

Business and Personal.

Marine Iron Works. Chicago. Catalogue free. "U. S." Metal Polish. Indianapolis. Samples free. Yankee Notions. Waterbury Button Co. Waterbury, Ct. Inventions developed and perfected. Designing and machine work. Garvin Machine Co., 141 Varick St., N. Y. The celebrated "Hornsby-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. Send for new and complete catalogue of Scientific and other Books for sale by Munn & Co., 361 Broadway, New York. Free on application.

THE ANTARCTIC REGIONS. By Dr. Karl Fricker. London: Swan Sonnenschein & Company, Limited. New York: The Macmillan Company. 1900. 8vo. Pp. 292. Illustrated. Price \$3. At the present time Antarctic exploration divides the field of interest with Arctic exploration. The fact that the extreme South is not at all well known lends more than ordinary interest to the subject. A number of expeditions are now on their way to discover, if possible, the South Pole. The book is very readable and is admirably illustrated.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending

OCTOBER 2, 1900,

AND EACH BEARING THAT DATE.

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

Table listing inventions with inventor names and patent numbers. Includes items like 'Advertiser and station indicator, railway, L. H. Simmons', 'Automobile motor vehicle, A. P. Randall', 'Bicycle propelling device, J. C. Devlin', 'Waterbury Emery Grinder', 'New Microscope for Nature Study', 'Armstrong's Pipe Threading', etc.

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AMERICAN PATENTS.—AN INTERESTING and valuable table showing the number of patents granted for the various subjects upon which petitions have been filed from the beginning down to December 31, 1894. Contained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 1002. Price 10 cents. To be had at this office and from all newsdealers.

ENGINE & FOOT LATHES. MACHINE SHOP OUTFITS. TOOLS AND SUPPLIES. SEBASTIAN LATHE CO. CINCINNATI, O.

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DEFIANCE MACHINE WORKS. BUILDERS OF HUB SPOKE WHEEL BENDING WAGON, CARRIAGE AND HOOP MACHINERY. LONDON OFFICE, 16 ELDON STR. E. C. SEND FOR CATALOGUE.

Table listing various mechanical and industrial items with their respective prices. Includes items like 'Distilling apparatus, wood, C. W. Bilfinger', 'Door check, E. E. Jones', 'Electric current regulator, D. Watkins', 'Engraving machine, E. S. Woods', 'Gold separator, Hopkins & Mancke', 'Incubator, J. Malbus', 'Lathes, H. B. Peck', 'Milling machine, F. Holz', 'Paper folding or plating machine, M. Koch', etc.

(Continued on page 238)

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.

(7972) L. C. G. asks: 1. Where is the proper position for a violin bridge? Some say 13 inches from end of fingerboard, and some say opposite the notches in sound holes. Which is right? A. The usual position of a bridge on a violin is exactly between the small nicks marked in each sound hole. 2. What is the function of the sound-post and bass bar of a violin, and what is the rule for adjusting the former? A. The position of the sound post is usually 1/2 to 3/8 of an inch behind the right foot of the bridge, the distance being variable according to the model of the instrument. If the violin be high built, the post requires to be nearer the bridge, that its action may be stronger, while flat-modeled instruments require the post to be set further away from the bridge. The sound post is the medium by which the vibratory powers of the instrument are set in motion, it gives support to the right side of the belly, it transmits vibrations and regulates the power and quality of the tone. The sound bar facilitates the vibration. 3. Would it be an advantage to wind the permanent magnets of a Clarke machine, as described in the SCIENTIFIC AMERICAN of December 3, 1881, and if so, how would you send the current through it—from a separate battery or switch off a part of the current from the machine? A. The machine in our issue of December 3, 1881, is a magneto generator. A dynamo with electromagnets is a better machine of course. If you wish to build a dynamo, you would better find plans for such a one as you wish and start new, rather than to attempt to alter a design as old as this one. A machine built in 1881 is a very ancient affair. 4. How would you determine the voltage and amperage of the foregoing? A. The volts and amperes in a dynamo are found by a voltmeter and an amperemeter. 5. Where can I procure a register of United States naval officers and vessels and their respective stations? A. The Army and Navy Journal gives the news of the service.

(7973) C. I. G. asks: 1. Can the electric furnace described in SCIENTIFIC AMERICAN SUPPLEMENT, August 27, 1898, be used on a 104 volt alternating current? A. The electric furnace can be used with any sort of current. 2. Do you publish an index of contents of the SCIENTIFIC AMERICAN SUPPLEMENT, for a few years back? A. Yes.

(7974) W. C. M.—The proportions in the formula on page 186 of September 22, 1900, issue are about right. The two upper formula on page 92, August 11, would make solutions too dilute.

NEW BOOKS, ETC.

CYCLOPEDIA OF AMERICAN HORTICULTURE. By L. H. Bailey. Assisted by Wilhelm Miller, Ph.D. Illustrated with over 2,000 original drawings. In four volumes. E-M. New York: The Macmillan Company, Limited. 1900. Quarto. Pp. 511 to 1054. Price \$5.

Some months ago it was our privilege to review the first volume of this work, and at that time we commented favorably upon the plan and scope of the work. The second volume does not differ materially from the first, except that the subject is now carried down as far as the letter M. Some of the illustrations are not quite so well reproduced as they might be, but on the whole the book is very satisfactory. The author seems to have a remarkable facility in knowing just what the reader wishes to obtain from a book of this kind. The volume is a handsome one and would adorn any library.

PRACTICAL CARRIAGE AND WAGON PAINTING. By M. C. Hillick. Chicago: The Western Painter. 1900. Pp. 161. Price \$1.

This is a full treatise on the painting of carriages, wagons and sleighs, embracing full and explicit directions for executing all kinds of work, including painting factory work, lettering, scrolling, ornamenting, varnishing, etc., with many tested receipts and formulas. The book is profusely illustrated, and the new edition will prove of great value to all carriage painters, even though they may already be competent mechanics. The book contains many excellent designs.