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Contents.

Table listing contents with page numbers, including Ammonia, Agriculture, Archaeology, Astronomy, Biography, Biology, Chemistry, Civil Engineering, Electricity, Geology, Mathematics, and Miscellaneous.

TABLE OF CONTENTS OF SCIENTIFIC AMERICAN SUPPLEMENT No. 758.

For the Week Ending July 12, 1890. Price 10 cents. For sale by all newsdealers.

Detailed table of contents for the supplement, listing articles such as 'Agriculture—Self Hiving', 'Archaeology—Ancient Athens', 'Astronomy—Astronomical Notes', etc.

AMMONIA.

The wholesale price of concentrated liquid ammonia has recently advanced from 5 1/4 cents a pound to 9 cents, and at this writing it is extremely difficult to get enough to supply the demand even at that price.

The ammonia which is used in ice making is obtained from what is known as gas liquor, and is produced in the process of carbonization of coal in gas manufacturing. At this season of the year only about 40 per cent of the amount of gas liquor is to be had which is available in the winter season...

Very ingenious machinery is used in extracting the ammoniacal liquor from the gas, and the former is then disposed of to chemical companies, who subject it to a special course of treatment to prepare it for general use.

Sulphate of ammonia is produced by the carbonization of bone and animal matter, but this product is generally employed as a fertilizer. Aqua ammonia has been made from the salt, but not to any great extent...

Ice manufacturers say that some other source of supply must be found for crude ammonia, as the demand from the producers of artificial ice will greatly increase. It is said that ammonia can be obtained in large quantities from shale...

A SUMMER SCHOOL OF BIOLOGY.

On Monday, July 7, the summer school of biology connected with the Brooklyn Institute will hold its opening session at Cold Spring Harbor, L. I. Mr. Eugene G. Blackford, president of the New York State Fish Commission, and Mr. Fred. Mather, the well known fish culturist, have co-operated with the gentlemen of the Brooklyn Institute in organizing this school for biological research...

Cold Spring Harbor is on the north shore of Long Island, thirty-two miles from New York, and has many features which are specially favorable for the student in natural history. The building which will be used as a laboratory is located at the head of the harbor or bay, which is particularly rich in marine life.

The surrounding country is high and rolling, having abundant forest glens and small streams, which abound in attractive subjects for the student. The laboratory will be abundantly supplied with fresh water from springs in the immediate vicinity...

There have been provided several row boats, a sail boat, and a steam launch, together with nets, hooks, and dredges for use in collecting and dredging. The steamer Fish Hawk, belonging to the United States Fish Commission, will spend the entire summer in Long Island Sound pursuing a series of investigations regarding the depredations of the star fish among the oyster beds...

extended excursions on this vessel, when they will have the benefit of the dredging and other operations.

The following announcement is made regarding the course of study: "Students who pursue the general course of instruction during the summer and who have time for extra work will be given the facilities necessary to enable them to carry on courses of special investigation; while those students who have already gained the knowledge and experience which is provided by the general course will be permitted to give their entire time to special work. No special courses will be laid down in advance, but each student will be at liberty to arrange with the director of the laboratory for such a course as may be practicable. A general course will be open to each student at the laboratory, and will be under the direction of Dr. Bashford, Dean of the College of the City of New York, who is the director of the laboratory."

There will be an expert photographer provided, an expert in photomicrography, an artist for making drawings, and an expert in coloring drawings and photographs. The laboratory will be provided with compound microscopes, two Baker microtomes, a Minot microtome, photomicrographic apparatus, a general photographic outfit, together with other appliances and instruments. The sessions of the school will continue for eight weeks. The lecturers who have been announced, with their subjects, are as follows: Dr. William G. Farlow, Harvard University, who will speak on "Algæ;" Dr. William K. Brooks, Johns Hopkins University, whose subject will be "Molluska;" Prof. H. W. Conn, Wesleyan University, "Bacteriology;" Prof. William Stratford, College of City of New York, "Photomicrograph;" Col. Nicholas Pike, Brooklyn Institute, "Herpetology;" Dr. Nathaniel L. Britton, Columbia College, "Systematic Botany;" Prof. John B. Smith, Brooklyn Institute, "Coleoptera;" Dr. Bashford, Dean College City of New York, "Comparative Zoology;" Dr. Byron D. Halstead, Rutgers College, "Fungi;" Prof. Franklin W. Hooper, Brooklyn Institute, "Comparative Osteology;" Prof. John Mickleborough, "Crustacea;" Dr. Geo. T. Kemp, Hoagland Laboratory, "Comparative Physiology;" Dr. H. Hensoldt, Columbia College, "Echinoderms;" Mr. Ludwig Riederer, Brooklyn Institute, lecturer and demonstrator on the cutting of microscopic sections of tissues; Mr. John Ketchum, Brooklyn Institute, lecturer and demonstrator on the photomicrography of fresh tissues.

Professor Albert R. Leeds, of the Stevens Institute, and four assistants will carry on a series of investigations into the causes of the diseases of fresh water fishes, and also as to the origin of the odors arising from standing water. There is every indication that the courses of the new summer school of biology will be marked by earnest and conscientious work, and that valuable contributions will be made to the store of scientific knowledge.

THE CHICAGO WORLD'S FAIR.

A splendid site chosen. The long contest in respect to the site for the great exhibition has been definitely settled. On the 2d inst. the World's Fair National Commission formally accepted the joint site, consisting of the lake front and Jackson Park, as the location for the Columbian exposition, by a vote of 78 to 11. This is an admirable location for the fair, gives general satisfaction, and assures the success of the grand undertaking.

Raised Figures on Soft Wood.

Ordinary moulding and stamped work and the papier mache and pressed sawdust embossed work have been on the market for a long time, and but few people mistake them now for hand work. Basswood can be compressed to a very large extent, and will swell out again to its original proportions upon being steamed. This property is utilized in the following manner. A piece of the wood is subjected to great pressure under a die or stamp. This stamp presses down parts of the soft wood, in a more or less elaborate pattern, lower than the rest of the surface. This process can be quickly performed, and the piece of wood is then passed to a planing machine, which in a twinkling planes down the surface of the wood just even with the top of the compressed pattern. The piece is then taken over to the steamer, where the warm, damp vapor soon swells the compressed parts back to their original size. Thus a handsome raised pattern is produced on the planed surface of the wood, which can hardly be distinguished from genuine hand-carved work.

A NEW method of obtaining stained glass is done by a process of printing. The design is embossed on an iron plate, on which a lump of hot glass is rolled until it takes the form of the plate on which the pattern is cast. The sunken lines are then filled with enamel and the whole plate is fired. This process obviously does away with the use of leads, is rapid in its execution, and has the additional advantage that the design may be repeated as often as it may be required.