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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 This is for our information and not for publication.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.

(2879) R. L. N. writes: 1. I have a very fine meerschaum pipe that has become bruised and scratched; how can I repolish it? A. For your meerschaum apply ordinary polishing processes, sand paper of progressive fineness, and fine crocus or rotten-stone eventually. 2. I have also an old violin that I would like to scrape and restain and varnish. What is the stain that puts such a rich color on violins? A. For staining a violin red dragon's blood may be used or red sanders wood. For yellow, aloes, annatto, gamboge, turmeric or saffron, dissolve in alcohol, filtering if necessary, and apply. The reds and yellows are to be mixed to suit the taste. There are many formulas for varnishes. One is fused amber 2 ounces, turpentine 5 ounces, drying linseed oil 5 ounces; dissolve by heat. For spirit varnish the following is a representative formula: Mastic and sandarac, of each 1 drachm, lac 6½ drachms, alcohol 5 fl. oz. It is no easy matter to varnish a violin successfully. Some makers apply no stain, but use colored varnish. The above colors may be used in the spirit varnish. A large number of coats are given and each coat is rubbed down with ground pumice and water or with fine sand paper.

(2880) C. A. A. says: I noticed a query in the issue of November 8, 1890, page 299, query 2558, a statement that a boat 25 or 30 feet long would not go much more than 10 miles an hour. 1. Why will not a boat of that size go 16 knots an hour as well as a 5,000 ton steamer, with the same propeller of horse power? A. Small boats as well as large ones have their propelling power proportioned to the use that the boat is made for. If carrying capacity is sacrificed, great speed may be obtained. 2. Will not the same sized boat go faster with side wheels than with a propeller with the same horse power? A. There is but little difference between side wheels and propellers in still water. There is no reason why small boats should make as high speed as large ones. The conditions of resistance and power are not the same. A small boat cannot carry as great power in proportion to tonnage, with best lines for speed, as large ones.

(2881) E. S. L. asks whether tallow can be deodorized, and whether, by doing so, the lubricating qualities of the tallow would be preserved or lost? A. See query 2878. The lubricating qualities would remain, but the traces of acid it would retain might do much harm.

(2882) W. F. W. says: I have a six-cell plunge battery, capacity of each cell 80 cubic inches, size of zinc plates 3x5 inches, five-sixteenths inch thick, one zinc and two carbons in each cell. 1. What is its voltage? A. At the start about 12 volts, rapidly running down to 6 or 8 volts. 2. What candle power lamp, and of what voltage will it run most successfully for one hour, for two hours, for three hours? A. Use an 8 volt lamp. 3. Will the light fail much at the end of times mentioned? A. Yes; it will run down rapidly. 4. What are the latest opinions of the best authorities regarding the value of Dr. Koch's consumption cure? A. We refer you to our columns for several accounts. On the whole, opinions are favorable. 5. Is consumption contagious? A. Probably not. 6. Some time ago you gave a receipt for making a baking powder of bitartrate of potash and bicarbonate of soda. It is an excellent powder and stronger than any I can buy, but upon standing it becomes lumpy. Shall I add flour? A. Use more flour and mix more thoroughly and keep dry. 7. Where powders are manufactured for the trade what methods are used for mixing the ingredients? A. Sifting machines are excellent mixers, and need not cost very much. Your other queries we cannot undertake to answer. For information on consumption, its contagiousness and cure, we refer you to our SUPPLEMENT, Nos. 338, 242, 243, 77, 297, and many others.

(2883) H. C. P. says: Will you please inform me through your columns the life of different woods used for railroad ties? The life of rails? A. The life of ties and rails depends entirely upon the amount and weight of traffic. Of uncreosoted woods, chestnut lasts the longest, 5 to 14 years, white oak 5 to 10, spruce 4 to 7 years, hemlock 4 to 8 years. Steel rails last from 9 to 25 years; iron rails are nearly out of use.

(2884) J. R. & J. B. ask: 1. Why is a ship built and launched stern first? Is there not a scientific problem attached? A. Because the fullness of the stern prevents the shipping of water. 2. What is the best rust preventive for blued steel? A. Thin mastic or shellac varnish.

(2885) G. F. D. says: I have a quantity of electrotype metal that I wish to use to back up curved electro shells in casting box, but I find it too thick and sluggish to run well and fill out the mould. Can you inform me if a mixture of tin with it will make it more fluid, and if so, in what proportion should it be used? Is there any other metal equally effective? A. Our electrotyper says when he uses the old metal he adds for each 100 pounds of it 4 pounds of tin and 3 pounds of antimony, and finds the metal then flows nicely. It would, he says, make still better plates if 25 pounds new metal were added.

(2886) H. R. C. asks: What is a good transparent cement for microscopical purposes? A. The following is highly recommended:

Gum dammar	5	drachms.
Gum mastic	3	"
Dried Canada balsam	3	"
Chloroform	1	fl. oz.
Spirits of turpentine	1	" "

Dissolve by shaking, then filter through filter paper.

(2887) C. E. R. asks: Would you please inform me what will give black ink a good gloss without making it sticky? A. Gum arabic.

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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AND EACH BEARING THAT DATE.

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