

(2375) W. H. H. asks why it is that the manufacturers of best grades of barometers, both mercurial and aneroid, place the words stormy at about 28, rain at 29, dry at about 31, when the instrument has no such range. Is it not misleading and erroneous? A. It is misleading, and the custom should be abandoned. The variations of the barometer in conjunction with other meteorological observations may be used to foretell the weather. In any case and under the best conditions there is much uncertainty.

(2376) S. L. asks: What kind of red powder is used in the manufacture of the metal polishing paste used for polishing all kinds of metal? A. Red oxide of iron, colcothar or jeweler's rouge may be used for this purpose in the proportion of 25 parts to 20 parts of rotten stone. Both enter into the formula.

(2377) G. F. C. asks how to make a good rosewood stain. A. Boil 1/2 pound of logwood chips in 3 pints of water until very dark, then add 1/2 ounce salts of tartar. Stain wood with boiling hot mixture. When nearly dry, repeat. Two or three coats can be given. Streaks can be made on it with black stain applied with a graining brush. The black stain is made by boiling 1 pound logwood chips in 4 quarts of water and adding a double handful of walnut husks. After boiling, stain. Good ink may be used for the black streaks.

(2378) U. L. H. asks: 1. What is the best method to clean sea shells and prepare them for the cabinet? A. If in good natural condition, no cleaning is needed. If encrusted with parasitic calcareous matter, it can be removed with an engraver's tool or other similar instrument. A very weak mixture of hydrochloric acid and water may be used as a last resort. They should be soaked in cold water, dried well, oiled, and polished by rubbing. 2. How are star fish and sea weeds best preserved? A. Immerse in fresh water for some hours, extended and pinned down upon a plank and dried. Thrust the pins into the wood by the side of the rays, not through them. Dry in the shade. The flesh should be cut out of the larger specimens and a preservative applied before drying. 3. How are shells polished in the quickest manner? A. Place in cold water with quick lime and boil for some hours, cool slowly, apply strong acid to the epidermis, which will peel off. Polish with rotten stone and oil. 4. What is the best illustrated work on conchology? A. We recommend and can supply Structural and Systematic Conchology, by Tyron, 1 vol., cloth, \$12. 5. Where can I get a work on polishing shells, and a guide for lapidaries? A. We can supply you with a Handbook for Artists, Mechanics, and Engineers, by Byrne, price \$5, which contains a chapter on lapidary work. 6. In the process of embalming birds of any value? A. No. 7. How are fine shells shipped, also star fish? A. Pack as you would glass or china. 8. How long will specimens keep in alcohol? A. Indefinitely.

(2379) H. W. S. asks the meaning of the words "present" or "addressed," used in sending a letter to a person not far off. A. "Present" should mean left by writer, but is used often when a letter is sent by hand. "Addressed" seems to have no special meaning in this connection.

(2380) J. J. C. writes: I have a small barrel which held orange wine, and I wish to make root beer in it. How can I clean the cask? There is a sort of a mould in it. A. Fill one-quarter of the cask with water, burn sulphur in it, and shake repeatedly, removing the sulphur if necessary while shaking. This will destroy the mould if done well and effectually.

Replies to Enquiries.

The following replies relate to enquiries recently published in SCIENTIFIC AMERICAN, and to the numbers therein given:

W. T. M., in query 2348, in July 26 issue of the SCIENTIFIC AMERICAN, asks how to cut a large glass bottle. The method you recommend him you acknowledge to be a dubious one. If your correspondent will use a sharp triangular file kept wet with turpentine, he can file the glass with ease. It takes patience, but it will be successful.

Answer to query 2353, to keep milk or butter cool in warm weather. Take tin vessel, say 10 or 12 inches diameter and 4 or 5 inches deep. The cover should be conical, the center being raised 3 or 4 inches. On this place a linen cloth, large enough to hang over the side of the vessel. Take about a dozen strands of woolen yarn, slightly twist them together a portion of their length. From the cone of the cover spread the single strands of yarn over the linen. Immerse the twisted portion in a bucket of water near the can. One bucket of water will suffice for several cans. They should be placed on a bench under the shade of a tree. By this method milk may be kept sweet in the hottest weather.—J. M. C., Independence, Mo.

NEW BOOKS AND PUBLICATIONS.

THE DISPOSAL OF HOUSEHOLD WASTES. A discussion of the best methods of treatment of the sewage of farm houses, isolated country houses, suburban dwellings, houses in villages and smaller towns, and of larger institutions, such as hospitals, asylums, hotels, prisons, colleges, etc., and of the disposal of garbage, ashes and other solid house refuse. By Win. Paul Gerhard, C.E. New York: D. Van Nostrand Company. 1890. Pp. 193. Price 50c.

This little work has as the best evidence of its usefulness the author's name. Mr. Gerhard's authorship gives it the proper stamp. We can confidently recommend it to all interested in sanitary engineering as an excellent exposition of country and suburban practice.

PRACTICAL ENGINEERING FOR ELECTRIC LIGHT ARTISANS AND STUDENTS. By W. Slingo and A. Brooker. London and New York: Longmans, Green & Co. 1890. Pp. vi, 631. Price \$3.50.

Although overshadowed by the influence of the City and Guilds Technical Institute of London, a valuable

contribution is found in the present work to the science of engineering. It purports to be for electric light artisans and students and to embrace branches prescribed in the syllabus of the institute just mentioned. As this syllabus happens to be a very exhaustive one, the work is also comparatively complete. It will be found of value for students and readers in general. We presume it is well adapted for its end, facilitating the work of passing the examinations of the London examining bodies.

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.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted July 22, 1890.

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

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