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Screw machines, milling machines, and drill presses. The Garvin Mach. Co., Laight and Canal Sts., New York.

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## Notes &amp; 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 This is for our information and not for publication.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.

(4578) R. B. C. says: What can I use to the best advantage in a tank in which gold workers wash their hands, to catch the gold? A. Cover the bottom of your tank with mercury and allow the overflow water to pass over into a shallow tray filled with mercury. Or use a plate of amalgamated copper from which the amalgam may be removed from time to time and replaced by fresh mercury. The gold is extracted from the mercury by filtration and retorting.

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A. Sodium hyposulphite..... 4 oz.  
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Alum..... 1½ oz.  
Soda phosphate..... 10 gr.  
Water..... 10 oz.

Dissolve the hypo. in water, add the lead and soda, and when they are dissolved, the alum. Let the solution stand for twenty-four hours, and then decant or filter. The prints should be placed in the solution without previous washing, and removed as soon as the desired color is obtained.

## NEW BOOKS AND PUBLICATIONS.

**DESCRIPTION OF THE STAR CAMERA AT THE SYDNEY OBSERVATORY.** Sydney: Published by authority of the Honorable the Minister for Public Instruction. 1892. Pp. 15.

A detailed series of plates with description of the photographic telescope at the Sydney, New South Wales, Observatory is the matter of the present book. A very handsome photogravure of the instrument as mounted serves as frontispiece. It is noted in the introduction that the mounting was made in the colony, and it seems to be an excellent tribute to the mechanical abilities of the New South Wales engineers.

**A TREATISE ON HYGIENE AND PUBLIC HEALTH.** Edited by Thomas Stevenson, M.D., F.R.C.P. Lond., and Shirley F. Murphy. Vol. I. Philadelphia: P. Blakiston, Son & Co. 1892. Pp. xii, 1013. Price \$7.50.

The scope of this most exhaustive work, of which in this large volume but one half is presented us, covers an immense ground. It is quite impossible to review

it adequately. Among the subjects treated are air, meteorology, water, food, clothing, the dwelling, the disposal of refuse, and other allied topics. Each one is given in a monograph, and to each monograph, in the contents, and in the text of the work itself, the author's name is given. A double-column index of 21 pages gives an example for authors and publishers of scientific books to follow.

**ALASKANA; OR, ALASKA IN DESCRIPTIVE AND LEGENDARY POEMS.** By Professor Bushrod W. James, A.M., M.D. Philadelphia: Porter & Coates. 1892. Pp. 368.

Professor James, in this work, has, to a certain extent, abandoned science for poetry, and gives us a number of the legends of Alaska in the phrase of Hiawatha. It is stated that the author has taken the liberty of avoiding the tautology for which Hiawatha is remarkable. This statement is followed by the remark that "whether this slight innovation will be acceptable as an improvement or not, remains with its readers to decide." The work, we believe, is good enough to prove of wide interest, as it is elegantly printed and illustrated, though whether, even by avoiding tautology, it will be accepted as an improvement on Longfellow is doubtful.

**INDUCTION COILS. A practical manual for amateur coil makers.** By G. E. Bonney. With more than 100 illustrations. New York: Macmillan & Co. London: Whittaker & Co. 1892. Pp. 231. Price \$1.

This excellent work, in adequately treating this subject, in describing batteries of the type adapted for induction coils, in its physical notes and by its hints on repairs in general manipulation, will be welcomed by many amateurs and even professionals. One chapter is devoted to some famous coils, among others the great Spottiswood, which, with reasonably small battery, gave a 42 inch spark without difficulty.

**A TEXT BOOK OF EXPERIMENTAL ENGINEERING.** By Rolla C. Carpenter, M.S., C.E., M.M.E. New York: John Wiley & Sons. 1892. Pp. xx, 709. Price \$6.

This work is so thorough, carried out in such detail, and so thoroughly illustrated that any review of it which will give an idea of its scope and merits is out of the question here. Cornell University is one of the great American centers of mechanical engineering, and Professor Carpenter, the associate professor there of experimental engineering, has produced a book which seems to be an exponent of the work of the great American university. Numerous illustrations, many carried to a great detail, are introduced, illustrating the testing machines and other apparatus employed for carrying out the work described in the volume.

**DESIGN AND PROSPECTUS FOR THE NATIONAL GALLERY OF HISTORY AND ART.** By Franklin W. Smith. Offices of the Propaganda for the National Gallery, 1419 F Street, Washington, D. C. 4to. Pp. 112; 144 Pl. Paper. 50 cents.

The general scope of this new movement has been indicated on page 228 of the issue of the SCIENTIFIC AMERICAN for October 8. Though this work bears the modest title of prospectus and is published at a merely nominal figure, still it is really a work of art. This book gives illustrations of the new design, views from the Pompeian house and from all the chief galleries and museums of Europe. The views of the hotel Casa Monica and the Villa Zoraya in St. Augustine are very interesting, showing how concrete may be used for building purposes. This is of special interest, as the great design calls for concrete construction. Many illustrations are given of the proposed constructions for the courts of the great edifice. The book cannot fail to be of interest to all lovers of art and architecture, as well to friends of the new plan.

**POOR'S DIRECTORY OF RAILWAY OFFICIALS AND MANUAL OF AMERICAN STREET RAILWAYS.** New York: H. V. & H. W. Poor.

The latest edition of this most valuable reference book is just out, and comprises over 600 closely packed pages, the constant additions being made to the work rendering each successive issue more comprehensive than its predecessor. An entirely new feature of this edition is a "directory of directors," which fills a hundred pages, the directors thus catalogued including those managing banks, insurance companies, and general manufacturing and industrial enterprises, as well as railways. The statements of street railroads in the United States and Canada are now made very full, and a complete list is given of all railroads projected or now under construction in the country. The information thus afforded is of importance to inventors as well as to all manufacturers or dealers in railway materials. A list is also given of railways and tramways of Mexico, Central and South America, with their officers, mileage, etc., while the enumeration of "private" railroads makes quite a list, including lumber, logging, mining roads, etc.

**DAIRYING FOR PROFIT; OR, THE POOR MAN'S COW.** By Mrs. E. M. Jones. New York: Orange Judd Co. Pp. 66. 30 cents.

Mrs. Jones proves her right to speak with authority on the subject discussed in this little book by the fact that she began, eighteen years ago, with two cows and a small village field, selling a few pounds of butter, of such excellence that she now has a market for and produces annually seven thousand pounds. All the details of professional dairy work are described, the difficulties likely to meet the beginner are explained, and one is also told how to choose a good cow and keep and feed her to the best advantage.

Any of the above books may be purchased through this office. Send for new book catalogue just published. MUNN & Co., 361 Broadway, New York.

## 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.

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Pump, H. Gaskins..... 484,496  
Rack. See Music rack. Pool rack.



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