

NEW BOOKS AND PUBLICATIONS.

THE ART OF TEA BLENDING. N. P. Fletcher & Co., Hartford, Conn.

The idea of tea blending arose from the fact that a more pleasing and satisfying beverage, and less costly, could be produced from a variety of teas scientifically mixed than could be obtained from any one tea.

ILLUSTRATED CATALOGUE. Drawing materials, Surveyors' instruments, etc. Keuffel & Esser, New York.

It is hard to imagine any want of draughtsmen and surveyors, in the way of tools and appliances for their work, for which this catalogue does not give a wide choice from which to supply the deficiency.

ARCHITECT'S AND BUILDER'S POCKET COMPANION AND PRICE BOOK. By Frank W. Vodges, Henry Carey Baird & Co., Philadelphia. Price \$2.

Perhaps the best recommendation that can be made of this compact and mealy little pocket reference book is to state that seven thousand copies of former editions of it have been sold, thus encouraging the publishers now in its reissue, "enlarged, revised, and corrected."

THE TINMAN'S MANUAL AND BUILDER'S AND MECHANIC'S HANDBOOK. By I. R. Butts. Seventh edition. Cupples, Upham & Company, Boston.

This is a book which has acquired no little popularity, because it gives in a simple manner, a great many valuable and practical directions to journeymen, without any pretense that most of the matter so presented is new or original.

PHYSICIAN'S DAILY POCKET RECORD. S. W. Butler, M. D. Published by Medical and Surgical Reporter, 115 South Seventh Street, Philadelphia, Pa.

The book is now in its eighteenth year, and is most favorably known among physicians. In addition to the blanks left for records are the metric system, general pathological table, doses for hypodermic injection, inhalation, and for suppositories and pessaries.

PLASTER AND PLASTERING; OR HOW TO MAKE AND USE MORTARS AND CEMENTS. By Fred. T. Hodgson. Industrial Publication Company, New York.

This little book is one of an industrial series issued by the same publishers, and is intended as a practical guide for those who follow the trade, as well as for the information of all having anything to do with the building industry.

PATENT LAWS OF THE UNITED STATES. A Text Book. By Albert H. Walker. L. K. Strouse & Co., New York.

This book is written by a lawyer, for "the bar and the bench." It is a most elaborate and comprehensive exposition, from a professional standpoint, of the state of the law as it stands to-day, based on the Constitution and Statutes of the United States, and as interpreted in some twelve hundred and fifty Federal and State judicial decisions.

DIE VERKEHRS-TELEGRAPHIE DER GEGENWART, MIT BESONDERER BERUECKSICHTIGUNG DER PRAXIS. (Telegraphic intercourse of the Present.) Von J. Sack. Wien, Pesth, Leipzig: A. Hartleben. 1883. Pp. 303. Price 3 marks = 4 fr. 101 illustrations.

In the present volume, which forms the fifth of Hartleben's electro-technical library, we have a very concise, yet quite complete description of nearly every form of electrical telegraph used for communication between distant places.

Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer.

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from \$1 to \$5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

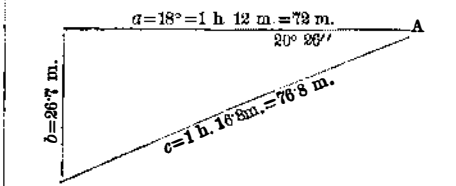
Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at the office. Price 10 cents each.

Correspondents sending samples of minerals, etc., for examination, should be careful to distinctly mark or label their specimens so as to avoid error in their identification.

(1) G. J. H. writes: I have a machine for placing labels on round cans; could you give me a formula to make an adhesive matter that would pick up the label? I use glucose, but the atmosphere affects it, consequently the machine does not do its work regularly.

(2) O. R. writes: I have a large celluloid mirror which in moving has become scratched and broken. Is there any way in which I can recast the celluloid to bring it back to its former beauty and whiteness? A. The celluloid is polished in the same manner as ivory and horn.

(3) L. N. writes: Find time twilight begins and ends in latitude 40° 51' north, when the sun's declination is 30° 25' north. ... A. The duration of twilight for your latitude with the declination stated is 1 hour 17 minutes, at 18° depression for the ending.



(4) O. A. W. asks: Can I use a rubber tube to convey alcoholic vapors from the alembic to the condensers? A. Yes.

(5) H. D.—The reason why the needle points to the terrestrial pole is still one of the mysteries of the physical nature of magnetism and electricity. The terrestrial magnetic pole, or the strongest one, if there are two, as is claimed, is situated at about 75° north latitude and 85° west from Greenwich at the present time, and is still moving westward, or around a circle about 15° from the north pole.

(6) C. H. I., in writing of the bulging of the wall of a building in Boston, says he believes that the bulging of the front was owing to the greater contraction of the mortar in the back courses of brick rather than to the swelling of the thin joints of cement used in the front.

(7) J. H. F. writes: In respect to a dispute about a brake attached to a cylinder on a stop cylinder printing press: Before the brake was attached there was always a slight quiver or shake when the cylinder stopped.

(8) J. H. W. asks how many gallons of water are required for a steam boiler per horse power, say at 60 pounds pressure. A. At the Centennial Exhibition and tests, 30 pounds steam per horse power per hour was taken as standard; this is a little less than half a gallon, but it depends much on the character and condition of the engine through which the steam is worked.

(9) A. M. L. writes: I use well water in my steam boiler and find it is gradually incrusting it. Croton water would cost three dollars per day or more, and I can pump water much cheaper. On the other hand I lose considerably on coal by incrustation in boiler and in frequent cleaning out.

(10) H. P. writes: 1. Will one Grenet 12-inch cell (half a gallon) be sufficient to operate a Ruhmkorff induction coil, giving a four-fifths inch spark? A. Yes. 2. Would a smaller Grenet cell answer? A. One somewhat smaller might answer, but the larger one is to be preferred.

(11) L. O. B. asks: 1. Will the dynamo machine described in SUPPLEMENT, No. 161, be capable of charging the storage battery illustrated in SCIENTIFIC AMERICAN, No. 26, vol. xiv., sufficient to run one Edison lamp? And if so, for how long? A. The battery may be charged by the dynamo, but it would require considerable time.

(12) R. H. S. asks how many pounds pressure a boiler made like the one illustrated on page 2891, in SUPPLEMENT, No. 182, ought to bear, and how many pounds of steam it will take to run an engine with 2 inches diameter of cylinder and 4 inches stroke.

(13) B. T. W. asks: What, if anything, will prevent water from freezing, such as is kept for the purpose of extinguishing fires on bridges, boats, buildings, etc.? A. Salt is usually employed as an anti-refrigerant; a saturated solution of salt and water does not begin to freeze until near zero temperature.

(14) J. G. N. asks if the new invention for coating iron and steel with iridescent copper, vol. xlv., No. 5, page 70, July 30, 1881, could be used for brass, copper, or tin? If not, how could such effect be brought forward? A. As to the possibility of applying the mixture to brass, copper, or tin we are unable to say without experimenting.

sulphite, and the process carried on as before, the brass is covered with a very beautiful red, which is followed by a green, and changes finally to a splendid brown with green and red iridescence.

(15) W. T. asks how to render printer's ink (which has been printed and become dry on the paper) again "wet," or as it was immediately after being printed, so that it would take bronze, as in ordinary printing with size and bronze.

(16) W. W. S. H. writes: 1. Can you tell me how to temper mill picks? A. There is nothing peculiar in hardening mill picks, only that they should be as hard as possible and moderately tough.

(17) T. D. G. asks for the best method of tinning cast iron boxes before running the Babbitt metal in. I have used alcohol and sal ammoniac, and heated the casting until it fused the latter, but cannot get the tin to adhere to the casting.

(18) J. P. B. asks what are the average wages of a good journeyman machinist, and what are the wages of a good foreman machinist? A. The wages of journeymen machinists vary greatly, as with the experience and reliability that is found in the various grades of workmen.

(19) J. D. G. asks: Will glass rubbing on a wire cable wear the cable as much as brass? A. Hard Bohemian glass has very little friction and wear when the pressure is light and lubricants are used.

(20) T. V. G. asks: 1. If there is any difference, which would start and draw the heavier load—a locomotive with 7 foot drivers, or one with 3 foot drivers, both to be of same height, and engine supposed to be strong enough to slip the drivers?

(21) A. W. B.—The following is the formula for the mucilage said to be used on the United States postage stamps:

Table listing ingredients for mucilage: Dextrine 2 ounces, Acetic acid 1, Water 5, Alcohol 1.

INDEX OF INVENTIONS For which Letters Patent of the United States were Granted November 13, 1883. AND EACH BEARING THAT DATE. [See note at end of list about copies of these patents.]