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Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same.

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Minerals sent for examination should be distinctly marked or labeled.

(7089) C. A. M. asks: 1. Is there a SUPPLEMENT that gives information on cassava, its cultivation, uses, preparing of the starch, etc.? A. In SUPPLEMENT, No. 915, you will find an article on some products of cassava. 2. Can you give a reliable formula for preparing an ink that writes blue at first, then changes to a permanent black? A. We refer you to articles on the manufacture of inks in SUPPLEMENT, Nos. 157 and 1073. 3. How can the coloring matter of annatto be taken from the seeds without the use of oils? A. Annatto is obtained from the reddish pulp surrounding the seeds in the fruit of Bixa orellana. The pulp is separated by bruising the fruit, mixing it with water, then straining through a sieve and allowing the liquid to stand till the undissolved portion subsides. The water is then poured off and the mass which remains, having been sufficiently dried, is formed into flat cakes or rolls and sent to market. 4. Please give an easy method for preparing the essential oil of orange and lemon peels. A. SUPPLEMENT, No. 887, has an article giving information on the manufacture of essence of lemon, also orange, and many other formulas. 5. Is banana fiber of much value? How ought it to be prepared for the market? A. Brief mention of banana fiber is made in SUPPLEMENT, No. 1043. We think you would find the articles in SUPPLEMENT, Nos. 1040 to 1046, on "Commercial Fibers" valuable. 6. When not otherwise stated, must I take for granted that ounces and pounds, etc., in formulas of the "Scientific American Encyclopedia" apply to avoirdupois weight, and should liquids be weighed as well as solids? A. Avoirdupois weight is generally understood; the liquid should be measured. Where parts are mentioned, the formula should be made up, using parts by weight, whether of solid or liquid.

(7090) W. A. M. asks (1) if malleable cast iron will serve to good advantage as field cores and pole pieces in a dynamo electric machine. Can you tell me how the permeability compares with soft steel, good cast iron and wrought iron? What I am desirous of learning is as to which is best and most easily excited in the case of an electromagnet? A. The general rule is that soft iron has the highest permeability, but no exact figures can be given, as each quality will vary from others even of the same kind. In dynamos which are self-exciting it is important to have some residual magnetism on which to build up the charge. The use of a soft iron field magnet core, and still more of a laminated core, militates against this. Partly for this reason cast iron is recommended for dynamo field cores. 2. Is a small size magnet wire used in the field of an incandescent machine, of say 100 lights, to get pressure and larger wire for amperes. In other words, will a small wire of a large number of turns give me pressure, where a larger wire of few turns would give quantity? A. Your conception is right, volts depending on number of lines of force cut in a given time; this number is increased by using finer wire of the armature, and the higher pressure has to be compensated by smaller wire; i. e., higher resistance on the field.

(7091) E. H. S. asks: Will you please give me receipt for tanning buck skin or preparing it like chamois leather or leather in gloves? A. Take a skin, either green or well soaked, and flesh it with a dull knife; spread the skin on a smooth log and grain it by scraping with a sharp instrument; rub nearly dry over the oval end of a board held upright. Take the brains of a deer or a calf, dry by the fire gently, put them into a cloth and boil until soft, cool off the liquid until blood warm, with water sufficient to soak the skin in, and soak until quite soft and pliable, and then wring out as dry as possible; wash in strong soapsuds and rub dry and smoke well with wood smoke. Instead of brains, oil or lard may be used, and the skin soaked therein six hours. This is called Indian tan.

NEW BOOKS AND PUBLICATIONS.

THE OPTICIAN'S MANUAL. By C. H. Brown, M.D. Philadelphia: The Keystone. Pp. 376. Price $3.

A treatise on the science and practice of optics is here put forth by a professor of optics and refraction, and former physician in the Philadelphia Hospital. It is a republication of essays heretofore published serially, and which have commanded wide attention. It treats of the eye anatomically and optically, of the simpler laws of optics, and of lenses, as adapted to the different needs of the eye under all conditions. It is a practical, up to date book, for opticians and those who make a specialty of diseases of the eye.

The Columbia Calendar, of the Pope Manufacturing Company, reaches its twe fth annual issue in the edition for 1897, and, besides being a desk convenience to many thousands of users, is designed to teach in its small texts and illustrations the joys of outdoor life and the blessings and economy of good roads.

The Victor Calendar, of the Overman Wheel Company, is also a desk memorandum pad, and a repository of a choice selection of short quotations from a wide range of authors, as well as jokes and scraps of useful information.

The Walworth Manufacturing Company of Boston, manufacturers of brass and iron goods and tools, and steam, water, and gas work, also publish a convenient desk calendar.

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An experience of nearly fifty years, and the preparation of more than one hundred thousand applications for patents at home and abroad, enable us to understand the laws and practice on both continents, and to possess unequaled facilities for procuring patents everywhere. A synopsis of the patent laws of the United States and all foreign countries may be had on application, and persons contemplating the securing of patents, either at home or abroad, are invited to write to this office for prices, which are low, in accordance with the times and our extensive facilities for conducting the business. Address MUNN & CO., office SCIENTIFIC AMERICAN, 361 Broadway, New York.

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