

Business and Personal.

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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 This is for our information, and not for publication.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.

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.

(858) S. G.—1892 and 1896 will be leap years; 1900 will not be a leap year. After that the succession will be regular for many years.

(859) G. A. C. asks (1) for a good receipt for a blacking for ladies' shoes. A. Mix a filtered solution of 80 parts shellac, in sufficient alcohol, with 3 of wax, 2 of castor oil, and a sufficient quantity of pigment, such as best lamp black or drop black. It must be kept corked. 2. A practical receipt for making cake stove polish. A. Compress the best graphite or plumbago into cakes by hydraulic pressure. 3. A first class receipt for a polish for furniture, pianos, etc.? A. Melt two or three cubic inches of gum sandarac, add 1 pint of boiled oil, and boil together for 1 hour; while cooling add 1 drachm Venice turpentine and dilute according to judgment with oil of turpentine. 4. A good receipt for liquid glue, that will mend china, wood, metal, etc. A. Dissolve best glue in hot acetic acid, or having dissolved it in water add nitric acid; for the last use 1 quart of water, 2 pounds glue, and 7 ounces acid, adding the latter slowly. 5. A first class washing powder that will foam and form suds when put into water. A. Dry soap, and pulverize it. 6. A good receipt for making a shaving soap that will give a good lather. A. Consult our SUPPLEMENT, Nos. 258, 308, 323, 330, and 360 for articles on soap. 7. A receipt for a good, durable black writing ink and a black indelible ink for marking linen, etc. A. For inks of all kinds we refer you to our SUPPLEMENT, No. 157. 8. Also a receipt for a very dark bluing water for washing clothes. A. Dissolve Prussian blue in water containing ferrocyanide of potassium in solution.

(860) J. B. W. asks for a receipt for making a black paint or enamel that will stand heat, for enameling a small engine boiler and fire box. A. Use shellac and alcohol mixed with best black. This will stand a considerable degree of heat without being destroyed, and after it has lost its good appearance it is easily renewed. Or you could apply a black oil japan ground, such as the following: Asphaltum 3 parts, boiled oil 128 parts, burnt umber 8 ounces. This will require heat from 250° to 300° to make it dry. It may be heated in an ordinary oven.

(861) F. P. A. asks (1) which are the best batteries to use, and how many do I need for a 3 candle power incandescent lamp (Edison)? A. Six bichromate cells will operate your lamp very well for temporary use. 2. I have an electric door bell; had it with one Novelty Disque battery; but thinking it a little weak, I connected it with another of the same kind, and soon after the jar cracked, and rendered it useless. Can you explain why it cracked? A. The cracking of the jar is only a coincidence. The jar may have cracked from one of a dozen reasons.

(862) F. C. H. writes: 1. Suppose a house in Newton Center and a house in Newton Corner were supplied with gas and water, could the water pipe be used as one telephone line and the gas pipe the other, or would they be short-circuited in the earth? A. As both of the pipes are thoroughly grounded, we think it would be impossible to secure a telephonic circuit by the means suggested. 2. Can a magneto be made to ring a common electric bell? A. An electric bell of high resistance may be operated fairly well by means of a magneto.

(863) F. M. asks what kind of a mixture he can use to coat card or tar board with so that he can write on it with a slate pencil and rub it out same as on the silicate slates. A. Mix 1 gallon 95 per cent alcohol with 1 pound shellac, 3 ounces best ivory black, 5 ounces finest floor emery, and 4 ounces ultramarine blue. Dissolve the shellac first, then add the other constituents. This is a typical formula, and may be varied considerably. The general idea is to use emery or ground pumice stone as the abrading or roughening material, with black coloring matter and alcoholic varnish.

(864) O. K. asks how he can preserve gunpowder in shells from melting into fluid in South America, say in Ecuador during the rainy season. A. As the melting alluded to is due to moisture, your best plan is to use the best quality of powder and coat the shells thickly with melted paraffine. Possibly some of the wood or brown powders would be guaranteed not to melt or deliquesce.

(865) H. J. writes for a receipt for making a good soap, as simple as possible, one that does not injure the skin. I have always plenty of good grease at command, and in hot weather it is offensive if kept too long, and difficult to get rid of. A. Melt down the grease and skim it free from refuse, scrap, etc. Dissolve 1 pound caustic soda in water for every 6 pounds of grease. When the soda solution has cooled add it to the grease, stir thoroughly, and pour into a pan. This soap is a little too alkaline for toilet purposes. After it has stood for a few days shave or cut it up and place in a dish with about 1/4 to 1/2 its volume of water and heat to boiling. The soap will separate in clots. If it does not, add salt until a good separation takes place. Chill it by pouring on a little cold water, pour off the water, and remove the soap. Remelt with a little clear water and cast in moulds, such as tea cups or patty pans. Perfume if desirable, though it is better without.

(866) E. B. S. writes: 1. Can you inform me whether there is such a thing manufactured as shot in small sizes, such as bird shot, in iron or steel, instead of lead? A. Such material is made for and is used by the granite polishers. Any of such could give you further information. 2. Could they be made by the dropping process, the same as shot made from lead? A. It can be so made, but of course would tend to destroy the apparatus used. It is probably best made by a strong air or steam blast which is directed against a stream of molten iron so as to drive it into spray.

(867) W. H. H. asks for a recipe for bleaching ivory. I have a sunshade whose handle has turned yellow, and would like to know how I can whiten it. A. Clean it by rubbing with finely ground pumice stone and water, and wash, and while still moist expose to the sun in a glass vessel. Use a clean pickle or preserve jar. Do not expose directly to the sun, or it will crack.

(868) A. G. asks whether aluminum can be soldered. If so, how to do it? A. The following alloys are given:

a.	Aluminum 8 parts.	Zinc 92 parts.
b.	" 12 "	" 88 "
c.	" 15 "	" 85 "
d.	" 20 "	" 80 "

The aluminum is first melted, the zinc added gradually, finally some fat is added, and the whole is stirred with an iron rod and poured into moulds. For flux use copaiba balsam 3 parts, Venice turpentine 1 part and a few drops of lemon juice. Dip the soldering iron into the same flux.

(869) C. I. F. asks: Would the motor illustrated in SCIENTIFIC AMERICAN of March 17, 1888, be strong enough to run an ordinary size skiff, say 12 feet long, screw propeller, in a stream with very little or no current? A. The motor will run such a boat as you describe.

(870) P. J. W. asks whether or not the banana grows upon a tree. A. The banana plant is fairly denominated a tree, as it exceeds the limit of height generally used to determine shrubs.

(871) J. H. S. writes: 1. What is the process for liming eggs, and how long will they keep in an ordinary, cool cellar? A. To each pint of water add 2 pints freshly slaked lime and 1 pint of salt and mix well. Half fill a barrel with it and place the eggs therein. They will keep, it is said, for two years. For preservation of eggs see our SUPPLEMENT, Nos. 101, 217, and 463.

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 unequalled 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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May 14, 1889,

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