

MODERN AMERICAN DWELLINGS. With Constructive Details. By Numerous Architects. Practical Designs for Builders and Those Intending to Build. Illustrated by means of 33 half-tone engravings and 127 full-page plates of details. New York: David Williams Company. 1897. Price \$2.

The selection of designs of residences in this volume is intended for the practical builder, who is frequently called upon to act as his own architect in the erection of dwelling houses. The designs range in cost from \$2,000 to \$5,000, and there is also a large number of details of the interior and exterior construction, a feature which the practical builder will recognize at once as of inestimable value in the building of houses.

MODERN SWITCHBOARDS. By Alfred B. Herrick. Philadelphia: The Cutter Electrical and Manufacturing Company. Pp. 200. Price \$3.

While this handsome quarto volume, full of illustrations, is published primarily to set forth the business and describe the appliances manufactured by the Cutter Company, it is a book which cannot fail to be extremely valuable to the electrical engineer or to any one engaged in electrical work, as the abundant engravings represent a multitude of minute details not often found in a single volume.

GREENHOUSE MANAGEMENT. By Prof. L. R. Taft, of the Michigan Agricultural College. New York: Orange Judd Company. Pp. 382. Price \$1.50.

A manual brimful of valuable condensed and well arranged information on the forcing of flowers, fruits and vegetables in greenhouses is here presented to the public, the book also covering the propagation and care of house plants. To the florist especially, who pursues the business as a commercial enterprise, and to the growers of early vegetables and choice fruits, the work should be of great value, as not only are new and improved methods continually being brought into use, but the plants grow change from year to year, and this work of Prof. Taft is up to date in elucidating the most recent methods.

HYDRAULIC AND PLACER MINING. By Eugene B. Wilson. New York: John Wiley & Sons. Pp. 234. Price \$2.

The times are especially propitious, since the development of interest in the Klondike region, for publications on placer mining, which so many thousands of inexperienced men are now entering into in our Alaskan territory. The book before us is well adapted to set before the miner in a very practical way the leading features of the work, including methods of panning, cradling, booming, sluicing and the construction of riffles, flumes, ditches, valves, gates, weirs, etc.

THE CENTURY ATLAS OF THE WORLD. Prepared under the superintendence of Benjamin E. Smith, A. M., managing editor of the Century Dictionary, editor of the Century Cyclopedia of Names, etc. With 117 double page maps in color, 138 inset maps, 45 historical and astronomical maps, and indexes (382 x pp.) of places, rivers, mountains, etc. Published by subscription. New York: The Century Company. Cloth. Price \$12.50.

The Century Atlas contains some of the finest specimens of map making we have ever seen. It is an entirely new atlas of the world, uniform in size with the Century Dictionary, which is known everywhere the English language is spoken or written. It is without doubt the most comprehensive and up-to-date atlas of the whole world, as it contains the latest details as to political changes, such as the new boundary of Greece resulting from the late war and the limits of Greater New York. The atlas has 17 double page maps, 138 inset maps and 45 historical and astronomical maps. They are printed in from five to ten different colors. The most recent government surveys of all parts of the world, the latest lake, sea and harbor soundings, the most recent explorations and the latest measurements of mountain peaks are given. The various railway, steamship and cable lines are all shown, and they are, of course, brought down to date. Important battlefields are plainly marked and the dates affixed. The historical maps illustrate the most important epochs of sacred as well as ancient and modern history. Standard time divisions are shown throughout in the United States and Europe; the special tourist map of Europe shows the chief routes of travel. As an example of what the older atlases lack and which the present atlas contains are the routes of celebrated explorers, including those followed by Nansen in his recent expedition to the Arctic regions and by Glave and Donaldson Smith in their recent African explorations. The index shows about 300,000 entries, and the foreign words used in connection with place names are translated, adding greatly to the utility of the atlas. The present time is particularly suited for the production of an entirely new series of maps, and the Century Company have done wisely in beginning at the bottom and making each map fresh from the newest and best material. The latest geographical surveys of civilized countries have been incorporated, and in those regions of the world for which no official surveys have been made, the most authoritative sources of information have been used. Space forbids us to enumerate all of the distinctive features which tend to make this atlas so valuable. The maps are clear and handsomely executed and bristle with details, to some of which we have referred.

Business and Personal.

The charge for insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue.

- Marine Iron Works. Chicago. Catalogue free.
"U. S." Metal Polish. Indianapolis. Samples free.
Gasoline Brazing Forge, Turner Brass Works. Chicago
Yankee Notions. Waterbury Button Co., Waterbury, Ct.
Bicycle Electric Light Co., Cleveland, O., want agents.
Handle & Spoke Mch'y. Ober Lathe Co., Chagrin Falls, O.
Schwaab Stamp & Seal Co., Milwaukee. Send for cat'g.
FERRACUTE Machine Co., Bridgeton, N. J. Full line of Presses, Dies and other Sheet Metal Machinery.
Improved Bicycle Machinery of every description. The Garvin Machine Co., Spring and Varick Sts., N. Y.
Gasoline Engines and Launches. Free catalogue. Monitor Vapor Engine and P. Co. Grand Rapids, Mich.
The celebrated "Hornaby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 138th Street, New York.

The best book for electricians and beginners in electricity is "Experimental Science," by Geo. M. Hopkins. By mail, \$4. Munn & Co., publishers, 361 Broadway, N. Y.

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. Buyers wishing to purchase any article not advertised in our columns will be furnished with addresses of houses manufacturing or carrying the same. 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.

(7436) C. L. P. writes: I have a square dining extension table which has become somewhat marred by use, that is it has lost its polish. Can you tell me what I can do to give it the fine polish a new table has? A. Formulas for furniture polishes are given in our SUPPLEMENT, Nos. 1067, 1099 and 1145, price 10 cents each by mail.

(7437) H. B. D. writes: I have had great difficulty with X ray tubes becoming punctured by the passage of the current through the glass. What is the cause of this? A. To be punctured is the natural death of an X ray tube. When it will occur no man can tell, whether in infancy or in old age. The static machine seems to use up tubes faster than the induction coil. The spark jumps through the glass because under existing conditions that is the path of least resistance. Sometimes punctures seem to be preceded by a creeping out of an electric discharge upon the tube; at others there is a flash, a stroke and a hole. It is difficult to account for them. Two valuable works may be mentioned. "The Induction Coil in Practical Work," Lewis Wright, price \$1.25 by mail, and "The Roentgen Rays in Medical Work," David Walsh, price \$2.25 by mail.

(7438) P. L. G. asks: Will you kindly inform me, through the Notes and Queries of the SCIENTIFIC AMERICAN, the way to ascertain the distance from a receiver to the place that a submarine cable is severed? A. The general method of localizing a fault is to measure the resistance of the cable. This will be the resistance from the end on shore to the break, since the earth has no resistance. The resistance of the whole divided by the resistance per mile gives the number of miles to the place where the break occurred.

(7439) J. E. W. asks: How are electric lights tested for candle power? What apparatus is required, etc.? A. The best way to rate electric lights is by the power they use in watts. The National Electric Light Association has defined a 2,000 candle power lamp as one consuming 450 watts. This is 10 amperes at 45 volts. Incandescent 15 candle power lamps use from 50 to 55 watts. If the candle power is to be measured, the light of the lamp is compared directly with that of a standard. The legal candle is one consuming 120 grains an hour, made to have 6 to the pound. The method of comparison is to adjust the two lights till they illuminate a surface equally. Then the light of each is represented by the square of its distance from the surface. Thus, if the standard candle were 1 foot and the light to be tested 4 feet from this surface, the lights are as 1^2 to 4^2, or as 1 to 16. The light to be tested is giving 16 candles. This is explained in Hopkins' "Experimental Science." Price \$4.

(7440) R says: Please give a receipt for making cider. The coal to be about 16 cents per gallon. A. Mix well 10 gallons cold water, 7 1/2 pounds brown sugar, 1/4 pound tartaric acid, add the juice expressed from 2 or 3 pounds dried sour apples, boiled.

(7441) G. says: Kindly let me know how much a knot is. I would like to know whether it is a mile or a little over. A. A "knot" is a nautical mile and is equal to (6080.27 / 6280) 115156 statute miles.

TO INVENTORS.

An experience of fifty years, and the preparation of more than one 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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