only ruled the seas, but were the most powerful and highly organized of living beings. Many other interesting specimens were exhibited by Professor Newberry, all of which will be described in the reports of the geological survey of Ohio.

NEW YORK GEOLOGY.

Professor James Hall read a paper on the geology of the Catskill Mountains, and stated that explorations have proved that the range is composed of several nearly parallel synclinal axes, and the culmination portion, at Lookout and Roundtop, is caused by the slight convergence and junction of three of these synclinals, which are so closely crowded together.

Professor Cope defended the

THEORY OF EVOLUTION

by reference to North American tertiary mammals, commenting on the fact that the human skeleton contains so many characteristics of earlier forms; he said that the quadrumana, and afterwards man, had won their way to pre-eminence rather by development of mind than by that of the physical system. It was not so much a case of the survival of the fittest as of the survival of the most intelligent.

There was a debate on the question of:

ARE POTATO BUGS POISONOUS?

Professors A. R. Grote and A. Kayser maintained the negative, and stated that they had boiled down the bugs, producing a colorless liquid, offensive in smell, but clear and alkaline. Other bugs were digested in alcohol. The distilled liquid administered to frogs produced no effect either when introduced into the blood or into the stomach. The tincture killed the frog when injected, but this was due to its acid properties. It was concluded that the bug is not poisonous, and the evil effects noted on burning the insect were probably due to the presence of Paris green.

Professor C. V. Riley replied to the effect that he felt assured of genuine poisoning from the bug, in cases which he had examined. Professor Cope related further experiments on frogs, and said that the frog liquid administered to the reptiles made them very sick. The most plausible suggestion offered during the debate was that the frog poison is probably volatile, and in the process of making decoctions and tinctures, the poison, when heated, escaped into the air.

A PROPOSED INSECT COMMISSION.

A memorial was submitted to the meeting and approved, which addresses Congress with relation to the establishment of a national insect commission. The document states that the damage done by the noxious insects in the United States amounts to $300,000,000 per annum. The subscribers propose either the reorganization of the Department of Agriculture, under the control of the highest scientific authories, or the appointment of a commission of five persons, to wit: Three entomologists, one chemist, and one botanist, eminent in their respective branches of science, to be chosen by the Council of the National Academy of Science, and approved by the Secretary of the Treasury, with salaries adequate for the responsible work. The duty of this commission would be to investigate the causes which affect injuriously agricultural interests, and to suggest the best means of diminishing the losses.

The results of such investigations should be embodied in brief reports, containing practical instructions and made accessible at a small price; or the results should be made useful, by personal education, to every farmer in the country.

LOCUSTS AS FOOD.

Professor Riley believes that grasshoppers make a good article of diet. He says that he fried them and roasted them, and that they have a pleasant, nutty flavor. They are equally good eating, either boiled or stewed. We congratulate the professor, both on his gastronomic discovery and on his courage. His name bids fair to be linked by posterity with that of the man who first ate an oyster.

More about insects, a branch of creation which seems peculiarly interesting to the assembled scientists this year, is found in the papers of Professor W. J. Beal and Thomas Meehan. The former discussed

CARNIVOROUS PLANTS;

and after detailing past discoveries, said that the *Martynia* of our vegetable gardens catches immense numbers of insects, one plant of small size destroying 7,200 of its prey. The hairs seem to have small glands at the ends, which secrete a sticky substance. The insect is soon killed and sucked dry.

Professor Meehan disputed several assumptions relative to the

INSECT FERTILIZATION OF PLANTS.

He concluded that the great bulk of colored flowering plants are self-fertilizers; that only to a limited extent do insects aid fertilization that self-fertilizers are every way as healthy and vigorous, and are immensely more productive than those dependent on insect aid, and that, when plants are so dependent, they are the most fitted to engage in the struggle for life.

Professor Gillman gave a description of his explorations on the upper lakes, during which he found a large number of

ANCIENT HUMAN RELICS.

Many of the skulls were perforated at the highest point, the holes measuring between ⅛ and ¼ an inch. Several mounds opened gave evidence of the cremation of the bodies inhumed.

Professor Cope read a fine essay on the

DISTRIBUTION OF BATRACHIA AND REPTILIA IN NORTH AMERICA.

He said that the characteristics of these families are such as to make them especially useful in the inquiry as to the actual relations between the structures of animals and the physical nature of the regions which they inhabit. The natural divisions of the batrachian and reptilian *faunæ* in America were stated to be six, namely, two east of the plains, he northern or eastern, the southern or austro-riparian; the entral, extending from the eastern boundary of the plains to the Sierra Nevada; the Pacific, west of that range; the Sonoran, including New Mexico, Arizona, and a portion of Northern Mexico. Lastly, the Lower California region, embracing the peninsula of that name. The eastern and austro-riparian regions embrace all of the *batrachia* (especially salamanders) and the turtles; the Sonoran embraces nearly all of the lizard; the Pacific region includes a nearly equal percentage of all the divisions excepting the tortoises. The relations of these distributions to physical peculiarities are as follows: First, as to temperature: The two Southern regions of North America are the austro-riparian and Sonoran. These regions include nearly all the North American genera, and three fourths of the species. In Central America and Mexico, it is the central plateau and the high mountains which support the North American forms, while the South American genera and species are distributed along the Sierra Caliente of the east and west coasts. Thus it is evident that temperature has a controlling influence in the distribution of reptilian life on the North American continent, and that conditions of humidity are effective in determining the distribution of *batrachia*, and to a less degree of *reptilia*.

The following officers were elected for the next meeting, which is to be held at Buffalo, N. Y.: President, William B. Rogers, of Boston, Mass.; General Secretary, Thomas C. Mendenhall, of Columbus, Ohio; Vice-President of Section A, Charles A. Young, of Hanover, N. H.; Vice-President of Section B, Edward S. Morse, of Salem, Mass.; Secretary of Section A, Arthur W. Wright, of New Haven, Conn.; Secretary of Section B, Albert H. Tuttle, of Columbus, Ohio; Treasurer, Thomas T. Bouve, of Boston, Mass.; Permanent Secretary, Professor Putnam

Abstracts of other papers read will appear in our next issue.

The Death of Donaldson the Aeronaut.

About the middle of July last, Mr. Washington A. Donaldson, the well known aeronaut, in company with a Mr. Grimwood, a newspaper reporter, started on a balloon ascension from Chicago. The trip was intended to be one of the many which constituted a part of the attractions of Mr. P. T. Barnum's traveling show; and accordingly, after an afternoon performance of the circus, Donaldson and his companion ascended amid the usual cheering of the multitude. All accounts agree to the statement that the balloon and its appurtenances looked dangerously weak. The globe itself was of cotton, and old and weatherbeaten, while the netting showed frequent marks of half-made repairs. Shortly after the balloon had departed, a violent storm arose, the track of which intersected that of the air ship, as indicated by the direction in which the latter was swiftly borne over Lake Michigan.

No tidings of the aeronauts were obtained until after the lapse of several days, when the captains of arriving vessels reported sighting the balloon, close to the surface of the lake and apparently dragging its car in the water. Reports of a similar nature followed, not unmixed, however, with conflicting stories of the safe landing of the travelers; but the latter on investigation proved untrue.

As the public is familiar with Mr. P. T. Barnum's ingenuity in converting all sorts of phenomenal circumstances into useful advertisements for his show, a very large number of persons, ourselves included, suspected that the disappearance of Donaldson was intentional, and that, in due time after the excitement had abated, he would return with some marvelous yarn, eminently attractive to the curious and gullible. The recent discovery of the body of Grimwood on the shore of the lake leaves no question, however, but that the daring aeronaut is actually lost, and that at last, after surviving voyages in paper balloons, and in balloons filled with hot air, after indulging in his taste for blood-curdling gymnastics on the trapeze while above the clouds, *ad libitum*, he at length has fallen a victim to the dangers which he had grown to despise.

In a certain sense, Mr. Donaldson's death is a loss to Science; for although his proclivities tended more toward the sensational, and his achievements were accomplished more by sheer rashness and pluck than through any desire for scientific investigation, still he possessed many qualities which eminently fitted him to be a pioneer in a branch of knowledge regarding which so much remains to be practically discovered. He had considerable inventive ability, and courage enough to attempt tasks before which the majority of men would shrink; and these qualities, coupled with an extended experience, gave fair promise that in the future his efforts might result in useful data toward the solution of the problem of aerial navigation.

DECISIONS OF THE COURTS.

United States Circuit Court.---Northern District of New York

PATENT BARREL HEAD LININGS.—GEORGE A. REED *vs.* LOUIS REED AND GEORGE FOLTS.

[In equity.—Before Wallace J.—October, 1874.]

The claim of letters patent for an "Improvement in Head Linings for Barrels," granted to George A. Reed, May 11, 1873, namely: "As a new article of manufacture, barrel head linings prepared in the manner specified, when bundled as shown and described" is invalid.

As both head linings and hoops had been made by machinery, and were articles of trade, and as hoops had also been crimped by machinery, the patentee merely produced an article which was the result of more mechanical skill and care in its manufacture than that previously sold and used; but this result did not involve the faculty of invention.

Although the crimpled machine-made head linings are an improvement upon the article used prior to their introduction, and, as such, have secured the approval of the trade and become a valuable commodity of manufacture and sale, the improvement is not the proper subject of a patent.

The sole merit of bundling the head linings is that it renders the commodity more attractive to purchasers, and more convenient for the purposes of sale. There is nothing in this result that is patentable.

(*James A. Allen*, for complainant.
John Van Voorhis, for defendants.)

NEW BOOKS AND PUBLICATIONS.

MANUAL OF QUALITATIVE CHEMICAL ANALYSIS. By C. Remigius Fresenius, Director of the Chemical Laboratory at Wiesbaden, and Professor of Chemistry, Natural Philosophy, and Technology at the Wiesbaden Agricultural Institute. Translated into the New System and Edited by Samuel W. Johnson, M.A., Professor of Theoretical and Agricultural Chemistry in the Sheffield Scientific School of Yale College, New Haven, Conn. Price $4.50. New York city: John Wiley & Son, 15 Astor Place.

This book fills a place in our scientific literature that has for some time been vacant. Nearly all our manuals of analytical science have long been antiquated; and although several small treatises have been issued, in which the latest results of contemporary research have been recognized and the new nomenclature has been employed, the authoritative text book of Dr. Fresenius, to whom, more than to any other master, the progress of this science to its present nearly absolute perfection is due, was in danger of becoming obsolete. Professor Johnson deserves the thanks of the scientific world for the labor and care he has given to the publication of this important work, which now receives as it were a new life. No book on the subject which we have yet seen approaches this in perspicuity and excellence of method. It deals with each subject in a strictly scientific manner, accompanying the student from test to test, and noting down the results and the inferences therefrom with a certainty that amounts to demonstration. We commend it to all students of chemistry, not only for its accuracy and completeness, but for the inductive reasoning employed throughout, which is the very foundation of all scientific investigation.

THE PRIMER OF POLITICAL ECONOMY, in Sixteen Definitions and Forty Propositions. By A. B. Mason and John J. Lalor. Price 75 cents. Chicago, Ill.: Jansen, McClurg, & Co.

Although the authors of this excellent treatise are careful to assert that it is only a primer, we are bound to state that the most elementary truths contained in it are little known to many who claim to be well versed in the science, and especially to have some panacea for the widespread poverty and distress which has reigned in our manufacturing interests for nearly two years. The writers have no fear in placing before the world many unpalatable facts, and in deducing from them a policy which will restore prosperity to our trades. Every ignorant person in the country is now talking tariff and currency; and a little common sense, as embodied in these incontrovertible propositions, is especially welcome at the present time.

NOTES ON BUILDING CONSTRUCTION, Arranged to Meet the Requirements of the Syllabus of the Science and Art Department of the Committee of Council on Education, South Kensington, England. Part I, First Stage or Elementary Course. London, Oxford, and Cambridge, England: Rivingtons. Philadelphia, Pa.: J. B. Lippincott & Co., 717 & 719 Market street.

The author of this work (who modestly conceals his name) states that these notes are compiled for the use of students of building science; but the book is really a valuable text book on the art of practical architecture, treating the subject with thoroughness, and leaving nothing unsaid that could inform the pupil as to the best possible practice. It is well arranged and edited.

UTILITY OF THE SLIDE RULE, a Treatise on Instrumental Arithmetic. By Arnold Jillson. New York city: A. J. Bicknell & Co., 27 Warren street.

The use of ready reckoners saves an immense amount of labor in all trades; and by far the most compendious reckoner is the engineer's slide rule. A little slip of wood with brass mounting, easily carried in the pocket, it gives a means for effecting all kinds of mensuration of surfaces and solids, gaging, weighing metals and other materials, calculating powers of engines and capacities of appliances for transmission of force, and even for reckoning compound interest. Mr. Jillson has written a valuable little book, which fully describes all the uses of this instrument; and he has, moreover, applied the slide rule to many novel purposes, especially in the textile manufactures We commend this pocket volume to all our readers.

A SUMMER IN NORWAY, with Notes on the Industries, Habits, and Customs of the People, etc. By John Dean Caton, LL.D., Ex-Chief Justice of the Supreme Court of the State of Illinois. Price $2.50. To be had of all booksellers. Chicago, Ill.: Jansen, McClurg, & Co.

This book is a readable account of a holiday spent in a country which is, in many respects, one of the most interesting in the world. It is generally well written, and the author appears to be observant and accurate; and no doubt the slight touches of egotism with which the volume abounds are almost inseparable from a book of travels, which is nearly sure to be more or less of a personal history.

DESIGNS FOR MONUMENTS. By W. B. Franke, Architect. New York city: A. J. Bicknell & Co., 27 Warren street.

This book contains forty folio plates, showing over one hundred designs for cemetery monuments in all forms and styles. Many of the ideas embodied in the drawings are strikingly original and in good taste; while the variety exhibited enables any one to find a memorial suited to his purpose and his means. The details are all fully elaborated, making the plates serve as working drawings. It is a handsome volume, and does credit to the publishers.

CATALOGUE OF RAILWAY, MACHINISTS', AND MANUFACTURERS' SUPPLIES. By H. A. Rogers. New York city: H. A. Rogers, 19 John street.

This is a very handsome volume of 272 pages, on which is represented nearly every article that can possibly be needed in an engine or machine shop The engravings are admirably executed; and the book, although but a trade catalogue, gives much valuable information as to many branches of the mechanical arts.

THE WATCHMAKER, JEWELER, AND SILVERSMITH. a Monthly Journal devoted to the Interests of Watchmakers, Jewelers, Silversmiths, Opticians, and Kindred Trades. Subscription, $1.25 (gold) a year. London, England: 8 Cross street, Hatton Garden.

A readable, well arranged periodical containing much varied information on the trades to which it is specially addressed.

LASALLE'S POCKET MAP OF THE COMSTOCK LODE. Mounted in Pocket Book Form. Price $2.50. San Francisco, Cal.: Le Count Brothers, 417 Montgomery street. New York city: F. F. Taylor, 16 Broad street.

A neatly executed map of the remarkable district of Washoe, Nevada, in which the intricacy of the mines and their immense capacity are forcibly shown. Some valuable explanatory statistics are added to the volume.

THE SILVER AND LEAD DISCOVERIES IN NEWBURYPORT, MASS., AND ITS VICINITY. With a Map. By Charles J. Brockway. Price 50 cents. Boston, Mass.: A. Williams & Co., 283 Washington street.

This is an historical account of the Massachusetts silver, gold, and lead ores, of which we heard so much a few months since. There does not, at present, seem to be great probability of Mr. Brockway's estimates of wealth being realized.

THE WOOL CARDER'S VADE MECUM, a Handbook of the Woolen Industry. By W. C. Bramwell. Terre Haute, Ind.: Express Printing Company.

An excellent practical treatise, containing much valuable information and some useful tables.

PURCELL'S RAILROAD POCKET BOOK. Price 25 cents. Louisville Ky.: Saxton Publishing Company.

A set of well compiled distance tables.