

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 This is for our information, and not for publication.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

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Minerals sent for examination should be distinctly marked or labeled.

(1) E. D. and many others.—Any body, as a sphere of metal, that is impervious to water, and hollow, so as to be but little more than the specific gravity of water at the surface, will find its equilibrium at considerable depths in the sea. Water is but slightly compressible, and although there is immense pressure at great depths, the specific gravity is but slightly raised; hence all objects that are slightly heavier than water sink to the bottom of the sea at great depths. Aluminum, one of the lightest metals, will quickly find the bottom of the deepest seas.

(2) D. M. G. asks for a preparation to be used as the — hand grenades, to extinguish fires. Wish to use ordinary quart glass flasks, and would like the solution not to freeze in ordinary temperatures in our State (Michigan). A. A solution of common salt or sulphate of soda in water, making a strong brine, forms a good home-made fire extinguisher, and such solutions do not freeze easily. By adding lime dust and sulphuric acid, and corking tightly, carbonic acid is generated under pressure, but this gas easily escapes if not most securely sealed. We cannot specify the composition of the various patented solutions, for which reference must be made to the patents. See SCIENTIFIC AMERICAN SUPPLEMENT, Nos. 358 and 535, for valuable articles on this subject.

(3) G. K. writes: I have a pair of buck horns I wish to mount; what should I use to whiten and polish the skull connecting the horns, also what is the best polish for the horns themselves? A. You can bleach the shell by dipping into a solution of hydrogen peroxide or a solution of chloride of lime. To polish the horns, first scrape with a glass or steel scraper to take off any roughness, then grind some pumice stone to powder and with a piece of cloth wetted and dipped in the powder rub them until a smooth face is obtained. Next polish with rotten stone and linseed oil, and finish with dry flour and a piece of clean linen rag.

(4) E. H. D. desires (1) recipes for making purple, green, and black type writer copying inks. A. Use any desired aniline color. Dissolve in 15 parts alcohol, and add 15 parts glycerine. 2. What photographic preparation is most sensitive to artificial light, and how is it compounded? A. Gelatino-bromide of silver is the most sensitive. See SCIENTIFIC AMERICAN SUPPLEMENT, No. 541.

(5) E. E. S. asks how photographs can be mounted on ordinary writing paper, so they will not wrinkle and curl. A. Roll the damp prints up in little bundles with the albumen face outward and allow them to dry spontaneously; each bundle is rolled in a sheet of note or foolscap paper. When the prints are dry they are flattened and placed in a book or portfolio, and are then ready to be trimmed. Make a solution of bleached shellac in alcohol, so that it will be somewhat thick. The print is laid face downward and its back covered with the shellac solution; it is then mounted in the usual way upon the card mount or other thin paper support. Allow no shellac to get on the face of the print, as it cannot be removed without injuring it.

(6) G. A. D. asks: What is a good receipt for making a pure baking powder, and how should it be used? A. One of the simplest and best receipts for a baking powder is the following: Take of powdered cream tartar 30 ounces, bicarbonate of soda 15 ounces, flour 5 ounces. All of the ingredients must be well dried. Mix thoroughly and keep dry.

(7) E. D. F. asks the best stain for red, blue, and wine color, by dipping, for cheap chairs. A. For red boil 1 pound Brazil wood and 1 ounce pearl ash in a gallon of water, and while hot brush over the work until of a proper color. Dissolve 2 ounces alum in 1 quart of water and brush the solution over the work until it dries. For blue, boil 2 ounces of indigo, 2 lb. of wood, and 1 ounce alum in 1 gallon water, brush well over until thoroughly stained. For wine color, ground Brazil wood 1 pound, water 3 quarts, cochineal ½ ounce; boil the Brazil wood with the water for an hour, strain, add the cochineal, boil gently for half an hour, and it will be read for use.

(8) C. R. asks how to remove black heads, better known perhaps as comedones. A. Water in which ammonia has been dissolved frequently will entirely remove the cause of your complaint. The following paste is also largely used. Take of kaolin 4 parts, glycerine 3 parts, acetic acid 2 parts; make into a pomade with the addition of a little ethereal oil. See SUPPLEMENT, No. 542.

(9) J. R. writes: In carbonate potash solution recommended to preserve iron or steel tools from rust, what strength should solution be made? A. One-quarter pound carbonate potassa dissolved in one gallon of boiling water. Dip the work in the hot solution.

(10) F. K. asks (1) how to prepare bird lime. A. Boil the middle bark of the holly 7 or 8 hours in water, drain it, and lay it in heaps in the ground covered with stones for 2 or 3 weeks, till reduced to a mud-like. Beat this in a mortar, wash it in rain water,

and knead until free from extraneous matters. Put it into earthen pots, and in a few days it will be ready for use. An inferior variety is made by boiling linseed oil for some hours until it becomes a viscid paste. 2. Is there any way to make wood elastic? A. No.

(11) E. M. P. asks how he could make a good stain for brick that would be permanent and not wash off with the rain. A. Dissolve 1 ounce of glue in a gallon of water, and when hot put in a piece of alum the size of an egg, ½ pound Venetian red, and 1 pound Spanish brown. Try a little on the bricks; if too light, add more red and brown; if too dark, put in more water.

(12) J. P. H. H. desires a receipt for removing discolorations from granite caused by overhanging trees, something that will restore it to original color, without damaging the stone. A. Try a weak solution of hydrochloric acid or a solution of caustic potash.

(13) G. Z. asks what the difference is between Epsom, Rochelle, and arlsbad salts, also tests for crystalline corrosive sublimate or mercuric chloride and sulphate of iron. A. Epsom salts are magnesium sulphate, Rochelle salts are the tartrate potash and soda, and Carlsbad salts are the solid residue obtained by evaporating the water of that celebrated spring in Austria. Corrosive sublimate should be perfectly soluble in sufficient water and in ether, and should be perfectly volatile. It gives a black precipitate with hydrosulphuric acid insoluble in dilute warm nitric acid. Sulphate of iron gives a pale blue precipitate with ferrocyanide of potash that darkens on exposure to the air. Many other tests could be given.

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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February 28, 1888,

AND EACH BEARING THAT DATE.

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