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 This is for our information and not for publication.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.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(2959) A. G. B. asks: 1. Please give receipt for cleaning gilt picture frames. A. Wash with cold water and Castile soap or with beer. 2. A receipt to enamel a zinc bath tub. A. Use ordinary paint or one of the enamels advertised by manufacturers. 3. How to clean a galvanized boiler. A. Use sand and soap.

(2960) S. D. L. asks a receipt for making cotton or any kind of cloth waterproof. A. Apply paraffin with a hot iron.

(2961) C. E. S. asks for receipts for making stencil inks in cakes—black, blue, green, and red. A. Mix the coloring matter, lampblack, Prussian blue, chrome green, or vermilion, with an equal part of gum arabic and enough glycerine to give the desired consistency. For black use 1 part lampblack and 2 parts Prussian blue.

(2962) B. O. G. asks how liquid glue is made. A. Dissolve 8 ounces best glue in ½ pint of water. Add slowly 2½ ounces strong nitric acid (36° Baume), stirring all the while. After effervescence ceases, cool and bottle. Or simply dissolve glue in acetic acid.

(2963) A. F. B. asks: 1. What is fluoride of ammonium, and what are its uses? A. A compound of ammonium and fluorine, NH_4Fl. It is used in analyzing siliceous minerals, and is also of use in etching glass. 2. How can calcium chloride that has been used for drying gases be put in condition for use again? A. By heating with occasional stirring until dry and pulverulent, or by pushing the heating to fusion, pouring into a shallow vessel, and breaking up into pieces. 3. Does 2000 volts mean anything as a danger, unless mention is made of its associated amperage? Is it a proper use of electrical terms to say, "I have taken a charge of 100,000 volts, but the current amperage was so small that it didn't hurt me"? A. It means something, but the associated amperage cannot be stated, as it will vary with the resistance of the person and with the nature of the connection between his person, the wire, and the earth. We would amend the statement to read, "I have taken a discharge of 100,000 volts difference of potential," etc.

(2964) B. B. asks how fresh butter can best be prepared to enable it to stand a twenty-four hours' journey in a hot climate and to preserve it sweet and fresh. A. Various methods are given. One method is to heat the butter to 180° Fah., and keep it melted, skimming it from time to time until perfectly clear. It is then poured off into another vessel and cooled as rapidly as possible by surrounding the vessel with ice or cold water. Another way is to cover the butter in its vessel with half an inch of salt packed down, and cover. A little water may be added.

(2965) W. B. G. asks: I have a letter written in camp in 1863 which I desire to keep, but which is badly faded; some parts of it are so dim it is hardly readable, and I write to ask if you can tell me what I can use to prevent further fading and also to restore what is now so dim. I am very anxious to preserve the letter and will be thankful if you can tell me how to do so. A. We would suggest dipping the letter in a solution of tannic acid. Instead of doing this you might photograph it. This might bring out the faded parts in the photographic print.

(2966) G. P. Y. says that listerine has proved in his case to be a remedy for dandruff. To be used on the head full strength daily for a week, and after that once a week.

(2967) G. L. B. asks if there is any process that will deodorize castor oil, *i. e.*, take away its disagreeable and nauseous taste. Is there any work on the subject of deodorizing oils? A. Castor oil can be taken in disguised form by mixture with effervescent root beer. There are no books devoted to the specific subject you mention. It is treated of in various works on oils, their chemistry, etc.

(2968) C. A. S. asks: Does gasoline gas when generated by heat or otherwise return back to gasolene when under pressure? And if so, what will prevent it? A. It is a question of proper heating. If heated to a high enough temperature, the gas formed will be reasonably permanent, and will only condense at low temperatures. The limitation to heating is the formation of lampblack.

(2969) L. S. W. asks for information concerning the manufacture of chewing gum. A. Take of balsam tolu 4 ounces, white resin 16 ounces, sheep suet 1½ ounces more or less and melt together. Of above mixture take 2 ounces, white sugar 1 ounce, oatmeal 3 ounces. Soften and mix on a water bath. Roll the pieces in finely powdered sugar or flour to form sticks, etc., as desired. Paraffin with a little olive oil and glycerine may be melted together for a chewing gum. The exact mixture will vary with the season, etc.

(2970) C. C. asks: 1. Is nickel sufficiently magnetic to be attracted by an ordinary fixed magnet or an electromagnet? If so, how powerful must the magnet be? A. Any magnet will attract nickel. 2. What metal is non-magnetic and sufficiently hard to resist abrasion like steel? Is phosphor bronze suitable? A. Phosphor bronze or bell metal. 3. Are dynamos with slow speed as efficient as rapid ones? A. Yes. 4. Is there any gearing suitable for reducing speed from dynamos besides cog wheels, friction gearing or belts? A. It may be done by hydraulic or pneumatic devices. 5. Is ordinary friction gearing considered as efficient as cog wheels? A. This depends upon the use to which the gearing is applied. Cog gearing has the advantage of being positive. 6. Can you give the composition of the Le Page glue sold in every hardware store? A. Le Page's glue is a patented article. It is made by desalting, cleaning, and bleaching fish stock in solutions of soda salts, then boiling in water impregnated with borax, then expressing and filtering the glue, and afterward evaporating it through a vacuum coil.

(2971) B. L. asks (1) directions for making and charging a Leyden jar. A. For directions for making a Leyden jar we refer you to SUPPLEMENT, No. 279. 2. What size of Leclanche cell would be necessary to give an electromotive force of 12 volts? A. Nine Leclanche cells will give an E.M.F. of a little more than 12 volts. This battery has an E.M.F. of 1·47 volts per cell. 3. Can I magnetize a bar of steel ½ an inch by 1½ and a foot long with an electric light dynamo? If so, how? A. Harden your bar at the ends and draw to a dark straw color and place it in a suitable coil connected with the dynamo. The proportions of the coil will depend on the kind of current generated by the dynamo.

(2972) J. L. M. asks: 1. Can the porous cup of Leclanche cell be cleaned after use for some time? Will boiling do any good? A. Soaking the porous cup in warm water will clean it. 2. What would make a crucible for melting copper in small quantity? A. You cannot readily make crucibles. Better purchase them. They cost only a few cents each.

(2973) W. R. B. asks: Can you give me the ingredients of any composition used by fire eaters to wash their hands and mouths with? A. A very strong solution of alum is recommended, and also a dilute solution of sulphuric acid. This is for the hands. The mouth is best untreated. By the use of fusible alloys the effect of taking melted lead into the mouth is produced.

(2974) H. L. F. asks: Can you tell me of any harmless preparation, and where procured, that can be used to stain the face and hands dark brown or as near the color of sunburn as possible? Something that will be lasting. A. Nothing that is lasting can be recommended. Dilute permanganate of potash solution or extract of green walnut hulls are the best. Ascertain the strength by trial upon the arm.

(2975) E. W. G. asks: 1. Is glucose as used in the manufacture of candy injurious to health when eaten? If so, why? A. Probably not. 2. How is the commercial glucose of this country generally made, from what materials? A. By treating starch with dilute acid.

TO INVENTORS.

An experience of forty 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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April 7, 1891,

AND EACH BEARING THAT DATE.

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Scale, cloth, A. J. Conen 450,002
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Sewage, apparatus for treating, A. F. Black 450,094
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Sewing machine, glove, E. B. Rudolph 449,926
Sewing machine shuttle, W. H. Latham 449,682
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Shade bracket, window, L. Harnish 450,070
Shutter worker, G. Andreen 449,656
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Signaling apparatus, W. S. Gilmore 449,674
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Slate attachment, M. Wyman 450,092
Slicer, grater, and beater, domestic, M. John 449,907
Smoke conductor, J. R. Johnson 450,023

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