryolite, Merrill, 545.  
 Desclozite, Merrill, 545.  
 Diamond, Hobbs, 378.  
 Diaspore, Merrill, 545.  
 Diatomaceous or infusorial earth, Merrill, 545.  
 Dolomite, Merrill, 545.  
 Elaterite, mineral caoutchouc, Merrill, 545.  
 Emery, Eckle, 254.  
 Epsomite, Epsom salts, Merrill, 545.  
 Erythrite or cobalt bloom, Merrill, 545.  
 Feldspar, Merrill, 545.  
 Fire clay, Hopkins, 388.  
 Flint, Merrill, 545.  
 Fluor spar, Burk, 96.  
 Fluorite, Merrill, 545.  
 Franklinite, Merrill, 545.  
 Fuller's earth, Darton, 198.  
 Gadolinite, Merrill, 545.  
 Garnet, Merrill, 545.  
 Gibbsite, hydrargillite, Merrill, 545.  
 Glauberite, Merrill, 545.  
 Glauco-dot, Merrill, 545.  
 Gold, Becker, 50.  
 Gold, Chalmers, 123.  
 Gold, Chance, 131.  
 Gold, Coleman, 154.  
 Gold, Comstock, 161.  
 Gold, Diller, 231.  
 Gold, Furman, 289.  
 Gold, Hershey, 367.  
 Gold, Knapp, 444.  
 Gold, Knight, 448.  
 Gold, Lakes, 461.  
 Gold, L'Hame, 488.  
 Gold, Lowry, 500.  
 Gold, Purington, 636.  
 Gold, Ransome, 639.  
 Gold, Rickard, 646, 648.  
 Gold, Schrader and Brooks, 681.  
 Gold, Watson, 792.  
 Gold, Weatherby, 793.  
 Gold, Weed, 796.  
 Grahamite, Eldridge, 255.  
 Grahamite, Merrill, 545.  
 Grindstones, whetstones, and hones, Merrill, 545.  
 Gum copal, Merrill, 545.  
 Gypsum, Darton, 198.  
 Gypsum, Merrill, 545.  
 Halite, sodium chloride or common salt, Merrill, 545.  
 Hausmannite, Merrill, 545.  
 Ilmenite, menaccanite, or titanic iron, Merrill, 545.  
 Iron, Chance, 132.  
 Iron, Coleman, 155.  
 Iron, Courtis, 165.  
 Iron, Crosby, 175.

## Economic products described—Continued.

Iron, Dumble, 247.  
 Iron, Miller, 551, 552.  
 Iron, Obalski, 572.  
 Iron, Smith and Willis, 709.  
 Iron, Spencer, 716.  
 Iron, Van Hise, 759.  
 Iron ores, Hayes, 355.  
 Kainite, Merrill, 545.  
 Kalinite, Merrill, 545.  
 Kieserite, Merrill, 545.  
 Lazurite, lapis lazuli, or native ultramarine, Merrill, 545.  
 Lead, Haworth, 350.  
 Lead, Keith, 411.  
 Lead, Malcomson, 518.  
 Lead, Phillips, 610.  
 Lignite, Russell, 662.  
 Lime, Norton, 568.  
 Limestone, Donald, 233.  
 Limestones, mortars, and cements, Merrill, 545.  
 Linnæite, Merrill, 545.  
 Lithographic limestones, Merrill, 545.  
 Löllingite, leucopyrite, Merrill, 545.  
 Magnesite, Merrill, 545.  
 Manganese, Chibas, 137.  
 Manganese, Hayes, 355.  
 Manganese, Merrill, 545.  
 Manganite, Merrill, 545.  
 Manjak, Merrill, 545.  
 Marble, Byrne, 99.  
 Marble, Keith, 411.  
 Marble, Lyon, 506.  
 Marl, Blatchley and Ashley, 69.  
 Marl, Davis, 201.  
 Micas, Merrill, 545.  
 Mirabilite, or Glauber salt, Merrill, 545.  
 Molybdenite, Merrill, 545.  
 Monazite, Merrill, 545.  
 Natron, the nitrum of the ancients, Merrill, 545.  
 Natural gas, Bishop, 71.  
 Natural gas, Haworth, 351.  
 Natural gas, Ingall, 401.  
 Natural gas, Udden, 748.  
 Nickel, Ledoux, 486.  
 Niter, potassium nitrate, Merrill, 545.  
 Nitro-calcite, Merrill, 545.  
 Ochre, Chester, 136.  
 Ocher, Hayes, 355.  
 Ocher, Merrill, 545.  
 Oil, Adams, 7.  
 Oil, Bishop, 71.  
 Oil, Blatchley, 68.  
 Oil, Cooper, 163.  
 Oil, Haworth, 351.  
 Oil, Ingall, 401.  
 Oil, Knight and Slosson, 450.  
 Oil, Knight, 447.  
 Oil, Lakes, 470, 471, 474, 475, 476.  
 Oil, Phillips, 609.  
 Oil, Willis, 834.  
 Orpiment; auripigment, Merrill, 545.  
 Ozokerite; mineral wax; native paraffin, Merrill, 545.  
 Petroleum, Claypole, 149.

## Economic products described—Continued.

Petroleum, Darton, 198.  
 Petroleum, Merrill, 545.  
 Petroleum, Phillips, 608.  
 Phosphate, Eckel, 254a.  
 Phosphate, Hayes, 357.  
 Phosphate, Memminger, 541.  
 Phosphate, Phillips, 611.  
 Phosphate, Safford, 666.  
 Platinum, Day, 226.  
 Playing marbles, Merrill, 545.  
 Polianite, Merrill, 545.  
 Polyhalite, Merrill, 545.  
 Portland cement, Merrill, 545.  
 Psilomelane, Merrill, 545.  
 Pumice, Merrill, 545.  
 Pyrites, Merrill, 545.  
 Pyrophyllite; agalmatolite; and pagodite, Merrill, 545.  
 Pyrolusite, Merrill, 545.  
 Quartz, Merrill, 545.  
 Quicksilver, Spalding, 715.  
 Realgar, Merrill, 545.  
 Retinite, Merrill, 545.  
 Rhodochrosite; dialogite, Merrill, 545.  
 Rhodonite, Merrill, 545.  
 Road material, Darton and Keith, 200.  
 Roman cement, Merrill, 545.  
 Roofing slate, Nevius, 563.  
 Rutile, Merrill, 545.  
 Salt, Gould, 303.  
 Salt, Holder, 383.  
 Samarskite, Merrill, 545.  
 Scheelite, Merrill, 545.  
 Sepiolite; meerschaum, Merrill, 545.  
 Silver, Comstock, 161.  
 Silver, Knapp, 444.  
 Silver, Lowry, 500.  
 Silver, McCormick, 515.  
 Silver, Malcomson, 518.  
 Silver, Ordoñez, 575.  
 Silver, Purington, 636.  
 Silver, Ransome, 639, 640.  
 Silver, Weatherby, 793.  
 Skutterudite, Merrill, 545.  
 Smaltite, Merrill, 545.  
 Soda niter, Merrill, 545.  
 Soils, Norton, 568.  
 Soils, Hall, 331.  
 Spodumene and petalite, Merrill, 545.  
 Steatite; talc; and soapstone, Merrill, 545.  
 Strontianite, Merrill, 545.  
 Succinite; amber, Merrill, 545.  
 Sychnodymite, Merrill, 545.  
 Talc, Blasdale, 66.  
 Thenardite, Merrill, 545.  
 Tin, Brooks, 80a.  
 Tin, Weed, 797.  
 Tripolite, Crosby, 174.  
 Triphylite and lithiophilite, Merrill, 545.  
 Tripoli, Merrill, 545.  
 Trona; urao, Merrill, 545.  
 Tschermigite, Merrill, 545.  
 Tungsten ore, Weeks, 800.  
 Uintate, Eldridge, 255.  
 Ulexite; boronatocalcite, Merrill, 545.  
 Vanadinite, Merrill, 545.

**Economic products described—Continued**

- Water supply, Babcock, 34.  
 Water supply, Calvin, 100.  
 Water supply, Darton, 198.  
 Water supply, Darton and Keith, 200.  
 Water supply, Gould, 299, 301.  
 Water supply, Hills, 374.  
 Water supply, Johnson, 404.  
 Water supply, McCaslin, 514.  
 Water supply, Nutter, 570.  
 Water supply, Russell, 662.  
 Water supply, Udden, 749.  
 Water supply, Upham, 752.  
 Water supply, Woolman, 859.  
 Witherite, Merrill, 545.  
 Wolframite and Hubnerite, Merrill, 545.  
 Wurtzillite, Merrill, 545.  
 Uintaite; gilsonite, Merrill, 545.  
 Uraninite; pitchblende, Merrill, 545.  
 Ytrotantalite, Merrill, 545.  
 Zinc, Haworth, 350.  
 Zinc, Keith, 411.  
 Zinc, Phillips, 610.  
 Zircon, Merrill, 545.

**Geologic formations, description and synonymy.**

- Abram's formation, Pre-Cretaceous, California, Hershey, 362.  
 Agoniatites limestone, Devonian, New York, Clarke, 145.  
 Aftonian, Pleistocene, Iowa, Udden, 748.  
 Agua Dulce formation, Pleistocene, Panama, Hershey, 365.  
 Albany granite, New Hampshire, Hawes, 349.  
 Albertan, Pleistocene, Iowa, Udden, 748.  
 Alleghany formation, Carboniferous, Maryland, Prosser, 631, 632.  
 Americus limestone, Kansas, Smith, 706.  
 Antigua formation = White limestone, West Indies, Spencer, 719, 721.  
 Apishapa formation, Cretaceous, Colorado, Hills, 374.  
 Aquia formation or stage. Eocene, Maryland. Includes Piscataway and Paspotans members or substages. Clark and Martin, 140.  
 Arisaig formation, Silurian, Canada, Ami, 22.  
 Arizona formation, included in Huronian, Blake, 62.  
 Atoka formation, Carboniferous, Indian Territory, Taff, 736.  
 Azuero formation, Panama, Hershey, 365.  
 Bays formation, Silurian, Tennessee, Keith, 411.  
 Beacon Hill formation, Miocene, New Jersey, Smock, 712.  
 Bedford, Carboniferous, Indiana and Ohio, Siebenthal, 698.  
 Bedford limestone, Carboniferous, Indiana, Cumings, 178.  
 Bedford shale, Carboniferous, Ohio, Prosser, 629, 630.  
 Berea grit, Carboniferous, Ohio, Prosser, 629.  
 Berkeleyan series, California, included in Pliocene, Lawson and Palache, 484a.  
 Beulah shales, Jurassic, Black Hills, Darton, 198.

**Geologic formations, description and synonymy—Continued.**

- Black Tail Deer Creek beds, included in White River beds, Tertiary, Montana, Douglass, 234a.  
 Boggy shale, Carboniferous, Indian Territory, Taff, 736.  
 Bragden formation, Pre-Cretaceous, California, Hershey, 362.  
 Braxton formation, Carboniferous, West Virginia, Campbell, 105.  
 Briceville shale, Carboniferous, Tennessee, Keith, 411.  
 Bridgeton formation, New Jersey, Smock, 712.  
 Buchanan gravels, Pleistocene, Iowa, Norton, 568.  
 Buchanan gravel, Pleistocene, Iowa, Udden, 748.  
 Calciferous (Beekmantown) limestone, Ordovician, New York, Cushing, 185.  
 Calderwood's Neck schists, Maine, Smith, 707.  
 Calvan sandstone, Carboniferous, Indian Territory, Taff, 736.  
 Campan series, Pliocene, California, Lawson and Palache, 484a.  
 Caney shales, Carboniferous, Indian Territory, Taff, 736.  
 Cape May formation, New Jersey, Smock, 712.  
 Carlile formation, Cretaceous, Black Hills, Darton, 198.  
 Carolina gneiss, Archean, Piedmont region. Darton and Keith, 200.  
 Cassada Garden gravels, West Indies, Spencer, 719.  
 Cathead limestone, Ordovician, Canada, Dowling, 236.  
 Charleston sandstone, Carboniferous, West Virginia, Campbell, 105.  
 Chattanooga black shale, Devonian, Kentucky and Tennessee, Foerste, 278.  
 Chattanooga shale, Devonian, Tennessee, Keith, 411.  
 Chengwatana series, Minnesota, Hall, 332.  
 Chesapeake formation, Tertiary, Atlantic coast region, Darton and Keith, 200.  
 Chickachoe chert lentil, Carboniferous, Indian Territory, Taff, 736.  
 Chickamauga limestone, Silurian, Tennessee, Keith, 411.  
 Clarno formation, Tertiary, Oregon, included in Eocene, Merriam, 542, 543.  
 Clear Creek formation, Pre-Cretaceous, California, Hershey, 362.  
 Clinch sandstone, Silurian, Tennessee, Keith, 411.  
 Clinton, Silurian, New York, Grabau, 306.  
 Clinton formation, Silurian, Maryland, Prosser, 631.  
 Clinton limestone, Silurian, Kentucky and Tennessee, Foerste, 278.  
 Coaledo formation, Eocene, Oregon, Diller, 231.  
 Coggan limestone, Devonian, Iowa, Norton, 568.  
 Columbia formation, Pleistocene, Atlantic coast region, Darton and Keith, 200.  
 Columbia lava, Oregon, Merriam, 542.

**Geologic formations, description and synonymy—Continued.**

- Como beds, exact synonym *Atlantosaurus* beds, Cretaceous, Wyoming, Williston, 836.
- Conasauga shale, Cambrian, Tennessee, Keith, 411.
- Conemaugh formation, Carboniferous, Maryland, Prosser, 631, 632.
- Cuchara formation, Eocene(?), Colorado, Hills, 374.
- Cumberland sandstones, Ordovician, Kentucky, Foerste, 278.
- Cuyahoga formation, Carboniferous, Ohio, Prosser, 629.
- Dakota formation, Cretaceous, Black Hills, Darton, 198.
- Dakota formation, Cretaceous, Colorado, Lee, 487.
- Dakota sandstone, Kansas, Charles, 133.
- Dakota sandstone, Cretaceous, Colorado, Cross, 176.
- Dannemara formation, Algonkian, New York, Cushing, 185.
- Davenport (upper and lower), Devonian, Iowa, Norton, 568.
- Deadwood formation, Cambrian, Black Hills, Darton, 198.
- Dolores formation, Jura-Trias, Colorado, Cross, 176.
- Douglas formation, Carboniferous, Kansas, Rogers, 656.
- Dunkard formation, Permian (?), Maryland, Prosser, 631, 632.
- Edmund's Hill andesites, Gregory, 322.
- Empire formation, Neocene, Oregon, Diller, 231.
- Englewood limestone, Carboniferous, Black Hills, Darton, 198.
- Eureka shale, Carboniferous, Missouri, Weller, 801.
- Fredericktown dolomite, Cambrian, Missouri, Keyes, 429.
- Fowler limestone, Ordovician, Kentucky, included in Richmond group, Foerste, 278.
- Fox Hills formation, Cretaceous, Black Hills, Darton, 198.
- Franciscan series, Lawson and Palache, 484a.
- Friars' Hill series, West Indies, Spencer, 719.
- Fuson formation, Cretaceous, Black Hills, Darton, 198.
- Geneva limestone, exact synonym(?) Shelby bed, Devonian, Indiana, Kindle, 442.
- Gower limestone, Silurian, Iowa, included in Niagara, Norton, 568.
- Grainger shale, Devonian, Tennessee, Keith, 411.
- Graneros shale, Cretaceous, Black Hills, Darton, 198.
- Greenbrier limestone, Carboniferous, Maryland, Prosser, 631.
- Greenhorn limestone, Cretaceous, Black Hills, Darton, 198.
- Grizzly Peak andesite, Lawson and Palache, 484a.
- Guertie sand, Neocene, Indian Territory, Taff, 736.
- Hampshire formation, Devonian, Maryland, Prosser, 631.

**Geologic formations, description and synonymy—Continued.**

- Hardiston quartzite, Cambrian, New Jersey, Kummel and Weller, 457.
- Hardiston quartzite, Cambrian, New Jersey, Weller, 805.
- Hartshorn sandstone, Carboniferous, Indian Territory, Taff, 736.
- Helderberg limestone, Devonian, Maryland, Prosser, 631.
- Hodges Hill sandstone, West Indies, Spencer, 719.
- Holdenville shale, Carboniferous, Indian Territory, Taff, 736.
- Holston marble, Silurian, Tennessee, Keith, 411.
- Hudson River beds, Ordovician, New York, Ruedemann, 659.
- Hudson River formation, Ordovician, New Jersey, Weller, 805.
- Huerfano formation, Eocene, Colorado, Hills, 374.
- Illinoian, Pleistocene, Iowa, Udden, 748.
- Iowan drift, Pleistocene, Iowa, Norton, 568.
- Independence, Devonian, Iowa, Norton, 568.
- Iron Mountain conglomerate, Cambrian, Missouri, Keyes, 429.
- Jeffersonville limestone, Devonian, Indiana, Kindle, 442.
- Jeffersonville limestone, Carboniferous, Indiana, Siebenthal, 709.
- Jennings formation, Devonian, Maryland, Prosser, 631.
- John Day series, Tertiary, Oregon, Merriam, 542, 543.
- Juniata formation, Silurian, Maryland, Prosser, 631.
- Kanawha formation, Carboniferous, West Virginia, Campbell, 105.
- Kansan, Pleistocene, Iowa, Macbride, 510.
- Kansan, Pleistocene, Iowa, Udden, 748.
- Kansan drift, Pleistocene, Iowa, Calvin, 100.
- Kansan drift, Pleistocene, Iowa, Miller, 548.
- Kansan drift, Pleistocene, Iowa, Norton, 568.
- Keweenawan, Algonkian, Minnesota, Hall, 332.
- Keweenawan trap, pre-Cambrian, Wisconsin, Grant, 314.
- Keewatin, Algonkian, Minnesota, Hall, 333.
- Kinderhook, Carboniferous, Missouri, Weller, 801.
- Kittatinny limestone, Cambro-Ordovician, New Jersey, Kummel and Weller, 457.
- Kittatinny limestone, Cambrian, New Jersey, Weller, 805.
- Knobstone, Carboniferous, Indiana, Siebenthal, 701.
- Knox dolomite, Silurian, Tennessee, Keith, 411.
- Knoydart formation, Devonian, Canada, Ami, 16, 20, 22.
- Labrador formation, Pleistocene, Canada, exact synonym, Boulder Clay, Ami, 14.
- Lafayette formation, Tertiary, Atlantic coast region, Darton and Keith, 200.
- Lafond gravel and marl, West Indies, Spencer, 720.

**Geologic formations, description and synonymy—Continued.**

- Lake Superior sandstone, Cambrian, Wisconsin, Collie, 157.  
 Lake Superior sandstone, Cambrian, Wisconsin, Grant, 314.  
 Lakota formation, Cretaceous, Black Hills, Darton, 198.  
 Lamotte sandstone, Cambrian, Missouri, Keyes, 429.  
 La Plata sandstone, Jura-Trias, Colorado, Cross, 176.  
 Laramie formation, Cretaceous, Black Hills, Darton, 198.  
 Laramie formation, Cretaceous, Colorado, Hills, 374.  
 Laurel limestone, Silurian, Kentucky and Tennessee, Foerste, 278.  
 Leda clay, Canada, Coleman, 156.  
 Lee conglomerate, Carboniferous, Tennessee, Keith, 411.  
 Le Roux beds, Triassic, Arizona, Ward, 777.  
 Lewis shale, Cretaceous, Colorado, Cross, 176.  
 Leseur dolomite, Cambrian, Missouri, Keyes, 429.  
 Lockport limestone, Silurian, New York. Synonym, Niagara limestone, Grabau, 306.  
 Loess, Pleistocene, Iowa, Calvin, 100.  
 Loess, Pleistocene, Iowa, Udden, 748.  
 Logan formation, Carboniferous, Ohio, Prosser, 629.  
 McAdam formation, Silurian, Canada, Ami, 22.  
 McAlister shale, Carboniferous, Indian Territory, Taff, 736.  
 MeElmo formation, Jura-Trias, Colorado, Cross, 176.  
 Mancos shale, Cretaceous, Colorado, Cross, 176.  
 Manlius limestone, Silurian, New York, Grabau, 306.  
 Mariato formation, Pleistocene, Panama, Hershey, 365.  
 Marion formation, Permian, Oklahoma, Gould, 302.  
 Maryville limestone, Cambrian, Tennessee, Keith, 411.  
 Mascall formation, Tertiary, Oregon. Included in Mioocene, Merriam, 542.  
 Matawan formation, Cretaceous, Darton and Keith, 200.  
 Mauch Chunk formation, Carboniferous, Maryland, Prosser, 631.  
 Medina, Silurian, New York, Grabau, 306.  
 Mesa Verde formation, Cretaceous, Colorado, Cross, 176.  
 Minnelusa formation, Carboniferous, Black Hills, Darton, 198.  
 Minnewaste limestone, Cretaceous, Black Hills, Darton, 198.  
 Mississippian series, Carboniferous, Iowa, Udden, 748.  
 Missourian stage, Carboniferous, Iowa, Calvin, 100.  
 Missourian stage, Carboniferous, Iowa, Udden, 749.  
 Moccasin limestone, Silurian, Tennessee, Keith, 411.

**Geologic formations, description and synonymy—Continued.**

- Moencopie beds, Triassic, Arizona, Ward, 777.  
 Monmouth formation, Cretaceous, Atlantic coast region, Darton and Keith, 200.  
 Monongahela formation, Carboniferous, Maryland, Prosser, 631, 632.  
 Monterey series, California, Lawson and Palache, 484a.  
 Montijo conglomerate, Panama, Hershey, 365.  
 Morrison formation, Jurassic, Colorado, Lee, 487.  
 Mottled limestone (upper and lower), Ordovician, Canada, Dowling, 236.  
 Myrtle formation, Cretaceous, Oregon, Diller, 231.  
 Nanjemoy formation or stage, Eocene, Maryland. Includes Potapaco and Woodstock members or substages. Clark and Martin, 140.  
 New Albany shale, Devonian of Indiana, Kindle, 442.  
 New Albany black shale, Devonian, Indiana, Stiebenshal, 709.  
 Newman limestone, Carboniferous, Tennessee, Keith, 411.  
 Niagara formation, Silurian, Maryland, Prosser, 631.  
 Niobrara formation, Cretaceous, Black Hills, Darton, 198.  
 Nolichucky shale, Cambrian, Tennessee, Keith, 411.  
 North Haven greenstones, Maine, Smith, 707.  
 North View sandstone and shale, Carboniferous, Missouri, Weller, 801.  
 Nussbaum formation, Neocene, Colorado, Hills, 374.  
 Onondaga limestone, Devonian, New York, Grabau, 306.  
 Opeche formation, Carboniferous, Black Hills, Darton, 198.  
 Orindan formation, Lawson and Palache, 484a.  
 Oriskany sandstone, Devonian, Maryland, Prosser, 631.  
 Otis, Devonian, Iowa, Norton, 568.  
 Painted Desert beds, Triassic, Arizona, Ward, 777.  
 Pahasapa limestone, Carboniferous, Black Hills, Darton, 198.  
 Pamunkey formation, Tertiary, Atlantic coast region. Darton and Keith, 200.  
 Panama formation, Hershey, 365.  
 Paspotansa member or substage, Eocene, Maryland. Included in Aquia formation or stage. Clark and Martin, 140.  
 Pearson limestone, Carboniferous, Missouri, Weller, 801.  
 Pegram limestone, Devonian, Kentucky and Tennessee, Foerste, 278.  
 Pendleton sandstone, Carboniferous, Indiana, Siebenshal, 709.  
 Pennington shale, Carboniferous, Tennessee, Keith, 411.  
 Pensauken formation, New Jersey, Smock, 712.  
 Petit Bourg series, West Indies, Spencer, 720.

## Geologic formations, description and synonymy—Continued.

- Phelps sandstone, Carboniferous, Missouri, Welier, 801.
- Pierre shale, Cretaceous, Black Hills, Darton, 198.
- Pierre shale, Cretaceous, Colorado, Hills, 374.
- Pipestone beds, included in White River beds, Tertiary, Montana, Douglass, 234a.
- Piscataway member or substage, Eocene, Maryland, included in Aquia formation or stage, Clark and Martin, 140.
- Pocono sandstone, Carboniferous, Maryland, Prosser, 631.
- Poison Canyon formation, Eocene?, Colorado, Hills, 374.
- Potapaco member or sub stage, Eocene, Maryland, included in Nanjemoy formation or stage, Clark and Martin, 140.
- Potomac formation, Cretaceous, Atlantic coast region, Darton and Keith, 200.
- Potosi limestone, Cambrian, Missouri, Keyes, 429.
- Potosi limestone, Cambrian, Missouri, Nason, 561.
- Potosi series, Cross, 177.
- Potsdam formation, Cambrian, New York, Cushing, 185.
- Pottawattamie formation, Carboniferous, Kansas, Rogers, 656.
- Pottsville formation, Carboniferous, Maryland, Prosser, 631.
- Pulaski formation, Eocene, Oregon, Diller, 231.
- Quebec formation, Ordovician, Canada, Ami, 14.
- Rattlesnake formation, Tertiary, Oregon, included in Pliocene, Merriam, 542.
- Red Beds, Permian, Kansas, Gould, 297.
- Red Rock sandstone, Carboniferous, Iowa, included in Des Moines formation, Miller, 548.
- Richmond group, Ordovician, Kentucky and Tennessee, Foerste, 278.
- Rochester shale, Silurian, New York, Grabau, 306.
- Rogersville shale, Cambrian, Tennessee, Keith, 411.
- Rome formation, Cambrian, Tennessee, Keith, 411.
- Romney formation, Devonian, Maryland, Prosser, 631.
- Rondout water lime, Silurian, New York, Grabau, 306.
- Rockford limestone, Carboniferous, Indiana, Siebenthal, 709.
- Rockwood formation, Silurian, Tennessee, Keith, 411.
- Rutledge limestone, Cambrian, Tennessee, Keith, 411.
- Sac limestone, Carboniferous, Missouri, Welier, 801.
- St. John beds, Devonian, New Brunswick, Matthew, 535.
- St. Joseph limestone, Cambrian, Missouri, Keyes, 429.

## Geologic formations, description and synonymy—Continued.

- St. Joseph limestones, Cambrian, Missouri, Nason, 561.
- St. Kitts gravels, West Indies, Spencer, 722.
- St. Louis, Carboniferous, Missouri, included in Mississippian series, Miller, 548.
- Salem limestone, Carboniferous, Indiana, Cumings, 178.
- Salina formation, Silurian, Maryland, Prosser, 631.
- Salmon formation, pre-Cretaceous, California, Hershey, 362.
- San Carlos formation, Pleistocene, Panama, Hershey, 365.
- Sangamon, Pleistocene, Iowa, Udden, 748.
- San Juan formation, Colorado, Cross, 177.
- Savanna sandstone, Carboniferous, Indian Territory, Taff, 736.
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*Carpenteroblastus* n. gen., Rowley, 658.  
*pentagonus* n. sp., Rowley, 658.  
*Carpolithus marylandicus* n. sp., Hollick, 387.  
 var. *rugosus* n. var., Hollick, 387.  
*Caryocrinus* Say, Grabau, 306.  
*ornatus* Say, Grabau, 306.  
*Cavaria dumosa* n. sp., Ulrich, 751.  
*Centronella glansfagea* (Hall), Kindle, 442.  
*Ceramopora*, Hall, Grabau, 306.  
*imbricata* Hall, Grabau, 306.  
*incrustans* Hall, Grabau, 306.  
*Ceratiocaris* McCoy, Grabau, 306.  
*acuminata* Hall, Grabau, 306.  
 (*Phasganocaris*?) *deweyi* Hall, Grabau, 306.  
*Ceratocephala coalescens* n. sp., van Ingen, 763.  
*goniata* Warder, van Ingen, 763.  
*nodulata* n. sp., van Ingen, 763.  
*Ceratopora agglomerata* n. sp. (Grabau), Greene, 320.  
*Ceriopora micropora* Goldfuss, Ulrich, 751.  
*Chilotrypa* Ulrich, Grabau, 306.  
*ostiolata* (Hall), Grabau, 306.  
*Chondrodonta* n. gen., Stanton, 726.  
*glabra* n. sp., Stanton, 726.  
*munsoni* (Hill), Stanton, 726.  
*Chonetes Fischer de Waldheim*, Grabau, 306.  
*arcuatus* Hall, Kindle, 442.  
*burlingtonensis* n. sp., Weller, 804.  
*cornutus* (Hall), Grabau, 306.  
*gregarius* n. sp., Weller, 804.  
*lepidus* Hall, Kindle, 442.  
*manitobiensis* Whiteaves, Kindle, 442.  
*mucronatus* Hall, Kindle, 442.  
*mucronatus* Hall, Wood, 855.  
*seitulus* Hall, Wood, 855.  
*subquadratus* Nettleroth, Kindle, 442.  
*vicinus* (Castelnau), Kindle, 442.  
*yandellanus* Hall, Kindle, 442.  
*Chonopectus fischeri* (N. & P.), Weller, 804.  
*Chonophyllum* Edwards and Haime, Grabau, 306.  
*infundibulum* n. sp., Greene, 319.  
*niagarensis* Hall, Grabau, 306.  
*typicum* n. sp., Greene, 319.  
*Chonostrophia jerinensis* n. sp., Schuchert, 682.  
*montrealensis* n. sp., Schuchert, 682.  
*Christiania trentonensis* n. sp., Ruedemann, 660.  
*Chryso-domus engonatus* (Heilprin), Clark and Martin, 141.  
*Cladopora* Hall, Grabau, 306.  
*multi-pora* Hall, Grabau, 306.

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- Cladopora seriata* Hall, Grabau, 306.  
*Claenodon*, Matthew, 538.  
*Clathropora* Hall, Grabau, 306.  
*alcicornis* Hall, Grabau, 306.  
*frondosa* Hall, Grabau, 306.  
*Claithrospira subconica* Hall, Ruedemann, 660.  
*Cleithryris hirsuta* Hall, Weller, 804.  
*Climacograptus scharenbergi*, Ruedemann, 660.  
*Clinopistha antiqua* Meek, Kindle, 442.  
*striata* Nettleroth, Kindle, 442.  
*subnasuta* Hall and Whitfield, Kindle, 442.  
*Coleoides typicalis* Wale, Matthew, 529.  
*Coleolus tenuicinctum* Hall, Kindle, 442.  
*Coleophyllum? greeni* n. sp., Rowley, 658.  
*Colodon cingulatus* n. sp., Douglass, 234a.  
*Colophyllia gyrosa* (Ellis and Solander), Vaughan, 776.  
*Conchidium knighti* (Nettleroth)? Kindle, 442.  
*Conchopeltis* (or *Metoptoma*) *obtusa* n. sp., Sardeson, 677.  
*Conocardium cuneus* Hall, Kindle, 442.  
*ohioense* Meek, Kindle, 442.  
*pulchellum* W. & W., Weller, 804.  
*Conularia* Miller, Grabau, 306.  
*niagarensis* Hall, Grabau, 306.  
 sp., Kindle, 442.  
*Coralliophaga* (*Oryctomya*) *bryani* Clark, Clark and Martin, 141.  
*Corbula aldrichi* Meyer, Clark and Martin, 141.  
*oniseus* Conrad, Clark and Martin, 141.  
*subregonata* Dall, Clark and Martin, 141.  
*Cordaites* Unger, Penhallow, 604.  
*acadianum* Dn., Penhallow, 604.  
*annulatum* Dn., Penhallow, 604.  
*brandlingii*, Penhallow, 604.  
*clarkii* Dn., Penhallow, 604.  
*halli* Dn., Penhallow, 604.  
*hamiltonense* n. sp., Penhallow, 604.  
*illinoense* Dn., n. sp., Penhallow, 604.  
*materiarium* Dn., Penhallow, 604.  
*matriode* Dn., n. sp., Penhallow, 604.  
*newberryi* (Dn.) Knowlton, Penhallow, 604.  
*ohioense* Dn., n. sp., Penhallow, 604.  
*pennsylvanicum* Dn., n. sp., Penhallow, 604.  
*quandongianum* Dn., Penhallow, 604.  
*recentium* Dn., n. sp., Penhallow, 604.  
*Cornulites* Schlotheim, Grabau, 306.  
*bellistriatus* Hall, Grabau, 306.  
*Cranæna romingeri* Hall, Kindle, 442.  
*Crania crenistria* Hall, Kindle, 442.  
*delicata* n. sp. (Rowley), Greene, 320.  
*depressa* n. sp. (Rowley), Greene, 320.  
*granosa* Hall and Clarke, Kindle, 442.  
*greeni* Miller, Kindle, 442.  
*halli* n. sp., Sardeson, 677.  
 ? *lemoni* n. sp. (Rowley), Greene, 320.  
*modesta*, W. & St. J. sp. Rowley, Greene, 320.  
*recta* n. sp., Wood, 855.  
*robusta* n. sp. (Rowley), Greene, 320.

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- Crania sheldoni* White, Kindle, 442.  
*suliriana* Hall 1863, Beecher, 51.  
 sp., Kindle, 442.  
*Craniella hamiltonæ* Hall, Kindle, 442.  
*Cranoceras* ? *ellipticum* n. sp. Rowley, Greene, 320.  
*Crassitellites alaformis* (Conrad), Clark and Martin, 141.  
*alta* (Conrad), Clark and Martin, 141.  
*aquiana* (Clark), Clark and Martin, 141.  
 sp., Clark and Martin, 141.  
*Crocosaurus* Marsh, Williston, 836.  
*Cribrilina crassula* n. sp., Ulrich, 751.  
*modesta* n. sp., Ulrich, 751.  
*Cristellaria gibba* (d'Orbigny), Bagg, 35.  
*radiata* (Bornemann), Bagg, 35.  
*rotulata* (Lamarck), Bagg, 35.  
*Cryptonella lens* Hall, Kindle, 442.  
*ovalis* Miller, Kindle, 442.  
*Ctenobolbina ciliata*, Ruedemann, 659.  
*cilata* var. *cornula* n. var., Ruedemann, 659.  
*subrotunda* n. sp., Ruedemann, 659.  
*Ctenodonta* cf. *astartæformis* Salter, Ruedemann, 660.  
*Cucullæa gigantea* Conrad, Clark and Martin, 141.  
*Cupressinoxylon cheyennense* n. sp., Penhallow, 604.  
*comanchense* n. sp., Penhallow, 604.  
*Cybele* sp., Ruedemann, 660.  
*Cyclonema cancellata*, Kindle, 442.  
*crenulata* Meek, Kindle, 442.  
*Cyclorhina nobilis* Hall, Kindle, 442.  
*Cylichna venusta* Clark, Clark and Martin, 141.  
*Cylindrodon fontis* n. gen. et sp., Douglass, 234a.  
*Cyphaspis hudsonica* n. sp., Ruedemann, 660.  
*matutina* n. sp., Ruedemann, 660.  
*Cyprea smithii* Aldrich, Clark and Martin, 141.  
*Cypricardinia cataracta* Conrad, Kindle, 442.  
 ? *cylindrica* H. and W., Kindle, 442.  
*indenta* Conrad, Kindle, 442.  
*Cypricardites lucentus* n. sp., Sardeson, 677.  
*minnesotensis* n. sp., Sardeson, 677.  
*triangularis* n. sp., Sardeson, 677.  
*vicinus* n. sp., Sardeson, 677.  
*Cyrtina* Davidson, Grabau, 306.  
*acutirostris* (Shum.)?, Weller, 804.  
*crassa* Hall, Kindle, 442.  
*hamiltonensis* Hall, Kindle, 442.  
 var. *recta* Hall, Kindle, 442.  
*pyramidalis* (Hall), Grabau, 306.  
*Cyrtoceras* Goldfuss, Grabau, 306.  
*expansum* n. sp., Kindle, 442.  
*subancellatum* Hall, Grabau, 306.  
 sp., Kindle, 442.  
*Cyrtolites bennetti* n. sp., Rowley, 658.  
*Cyrtospira attenuata* n. sp., Ruedemann, 660.  
*Cystelasma septata* n. sp., Greene, 320.  
*Cystiphyllum Goldfuss*, Grabau, 306.  
*diversum* n. sp., Greene, 319.  
*expansum* n. sp., Greene, 319.

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- Cystiphyllum hydraulicum* Simpson, Grabau, 306.  
*louisvillensis* n. sp., Greene, 319.  
*multierenatum* n. sp., Greene, 320.  
*Cythere marylandica* n. sp., Ulrich, 750.  
*Cythereis bassleri* n. sp., Ulrich, 750.  
*Cytherella marlborensis* n. sp., Ulrich, 750.  
*submarginata* n. sp., Ulrich, 750.  
*Cytheridea perarcuata* n. sp., Ulrich, 750.  
*Dadoxylon antiquum* Dn., Penhallow, 604.  
*edvardianum* Dn., Penhallow, 604.  
*prosseri* n. sp., Penhallow, 604.  
*Dalmanella* Hall and Clarke, Grabau, 306.  
*elegantula* Dalman, Grabau, 306.  
*giantula* Dalman 1827, Beecher, 51.  
*subæquata* var. *parveta* Conrad, Ruedemann, 660.  
*Dalmanites* Barrande, Grabau, 306.  
*achates* Billings, Ruedemann, 660.  
*limulus* (Green), Grabau, 306.  
 (*Chasmops*), *anchiops* (Green), Kindle, 442.  
*calypso* H. and W., Kindle, 442.  
*(Cryphaeus) boothi* var. *calliteles* Green (H. and C.), Kindle, 442.  
*pleione* Hall and Clarke, Kindle, 442.  
*(Hausmannia) pleuroptyx* Green (Hall?), Kindle, 442.  
*(Odontoccephalus) ægeria* Hall, Kindle, 442.  
*selenus* (Hall and Clarke), Kindle, 442.  
*(Synphoria) arkansanus* n. sp., Van Ingen, 763.  
*vigilans* Hall, Van Ingen, 763.  
*Dekayia cystata* n. sp., Cumings, 180.  
*magna* n. sp., Cumings, 180.  
*Delthyris raricosta* Conrad, 442.  
*sculptilis* Hall, Kindle, 442.  
*Dentalium grandævum* Win., Weller, 804.  
*minutistriatum* Gabb, Clark and Martin, 141.  
*mississippiensis* Gabb, Clark and Martin, 141.  
*Dexiobia halli* Win., Weller, 804.  
*ovata* (Hall), Weller, 804.  
*Diamesopora* Hall, Grabau, 306.  
*dichotoma* Hall, Grabau, 306.  
*Diaphorostoma* Fischer, Grabau, 306.  
*niagarensis* Hall, Grabau, 306.  
*Dietyomella* Hall, Grabau, 306.  
*corallifera* Hall, Grabau, 306.  
*Dietyonella reticulata* Hall 1868, Beecher 51.  
*Dietyonema* Hall, Grabau, 306.  
*retiforme* Hall, Grabau, 306.  
*Diclasma*, Beecher, 51.  
 ? *pediculus* n. sp., Rowley, 658.  
*zellei* (Win.), Weller, 804.  
*Diploclema* Ulrich, Grabau, 306.  
*sparsa* (Hall), Grabau, 306.  
*Diplodocus* (Marsh), Hatcher, 342.  
*Diplodocus*, Osborn and Granger, 585.  
*Diplodonta hopkinsensis* Clark, Clark and Martin, 141.  
*marlboroensis* n. sp., Clark and Martin, 141.

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- Diplophyllum Hall, Grabau, 306.  
caespitosum Hall, Grabau, 306.
- Diploria labyrinthiformis (Linn.) emend Esper, Vaughan, 706.
- Diplotrypa limitaris Ulr., Sardeson, 671.
- Discina concordensis n. sp., Sardeson, 677.
- Discorbina bertheloti (d'Orbigny), Bagg, 35.  
turbo (d'Orbigny), Bagg, 35.
- Discosparsa varians, n. sp., Ulrich, 751.
- Dolichopterus Hall, Grabau, 306.  
macrochirus Hall, Grabau, 306.
- Dosiniopsis lenticularis (Rogers), Clark and Martin, 141.
- Dromocyon vorax Marsh, Wortman, 864, 865.
- Drymotrypa Ulrich, Grabau, 306.  
diffusa (Hall), Grabau, 306.
- Eccylopterus spiralis n. sp., Ruedemann, 660.
- Edmondia nuptialis Win., Weller, 804.  
strigillata Win., Weller, 804.
- Enallophyllum, n. gen., Greene, 320.  
grabaui n. sp., Greene, 320.
- Enerinurus Emmrich, Grabau, 306.  
ornatus Hall and Whitfield, Grabau, 306.  
punctatus (Brunnich) Wahlenberg van Ingen, 763.
- Enterolasma Simpson, Grabau, 306.  
caliculus (Hall), Grabau, 306.
- Eopolychaetus albaniensis n. gen et sp., Ruedemann, 659.
- Epiphragmophora fidelis antecessens Stearns, 727.
- Equus barcenaei Cope, Gidley, 292.  
complicatus (Leidy), Gidley, 292.  
conversidens Owen, Gidley, 292.  
crenidens Cope, Gidley, 292.  
fraternus Leidy, Gidley, 292.  
giganteus n. sp., Gidley, 292.  
occidentalis Leidy, Gidley, 292.  
pacificus Leidy, Gidley, 292.  
pectinatus (Cope), Gidley, 292.  
scotti Gidley, Gidley, 292.  
semiplicatus Cope, Gidley, 292.  
tau Owen, Gidley, 292.
- Eridotrypa mutabilis Ulr., Sardeson, 671.  
vevayensis n. sp., Cumings, 180.
- Eschara (?) digitata Morton, Ulrich, 751.
- Eucalyptocrinus Goldfuss, Grabau, 306.  
decorus (Phillips), Grabau, 306.
- Euelastes (?) Clark, Case, 120.
- Eucrotaphus helenæ n. sp., Douglass, 234a.
- Eumys minor n. sp., Douglass, 234a.
- Eunella harmonia Hall, Kindle, 442.  
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sullivantii Hall, Kindle, 442.
- Euomphalus planodiscus Hall, Kindle, 442.  
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(Straparollus) exiguus n. sp., Kindle, 442.
- Eupsammia conradi Vaughan, Vaughan, 765.  
elaborata (Conrad), Vaughan, 765.
- Eurychilina bulbifera n. sp., Ruedemann, 660.  
dianthus n. sp., Ruedemann, 660.  
obliqua n. sp., Ruedemann, 660.  
(?) solida n. sp., Ruedemann, 660.  
subradiata var. rensselaerica n. var., Ruedemann, 660.

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lacustris Harlan, Grabau, 306.  
pachychirus Hall, Grabau, 306.  
pustulosus Hall, Grabau, 306.  
remipes De Kay, Grabau, 306.  
robustus Hall, Grabau, 306.
- Eusarcus Grote and Pitt, Grabau, 306.  
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scorpionis Grote and Pitt, Grabau, 306.
- Fascipora subramosa n. sp., Ulrich, 751.
- Favia Oken. 1815, Vaughan, 766.
- Favosites Lamarck, Grabau, 306.  
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pyriformis (Hall), Grabau, 306.
- Fenestella Lonsdale, Grabau, 306.  
elegans Hall, Grabau, 306.
- Fistulipora carbonaris Ulr., Sardeson, 671.
- Fissuridea marlboroensis n. sp., Clark and Martin, 141.
- Flabellum sp., Vaughan, 765.
- Fluminicola columbiana (Hemphill) Pilsbry, Stearns, 727a.  
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- Fulguroficus argutus Clark, Clark and Martin, 141.
- Fusispira (?) spicula n. sp., Sardeson, 677.
- Fusoficula juvenis (Whitfield), Clark and Martin, 141.
- Fusus interstriatus Heilprin, Clark and Martin, 141.  
(?) subtenuis Heilprin, Clark and Martin, 141.
- Galeocerdo latidens Agassiz, Case, 251.
- Gastrochaena sp., Clark and Martin, 141.
- Gemmaeocrinus carinatus n. sp., Wood, 856.
- Gerasaphes ulrichana Clarke, Ruedemann, 660.
- Gibbula glandula (Conrad), Clark and Martin, 141.
- Globigerina bulloides d'Orbigny, Bagg, 35.
- Glossina triangulata Nettleroth, Kindle, 442.
- Glycymeris idoneus (Conrad), Clark and Martin, 141.
- Glyptias favosa Linnarsson, Walcott, 771
- Glyptocrinus plumosus Hall, Grabau, 306.
- Glyptodesma cancellata Nettleroth, Kindle, 442.  
erectum Hall, Kindle, 442.  
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- Gomphoeras Sowerby, Grabau, 306.  
bellatulum n. sp. (Rowley), Greene, 320.  
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- Goniattites delphiensis n. sp., Kindle, 442.  
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 var. niagarensis (Lea) Tyron, Letson, 493.  
 Goniophora hamiltonensis Hall, Kindle, 442.  
 truncata Hall, Kindle, 442.  
 Grammysia arcuata Hall, Kindle, 442.  
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 subarcuata Hall?, Kindle, 442.  
 Gryphaea vesicularis Lamareck, Clark and Martin, 141.  
 Gypidula romingeri var. indianensis nov. var., Kindle, 442.  
 Gyroceras burlingtonensis Owen, Weller, 804.  
 indianense n. sp., Kindle, 442.  
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 Harpagolestes macrocephalus n. gen. et sp., Wortman, 864.  
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 Heliolites Guettard, Grabau, 306.  
 elegans Hall, Grabau, 306.  
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 spiculatum n. sp., Greene, 320.  
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 Hetepora (?) tecta n. sp., Ulrich, 751.  
 Hipparrion eurystylus (Cope), Gidley, 292.  
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 (?) perundosa n. sp., Sardeson, 677.  
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 Homotrypa minnesotensis Ulr., Sardeson, 671.  
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 Hyænodon minutus n. sp., Douglass, 234a.  
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 Hyatella Hall and Clarke, Grabau, 306.  
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 Hyolithellus (?) flexuosus n. sp., Matthew, 529.  
 micans Billings, Matthew, 529.  
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 Igoceras undata (Win.), Weller, 804.  
 Illænus Dalman, Grabau, 306.  
 americanus Billings, Ruedemann, 660.  
 ioxus Hall, Grabau, 306.  
 Isochilina Jones, Grabau, 306.  
 armata var. pygmæa n. var., Ruedemann, 660.  
 cylindrica (Hall), Grabau, 306.  
 Isomena humilis Meek?, Kindle, 442.  
 Isopora Studer, 1878, Vaughan, 766.  
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 Isotelus maximus Locke, Ruedemann, 660.  
 Kutorgina granulata n. sp., Matthew, 529.  
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 Lecanocrinus Hall, Grabau, 306.  
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 saxæa n. sp., Sardeson, 677.  
 rhomboidalis Wilckens, 1769, Beecher, 51.  
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 Leptobolus atavus n. sp., Matthew, 530.  
 (?) collicia n. sp., Matthew, 530.  
 walcotti n. sp., Ruedemann, 659.

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- Leptodesma marcellense Hall, Wood, 855.  
 rogersi Hall, Kindle, 442.  
 Leptopora ramosa n. sp., Rowley, 658.  
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 Leptopsis levettei, White, Rowley, Greene, 320.  
 Leuciscus turneri n. sp., Lucas, 504.  
 Levifusus trabeatus (?) Conrad, Clark and Martin, 141.  
 trabecus (?) var., Clark and Martin, 141.  
 Lichas Dalman, Grabau, 306.  
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 Lichenalia Hall, Grabau, 306.  
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 (?) anceps n. sp., Douglass, 234a.  
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- charlestownensis Nettleroth, Kindle, 442.
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- Monilopora beecheri Grabau, Greene, 320.
- Monotrypa magna Ulr., Sardeson, 671.
- Morio brevedentata (Aldrich), Clark and Martin, 141.
- Morosaurus, Osborn and Granger, 585.
- grandis, Riggs, 651.
- Mucronella aspera n. sp., Ulrich, 751.
- Murchisonia desiderata Hall, Kindle, 442.
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- copeanus Clark, Case, 251.
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- Mylostoma Newberry, Deau, 228.
- Nassa beaumontensis Aldr., Alderson, 10.
- Natica cliftonensis Clark, Clark and Martin, 141.
- Naticopsis dubia n. sp. (Rowley), Greene, 320.
- levis Meek, Kindle, 442.
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- Nautilus maximus (Conrad), Kindle, 442.
- Nematophycus Caruthers, Grabau, 306.
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- Neovulpavus washakius n. gen. et sp., Wortman, 861.
- Niso umbilicata (Lea), Clark and Martin, 141.
- Nodosaria affinis (d'Orbigny), Bagg, 35.
- baecillum DeFrance, Bagg, 35.
- communis (d'Orbigny), Bagg, 35.
- consobrina var. emaciata (Reuss), Bagg, 35.
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- barrisi White, Weller, 804.
- concinna Hall, Kindle, 442.
- Nucula corbuliformis Hall?, Kindle, 442.
- hanoverensis n. sp., Kindle, 442.
- herzeri Nettleroth, Kindle, 442.
- iowensis W. and W., Weller, 804.
- lamellata Hall, Kindle, 442.
- lirata Conrad, Kindle, 442.
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- ovula Lea, Clark and Martin, 141.
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- (Glyptias) favosa Linnarsson, Walcott, 771.
- Obolus, Walcott, 771.
- (?) meneghini n. sp., Walcott, 771.
- tetonensis n. sp., Walcott, 771.
- zoppi n. sp., Walcott, 771.
- (Acritis?) rugatus n. sp., Walcott, 771.
- (Lingulella) bellus Walcott, Walcott, 771.
- bicensis n. sp., Walcott, 771.
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- linnarsoni n. sp., Walcott, 771.
- randomensis n. sp., Walcott, 771.
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- (Lingulepis) gregwa Matthew, Walcott, 771.
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- Odomomia trapaquara (Harris), Clark and Martin, 141.
- Olenella (Holmia) walcottanus n. sp., Wanner, 776.
- Onychochilus (?) nitidulus? Clarke, Wood, 855.
- Oodectes perpestoides n. gen. et sp., Wortman, 862, 863.
- Orbicella Dana 1846, Vaughan, 766.
- acropora (Linnaeus), Vaughan, 766.
- cavernosa (Linnaeus), Vaughan, 766.
- tentis Duncan, Vaughan, 766.
- Orbiculoidea doria Hall, Kindle, 442.
- lodiensis (Vanuxem) ?, Kindle, 442.
- parva n. sp. (Rowley), Greene, 320.
- Oreodon robustum n. sp., Douglass, 234a.
- Orthis Dalman, Grabau, 306.
- corpulenta n. sp., Sardeson, 677.
- flabellites Foerste, Grabau, 306.
- maerior n. sp., Sardeson, 677.
- minnesotensis n. sp., Sardeson, 677.
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- (?) punctostriata Hall, Grabau, 306.
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- triceraria Conrad, Ruedemann, 660.
- Orthoceras Breyn, Grabau, 306.
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- caldwellensis Miller and Gurley, Kindle, 442.
- indianense Hall, Weller, 804.
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- medullare Hall, Grabau, 306.
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- Orthostrophia Hall, Grabau, 306.
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- Orthotheca bayonet n. sp., Matthew, 529.
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     subplanus (Conrad), Grabau, 306.  
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     var. alepidota Dall, Clark, and Martin, 141.  
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     bretonensis, Matthew, 530.  
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     microdonta (Win.), Weller, 804.  
     sp., Kindle, 442.  
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     sp., Kindle, 442.  
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 Phylloporina Ulrich, Grabau, 306.  
     asperato-striata (Hall), Grabau, 306.  
     corticosa Ulrich, Sardeson, 672.  
 Physa Draparnaud, Letson, 493.  
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     abditum Hall., Letson, 493.  
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     ultramontanum Prime, Letson, 493.  
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     bearnatus Say, Letson, 493.  
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 Platidia marylandica n. sp., Clark and Martin, 142.  
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     angulatum (Hall), Grabau, 306.  
     ammon Hall, Kindle, 442.  
     (?) aretiostoma Ulrich, Kindle, 442.  
     blatchleyi n. sp., Kindle, 442.  
     bræculentum Hall, Kindle, 442.  
     carinatum Hall, Kindle, 442.  
     circularis n. sp. (Rowley), Greene, 320.  
     compressum Nettleroth, Kindle, 442.  
     compressum var., Kindle, 442.  
     conicum Hall, Kindle, 442.  
     crassum Hall?, Kindle, 442.  
     eymbula n. sp., Matthew, 529.  
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     dumosum var. pileum n. var., Kindle, 442.  
     dumosum var. rarispinum Hall, Kindle, 442.  
     echinatum Hall, Kindle, 442.  
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     milleri Nettleroth, Kindle, 442.  
     multispinosum Meek, Kindle, 442.  
     niagarensis (Hall), Grabau, 306.  
     radiatum n. sp., Matthew, 529.  
     rietum Hall, Kindle, 442.  
     rietum var. spinosa n. var., Kindle, 442.  
     subcirculare n. sp., Kindle, 442.  
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     transversum n. sp., Matthew, 529.  
     ventriosum Conrad, Kindle, 442.  
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     (Orthonychia) fluctuosum Ulrich, Kindle, 442.  
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     clivosa (Ellis and Solander), Vaughan, 766.

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*lineata* Conrad, Kindle, 442.  
*lineatum* var. *callosum* Hall, Kindle, 442.  
*niagarensis* Hall, Rowley, Greene, 320.  
*turbinata* Hall, Kindle, 442.  
*turbinata* var. *cochleata*, Kindle, 442.  
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*Platystrophia biforata* Schlotheim sp., Ruedemann, 660.  
*Plectambonites* Pander, Grabau, 306.  
*pisum* n. sp., Ruedemann, 660.  
*sericea* (Sowerby), Grabau, 306.  
*sericeus* Sowerby var. *asper* James, Ruedemann, 660.  
*transversalis* (Wahlenberg), Grabau, 306.  
*Plethospora socialis* Girty?, Kindle, 442.  
*Pleuroceras Rafinesque*, Letson, 493.  
*subulare* Lea, Letson, 493.  
*Pleurodictyum lenticulare*, Beecher, 51.  
*Pleuronotus decewi* (Billings), Kindle, 442.  
*Pleurotoma ducatelii* n. sp., Clark and Martin, 141.  
*harrisi* Clark, Clark and Martin, 141.  
*piscatavensis* n. sp., Clark and Martin, 141.  
*potomacensis* n. sp., Clark and Martin, 141.  
*tysoni* n. sp., Clark and Martin, 141.  
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*Pleurotomaria* De France, Grabau, 306.  
*clivosa* n. sp., Sardeson, 677.  
*littorea* Hall, Grabau, 306.  
*lucina* Hall, Kindle, 442.  
*lucina* var. *perfasciata* Hall, Kindle, 442.  
*pervetusta* (Conrad), Grabau, 306.  
*procteri* Nettleroth, Kindle, 442.  
*?quinquesulcata* Win., Weller, 804.  
*sulcomarginata* Conrad, Kindle, 442.  
 sp., Kindle, 442.  
*?sp. undet.*, Weller, 804.  
*Pliohippus simplicidens* Cope, Gidley, 292.  
*Pollicipes siluricus* n. sp., Ruedemann, 659.  
*Polygyra dalli* Stearns, 727.  
*Polymorphina austriaca* (d'Orbigny), Bagg, 35.  
*communis* (d'Orbigny), Bagg, 35.  
*compressa* d'Orbigny, Bagg, 35.  
*elegantissima* Parker and Jones, Bagg, 35.  
*gibba* (d'Orbigny), Bagg, 35.  
*lactea* (Walker and Jacob), Bagg, 35.  
*praelonga* Terquem, Bagg, 35.  
*Polyphemopsis louisvillae* Hall and Whitf., Kindle, 442.  
*Polypora* McCoy, Grabau, 306.  
*incepta* Hall, Grabau, 306.  
*Pomatiopsis* Tryon, Letson, 493.  
*lapidaria* (Say) Tryon, Letson, 493.  
*Pontobdellopsis cometa* n. gen. et sp., Ruedemann, 659.  
*Porites astreoides* Lamarek, Vaughan, 766.  
*porites* (Pallas), Vaughan, 766.  
*Portochelys laticeps* n. gen. et sp., Williston, 837.  
*Prasopora simulatrix* Ulr., Sardeson, 671.  
*simulatrix* var. *orientalis* Ulrich, Ruedemann, 660.

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- Primitia mundula* var. *jonesi* n. var., Ruedemann, 660.  
*Prodophoenus* Wortman and Matthew, Wortman, 861.  
*Prodromites* n. gen., Smith and Weller, 711.  
*gorbyi* Miller, Smith and Weller, 711.  
*praematurus* n. sp., Smith and Weller, 711.  
*Productella concentrica* (Hall), Weller, 804.  
*minneapolis* n. sp., Sardeson, 677.  
*semiglobosa* Nettleroth, Kindle, 442.  
*spinulicosta* Hall, Kindle, 442.  
*Productus arcuatus* Hall, Weller, 804.  
*morrillianus* Win., Weller, 804.  
*parvicostatus* n. sp. (Rowley), Greene, 320.  
*parvulus* Win., Weller, 804.  
*punctatus* Martin, Weller, 804.  
*Proetus canaliculatus* Hall, Kindle, 442.  
*clarus* Hall, Kindle, 442.  
*corrugatus* n. sp., van Ingen, 763.  
*crassimarginatus* Hall, Kindle, 442.  
*curvimarginatus* Hall and Clarke, Kindle, 442.  
*folliceps* Hall and Clarke, Kindle, 442.  
*latimarginatus* Hall and Clarke, Kindle, 442.  
*macrocephalus* Hall, Kindle, 442.  
*microgemma* Hall and Clarke, Kindle, 442.  
*subannulatus* n. sp., Van Ingen, 763.  
*Promacrus cuneatus* Hall, Weller, 804.  
*Protapirus robustus* n. sp., Sinclair, 703.  
*Protocardia lenis* Conrad, Clark and Martin, 141.  
*Protohippus cumminsii* (Cope), Gidley, 292.  
*phlegon* (Hay), Gidley, 292.  
*Protowarthia cancellata* Hall sp., Ruedemann, 660.  
*Protozyga exigua* Hall, Ruedemann, 660.  
*Pteria limula* (Conrad), Clark and Martin, 141.  
*Pterinea* Goldiuss, Grabau, 306.  
*emacerata* (Conrad), Grabau, 306.  
*labella* (Con.) Hall, Kindle, 442.  
*grandis* Hall, Kindle, 442.  
*Pterinopecten nodocostatus* (W. and W.), Weller, 804.  
*nodosus* Hall, Kindle, 442.  
*reflexus* Hall, Kindle, 442.  
*undosus* Hall, Kindle, 442.  
*Pterygometopus eboraccus* Schmidt, Ruedemann, 660.  
*Pterygotus* Agassiz, Grabau, 306.  
*cobbi* Hall, Grabau, 306.  
*globicaudatus* Pohlman, Grabau, 306.  
*macrophthalmus* Hall, Grabau, 306.  
*Ptilodictya* (Escharopora) *subrecta* Ulr., Sardeson, 672.  
*Ptychodesma knappianum* H. and W., Kindle, 442.  
*Pseudoliva* sp., Clark and Martin, 141.  
*Pugnax striatocostata* (M. and W.), Weller, 804.  
*Pulvinulina exigua* var. *obtusa* Burrows, Bagg, 35.  
*schreibersii* (d'Orbigny), Bagg, 35.



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- Pyramidula perspectiva simillima, Stanton, 727.  
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 (?) sp., Clark and Martin, 141.  
 Quadricula Rafinesque, Letson, 493.  
   coccinea (Conrad) Simpson, Letson, 493.  
   solida (Lea) Simpson, Letson, 493.  
 Rafinisquina alternata (Emmons) Hall and Clarke, Ruedemann, 660.  
   deltoidea Conrad var., Ruedemann, 660.  
 Randonia n. gen., Matthew, 529.  
   aurora n. sp., Matthew, 529.  
 Remopleurides tumidus n. sp., Ruedemann, 660.  
   (Caphyra) linguatus n. sp., Ruedemann, 660.  
 Reptofustrella heteropora Gabb and Horn, Ulrich, 751.  
 Reticularia bicostata Vanuxem 1842, var. petila Hall, 1879, Beecher, 51.  
   coopensis (Swallow), Weller, 804.  
   fimbriata (Conrad), Kindle, 442.  
   Knappianum Nettleroth, Kindle, 442.  
   wabashensis n. sp., Kindle, 442.  
 Reticulipora dichotoma Gabb and Horn, Ulrich, 751.  
 Rhinidictya mutabilis Ulr., Sardeson, 672.  
 Rhinopora Hall, Grabau, 306.  
   tuberculosa Hall, Grabau, 306.  
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   burlingtonensis (Hall), Weller, 804.  
   circulus Hall, Grabau, 306.  
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   hybrida Sowerby, 1839, Beecher, 51.  
   hybrida (Sowerby), Grabau, 306.  
   leucosia Hall, Kindle, 442.  
   livia (Billings?), Kindle, 442.  
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 Rhombopora lepidendroides Meek, Sardeson, 672.  
 Rhynchonella Fischer de Waldeheim, Grabau, 306.  
   (?) bidens Hall, Grabau, 306.  
   (?) bidentata (Hisinger), Grabau, 306.  
   robusta Hall, Grabau, 306.  
 Rhynchonella minnesotensis n. sp., Sardeson, 677.  
   sancta n. sp., Sardeson, 677.  
   depressa n. sp., Kindle, 442.  
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