

Correspondence.

Small Ice Plant Wanted.

To the Editor of the SCIENTIFIC AMERICAN:

You kindly published in the "Business and Personal Want" department an inquiry from me in regard to a small "family" or "kitchen" ice plant. But I have had no replies from it, and suppose there is nothing made for the purpose, though I noticed once, a year or more ago, that a patent had been granted for such kind of apparatus.

Perhaps if you would publish the inclosed paragraph, it might prompt some inventors to turn their attention to this field of useful work, and ultimately lead to the demand being supplied.

It might be remarked that the desired ice plant should be not too cumbersome or elaborate, and that it should be easily operated.

I want such a plant for a place I have in Florida, and I have noticed several inquiries for the same thing in your "Personal Want" department.

MARCUS R. ROEBERS.

72 Dawes St., Springfield, Mass.

A Letter from Lick Observatory.

To the Editor of the SCIENTIFIC AMERICAN:

The SCIENTIFIC AMERICAN for August 31, 1901, contains the statement that the components of Capella "have actually been seen" separately with the great telescope of the Greenwich Observatory and have been followed through more than a complete revolution." The statement is also made that "the shortest double-star period previously known is over 11 years—about 40 times that of Capella."

If the Greenwich observations of Capella are correct, they are of great interest, as is pointed out in your article, but, in view of the fact that this star has been carefully examined by experienced observers under favorable conditions, with more powerful telescopes than that at Greenwich, without obtaining any evidence of the star's being telescopically double, it would seem that the acceptance of the Greenwich measures should be held in abeyance. The Yerkes, the Lick, the Meudon, the Pulkowa, and the Nice telescopes are larger than that at Greenwich; those at Vienna, Washington, Cambridge (England), Flagstaff, and Princeton are nearly its equal in power. If the Greenwich observations are correct, it ought to be possible to confirm them with any of these instruments. I have not heard of its being done, and the great interest in the star as forming a possible connecting link between the spectroscopic and visual binaries would no doubt lead to the early announcement of the confirmation, were it accomplished by any one of them.

The spectroscopic observations furnish the dates when the two components of Capella have their maximum apparent separation. At about these dates, on several occasions, I have examined Capella under very favorable atmospheric conditions with the large refractor of the Lick Observatory without obtaining any evidence of its being visually a double star. Profs. Aitken and Perrine have also examined it, with the same instrument and with the same result.

Last year I published an investigation of the orbit of Delta Equulei, showing that its periodic time is probably not far from 5.7 years, instead of 11.45 years, which had previously been accepted and which is unquestionably erroneous. The spectroscopic observations of this star with the Mills spectrograph of the Lick Observatory by Director Campbell and Mr. Wright are of special interest, since these observations show that Delta Equulei is a spectroscopic, as well as a visual binary. The spectrograms secured in 1900 show no doubling of the lines due to the two components, but all of those obtained in 1901 do show a broadening or doubling of the lines, indicating a relative velocity of the two components of about 33 kilometers per second.

W. J. HUSSEY.

Lick Observatory, University of California.

Arrangements have been concluded for the German transatlantic liners to make Dover a port of call. Negotiations have been in progress for some time past with the steamship companies' authorities at Dover and those who are responsible for the scheme of converting Berehaven, in Ireland, into a transatlantic port. The deep water harbor at Dover, which has a depth of 40 feet at low water spring tides, will be utilized for this purpose. A new masonry pier 3,000 feet in length and inclosing 75 acres will be completed in the course of a few weeks, and will afford excellent berthing accommodation for ocean liners. By this means the German vessels will call at Berehaven and then at Dover, thus saving several hours on the journey. It is also under consideration to land all passengers for France at Dover, then transporting them by the ordinary cross channel steamer to Calais, thence to Paris, by which means several hours would be saved.

Electrical Notes.

Lieut.-Col. Samuel Reber, U. S. A., has developed a system of wireless telegraphy which is said to give excellent results, and it is also said that it does not infringe upon the Marconi patents. It is now in use between Alcatraz Island and the Presidio, San Francisco.

Vibration caused by the underground electric road has injured the tower of St. Mary-le-Bow on Cheap-side, London, a famous church built by Sir Christopher Wren. The company has agreed to pay \$5,000 in order that the tower might be straightened. It is now 23 inches out of perpendicular.

A proposition to secure an appropriation from the New York Legislature to establish a school of electricity at Schenectady in connection with Union College was defeated. The General Electric Company has agreed to give \$12,500, provided that the same amount is obtained from other sources.

Very little work has been done on the direct-current Nernst lamp, as it is not considered wise to go in for small candle powers. At the present time 300 hours is the life of a direct-current glower. The Nernst lamp will probably be a competitor of the arc rather than the incandescent lamp.

The Brooklyn Rapid Transit Company is about to build emergency stations for repair wagons in various parts of the city. A crew of five men will remain in the stations at all times, and, as in fire stations, the men will descend by means of a brass sliding pole, or, to be more accurate, a brass tube.

In St. Louis the nut-cracking industry gives employment to a considerable number of persons, there being three plants in the city. The nut-crackers are driven by electricity, each nut being fed individually into the crusher. After the shells are cracked the nuts are winnowed by an air blast and the meat is picked from the crushed shells by hand, women and girls being employed for this part of the work.

It is the intention of the British Admiralty to install the Marconi system of wireless telegraphy on Cape Race, Newfoundland, in order that the British Royal Yacht "Ophir," carrying the Duke and Duchess of Cornwall and York, may be communicated with when it approaches the Newfoundland coast in October, the idea being to prevent all possibility of an accident during the season when fogs are apt to be very plentiful.

The St. Louis Transit Company, during the period of excessive heat, gave free transportation to children ten years of age and under and one member of the family where the parents were unable to pay for transportation. They were permitted to ride free on the cars to the principal parks and recreation grounds in the vicinity on presentation to the conductor of a doctor's certificate saying that the child would be benefited by an outing.

A correspondent in Paris suggests, in view of the fact that electricity is produced at very low rates in Norway and Sweden by utilizing hydraulic power, that in Iceland electricity may be produced quite as cheaply, if not cheaper, so that the electric heating of houses and buildings could be accomplished much cheaper than by coal, which costs \$9.50 to \$11 a ton. The hydraulic power available is very large, and owing to the prevailing winds, windmills could also be utilized. Of course, Iceland is sparsely inhabited, so that it would hardly pay to install an electric system except in a few localities. With this vast water power available it seems as though it would pay certain chemical industries to locate there.

A new process of preparing wood for building is in use in Austria. Green wood is placed in a large wooden trough whose bottom is covered with a lead plate. This is connected with the positive pole of a battery. Covering the wood is a second lead plate which forms the negative pole. The wood is then subjected to a bath in a solution composed of 10 per cent rosin and 75 per cent soda. Under the influence of the electric current the sap is drawn out of the wood and rises to the surface, the solution being absorbed by the wood. The operation requires from five to eight hours. The treated wood is allowed to dry for about two weeks, when it is ready for use. The drying can be hastened artificially if desired.

A new electric lamp has been devised by Dr. Sophus Bang, the manager of the laboratory of Prof. Finsen, the inventor of the lupus light cure, specially adapted for utilization in connection with the cure. In this lamp the inventor has substituted metal in lieu of the carbon poles, and although a very feeble light is emitted, it is stated to be exceptionally rich in the chemical rays. By this means the therapeutic properties of the light are increased tenfold. Consequently a patient who at present has to submit to an operation lasting one hour and a quarter will only require approximately ten minutes' treatment at a time. The cost of the lamp also is so low that it will be possible for every doctor to possess one, since it can be fitted to an ordinary electric light installation.

Automobile News.

Fifty thousand dollars have been appropriated to provide motor cars for use in the approaching maneuvers of the German army.

We have received a copy of The Auto Era, published monthly by the Winton Motor Carriage Company, of Cleveland, O. It is composed of a number of brief notes on live automobile topics, and is illustrated by many engravings, including some showing an automobile among the quicksand deserts of Nevada. It is edited by Charles B. Shanks.

The automobile has brought many new words into use. The correct word for a private collection of automobiles, equivalent to "stable," seems to afford considerable difficulty. "Motorbarn," "motorome," "motorden," "motorium," "motorshed" and "motable" have all been suggested. The French term "garage" would be a good one if it was not used for designating a place simply for storing and repairing automobiles.

A postmaster of a Western city recently desired to experiment with mail collection by automobiles. A local manufacturer placed a machine at his disposal and the collector was started out with it. When the first box was reached the collector remembered that there was a time schedule for the collection of mail, and as this was the case with all the boxes the automobile showed no gain in speed over the ordinary horse and cart.

The consent of the local municipalities having been obtained by the Pan-American authorities for the holding of a 100-mile road race between Buffalo and Erie, the governors of the Automobile Club of America have decided to hold the annual sweepstakes over that course, September 19, 1901, as originally planned. The governors have also decided to hold a week of sports in the Stadium during the week September 16-21 inclusive, including the race for the mile record.

The Grand Duke Nicolas Mikhaïlovitch is one of the first to make the passage across the Caucasus range to Batoum. He reached the latter town on the first of August on a Mors machine of 10 horse power, which he has been using for some time in the Caucasus region. According to a telegram which he sent to the Mors establishment at Paris, he had just been the first, with Leon Renhold, to cross the Goder Pass, which is at an altitude of 7,000 feet, on the route from Borjom to Batoum. They made the trip from one place to the other, a distance of 150 miles, in 11 hours, and the Duke is highly pleased with his performance. The Goder Pass is in the western part of the Caucasus region. Borjom is a small town in the Kars province, to the south of the Caucasus and near the Persian frontier.

The Fourth Annual Automobile and Cycle Show is to be held at Paris from the 10th to the 25th of December, and will doubtless prove as great a success as last year's show. It is organized by the Automobile Club of France, together with the Chambre Syndicale de l'Automobile and similar associations of manufacturers. It will be held, as before, in the Grand Palais of the Champs-Élysées, which affords ample space and a good light. The list of rules has just been published. Automobiles, moto-cycles, and mechanical traction vehicles form the first class, and cycles of all systems, the second. Then come materials of construction, tires and pneumatics, detached pieces, motors and accumulators, the classes relating to navigation (automobile boats), aerostatics, sports and touring, carriage work, costumes and equipments, inventions, bibliography and photography. Demands for space should be addressed to the Commissariat Générale de l'Exposition, 6 Place de la Concorde, before the 10th of October. Special arrangements have been made as to insurance and the handling of inflammable material. The Commission is taking measures to have all the objects imported free of duty, provided they are taken back after the Exposition.

Progress on the Uganda Railway.

Work upon the Uganda railroad is proceeding rapidly. When completed it will be 583 miles in length. By the end of October of this year the railroad will have reached the shore of Lake Victoria; the earth-work about March, 1902, and the American viaducts a few months later. The cost of completing and equipping the road is estimated to amount to about \$26,000,000. At first the paying prospects of the road do not appear encouraging, as the working estimates prove that even with one train each way daily the expenditure will total about \$1,000,000, while the receipts, it is anticipated, will not attain more than \$500,000. The government will, therefore, have to pay about \$500,000 on the year's working for 1902-1903, and a similar decreasing sum each year until about 1910, after the lapse of which time it is expected that a small return will be gained upon the expended capital.

Mica has been found a few miles from Yarmouth, Nova Scotia, in considerable quantities.