

NEW BOOKS AND PUBLICATIONS.

AANSTAD'S FINANCIER'S LEDGER. A new system of keeping accounts with members of beneficiary societies. By Ole O. Aanstad, Eau Claire, Wis.

This is a copyrighted book, sold at \$5, \$6, or \$7, ruled for a specially devised form of keeping assessments, dues, etc., of benevolent associations, lodges, etc. The author has had long experience with such societies as financier and bookkeeper, and the system he has perfected is designed to insure entire accuracy, be very convenient, and easily learned from the instructions and practical illustrations given in its first pages.

GESCHICHTE DER EXPLOSIVSTOFFE. Von S. J. von Romocki. I. Geschichte der Sprengstoffchemie, der Sprengtechnik und des Torpedowesens bis zum Beginn der neuesten Zeit. Berlin: Robert Oppenheim (Gustav Schmidt). 1895. Pp. 395. 8vo, illustrated. Price 12 marks.

A very curious and interesting work on the history of explosives and the torpedo. The book has a number of reproductions of rare old engravings and contains copious annotations and references to classical and medieval writers. It is the first volume of a series which will take the work up to the present time.

REPORT OF THE AMERICAN HUMANE ASSOCIATION ON VIVISECTION AND DISSECTION IN SCHOOLS. Chicago. 1895. Pp. 64. 16mo, pamphlet.

This booklet contains some startling facts regarding vivisection in schools. The statement that any such practice really existed met at first with general incredulity. Even if vivisection were rarely done, it seems almost improbable that children of public school age should be required to become familiar with the process of mutilation and the phenomena of death. The value of vivisection in medical schools must be admitted, but its use in ordinary schools cannot be condemned too strongly. The pamphlet contains the opinions of such well known people as D. G. Brinton, W. D. Howells, Dr. Morgan Dix, Cardinal Gibbons, W. W. Story and others.

THE POCKET GOPHERS OF THE UNITED STATES. By Vernon Bailey. Washington: Bulletin No. 5 United States Department of Agriculture, Division of Ornithology and Mammology. 1895. Pp. 47. 8vo, pamphlet, plate, map.

LA THERAPEUTIQUE DES TISSUS. Compendium des medecations par les Extraits d'Organes animaux. By Dr. M. Bra. Paris: J. Rothschild. 1895. Pp. 624. 8vo, 72 engravings.

A work on medication by means of animal organic extracts according to the method of the late Dr. Brown-Sequard.

L'INDUSTRIE CHIMIQUE. By A. Haller. Paris: J. B. Bailliere et Fils. 1895. Pp. 346. 16mo.

This work is a reprint of Mr. Haller's report on the chemical and pharmaceutical products exhibited at the Columbian Exposition of 1893. It contains many out of the way facts about the manufacture and use of the rarer chemicals, essential oils, and other pharmaceutical products. The work is freely illustrated with graphic symbols.

CHURCHES AND CHAPELS. Designs and suggestions for church building committees, architects and builders. By F. E. Kidder, Ph.D., architect. New York: William T. Comstock. 1895. Oblong octavo, cloth. Pp. 55, 52 illustrations. Price \$1.50.

In this work the author has chosen a subject that has not been written upon for a number of years, and we believe this is the only book of its kind treating on modern church building. We believe the book will be found very useful to architects. Church building committees will find the floor plans of great assistance in deciding upon the best arrangement for their special needs. Nineteen designs, illustrated by forty-six drawings and half tones and embracing almost every approved arrangement for modern churches, are given, and the larger proportion of the designs have been executed from the author's plans. Besides these designs the author has given much practical information on the construction and roofing of churches, planning and seating, windows, bells, etc., and several pages on acoustics, heating, and ventilation.

SCREW PROPELLERS AND MARINE PROPULSION. By I. McKim Chase, M.E. New York: John Wiley & Sons. 1895. Pp. 223, xxxi. 8vo, plates, tables. Cloth. Price \$3.

The author commenced the preparation of this treatise with a view to supply a want that he had found existing among workmen who are engaged in building propelling screws. His purpose was to place before them a comprehensive and practical work that should elucidate the principles of screw propellers, the manner of their generation and their peculiarities, and explain the various methods employed in their construction. The section devoted to marine propulsion is also valuable.

THE WATCH ADJUSTER'S MANUAL. Being a practical guide for the watch and chronometer adjuster in making, springing, timing, and adjusting for isochronism, positions and temperatures. By Charles Edgar Fritts. New York: Charles E. Fritts, 307 West Twelfth Street. 1894. Pp. 364. 56 illustrations. 8vo. Cloth. Price \$3.50.

This valuable book is written by an horological expert who has written a great deal for the watch trade journals under the nom de plume of "Excelsior." The germ of the present work was a book published in 1876 under

the title of "A Practical Treatise on the Balance Spring." The author has greatly enlarged that work, so as to include such subjects as the demagnetization of watches. It treats of the making of balance springs, watch balances, springing and timing, special and natural compensations, the adjustment for isochronism, the adjustment for positions, heat and cold. The effect of modern watch manufacture is to tend to disperse with the services of watch repairers. If things go on in the same way, the time will come when the adjustments and the finer branches of work will be about all that is left of the trade worth having.

COLOR IN THE KINDERGARTEN. By Milton Bradley. Springfield, Mass.: The Milton Bradley Company. Pp. 57. 12mo, illustrated. Price 25 cents.

COLOR IN THE SCHOOL ROOM. A manual for teachers. By Milton Bradley. Springfield, Mass.: The Milton Bradley Company. Pp. 107. 12mo, samples of colored papers bound in. Price \$1.

ELEMENTARY COLOR. By Milton Bradley. Pp. 128. 12mo, 64 illustrations, colored plate. Price 75 cents.

Froebel made no mistake when he included color as a part of the first material used in his system of elementary education. When the author of the series of books noted above began many years ago to manufacture kindergarten material, he found it impossible to match different lots of colored papers. There were no generally accepted standards of color, and every manufacturer made paper to suit himself; this led him to study the problem of a simple nomenclature for the standard colors and also to attempt experiments which would permit of supplying uniform educational material. The system presented in this series of books is based on the well known principle of the Maxwell wheel, originated by the late J. Clerk Maxwell; some valuable improvements were introduced in this device. The Bradley system of color instruction both for the kindergarten and primary school is fully outlined in these three books, which are freely illustrated with engravings, charts and samples of the Bradley papers.

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

SCIENTIFIC AMERICAN BUILDING EDITION. JULY, 1895.—(No. 117.)

TABLE OF CONTENTS. 1. An elegant plate in colors showing a residence at Bridgeport, Conn., recently erected for Christian M. Newman, Esq. Three perspective elevations and floor plans. Cost \$5,500 complete. Architect, Mr. Samuel D. P. Williams, Williamsburg, N. Y. 2. A handsome residence at Glenwood, N. Y., recently erected for Wm. R. Innis, Esq. Two perspective elevations and floor plans. An attractive design. 3. A modern cottage of attractive design recently erected at New Rochelle, N. Y. Perspective elevation and floor plans. Estimated cost \$3,000. Architect, C. B. J. Snyder, New York City. Design in the merican order of architecture. 4. A summer cottage at Great Diamond Island, Me., recently erected for Edward L. Goding, Esq. Two perspective elevations and floor plans. Cost \$2,500 complete. A picturesque design. Mr. A. Dorticos, architect. 5. An attractive dwelling at Oakwood, Staten Island, recently erected for Mrs. Margaret Dutche. Cost \$3,800 complete. Two perspective elevations and floor plans. Architect, Mr. Herman Fritz, Jr., Passaic, N. J. 6. A Colonial dwelling at Springfield, Mass., erected for Messrs. J. D. and W. H. McKnight, at a cost of \$6,000 complete. Two perspective elevations and floor plans. A pleasing design. Architect, Mr. G. Wood Taylor, Boston, Mass. 7. Colonial house recently erected at Groton, Mass., in the style of Longfellow's home. Perspective elevation and floor plans. Architects, Messrs. Child & De Goll, New York. 8. View of the Hotel Majestic, New York. One of the finest hotels in the world. Architect, Mr. Jacob Rothschild. 9. A cottage in the Colonial style, recently erected for Margaret Deland at Kennebunkport, Me. A picturesque design. Perspective elevation and floor plans. Mr. Henry P. Clark, Boston, Mass., architect. 10. Suggestions in corner decorations. 11. Miscellaneous contents: Hoop poles.—How to drive rats away alive.—Dumbwaiters and elevators, illustrated.—Saws.—Translucent fabric.—Improved spring hinges, illustrated.—Ventilated school wardrobes, illustrated.—Hanger for storm sash and screens, illustrated.—The hygienic refrigerator, illustrated.—Improved door hangers, illustrated.—Improved steam heater, illustrated.—Concrete roofs.—A trackless sliding door hanger, illustrated.—A first class hot water heater, illustrated. The Scientific American Building Edition is issued monthly. \$2.50 a year. Single copies, 25 cents. Thirty-two large quarto pages, forming a large and splendid MAGAZINE OF ARCHITECTURE, richly adorned with elegant plates and fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects. The Fullness, Richness, Cheapness, and Convenience of this work have won for it the LARGEST CIRCULATION of any Architectural Publication in the world. Sold by all newsdealers. MUNN & CO., PUBLISHERS, 361 Broadway, New York.

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Presses & Dies. Ferracute Mach. Co., Bridgeport, N. J. Best Handle Mach'y. Trevor Mfg. Co., Lockport, N. Y. Wanted—Fine book printing done for a reasonable price. N. Mantus, Jefferson City, Mo.

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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.

(6567) B. J. C. asks for a formula for violet copying ink. A. For blue violet, dissolve in 300 parts boiling water methyl violet 5B, Hofmann violet 3B, or gentiana violet B. For reddish violet, dissolve in a similar quantity of water methyl violet BR. A small quantity of sugar added to these inks improves their copying qualities. If the writi g, when dry, retains a bronzy appearance, more water must be added.

(6568) W. A. J. asks how to weld tortoise shell. A. Small pieces of good tortoise shell may be joined so as to form one large apparently seamless piece in the following manner: Slope off the margins of the shells for a distance of about 1/4 of an inch from the edge. Then place them so that the margins overlap one another; and thus arranged put them in an iron press and immerse in boiling water for some time. The pieces by this means become so perfectly united that the joint cannot be seen. The filings and very small scraps may be softened in hot water and consolidated by hydraulic pressure in metal moulds. Protracted heating of tortoise shell darkens it, and greatly lessens its beauty.

(6569) R. A. McE. says: Can you give the formula for Luning's colorless varnish? A. Dissolve 2 1/2 ounces of shellac in 1 pint 90 per cent alcohol, boil a few minutes with 5 ounces of well burnt and recently heated animal charcoal. A small portion of the solution should then be filtered, and if not colorless, more charcoal must be added. When all color is removed press the liquor through a piece of silk, and afterward filter through fine blotting paper. This kind of varnish should be used in a room at least 60° Fah., perfectly free from dust. It dries in a few minutes, and is not liable afterward to chill or bloom. It is particularly applicable to drawings and prints that have been sized and may be advantageously used upon oil paintings which are thoroughly hard and dry, as it brings out the colors with the purest effect. This quality prevents it from obscuring gilding, and renders it a valuable varnish for all kinds of leather, as it does not yield to the warmth of the hand and resists damp, which subjects leather to mildew. Its useful applications are very numerous, indeed to all the purposes of the best hard spirit varnish.

(6570) C. H. M. says: Please state through your paper what is the best cement for fastening rubber to smooth iron surfaces. A. Powdered shellac is softened in ten times its weight of strong water of ammonia, whereby a transparent mass is obtained, which becomes fluid after keeping some little time without the use of hot water. In three or four weeks the mixture is perfectly liquid, and, when applied, it will be found to soften the rubber. As soon as the ammonia evaporates the rubber hardens again—it is said, quite firmly—and thus becomes impervious both to gases and to liquids. For cementing sheet rubber, or rubber material in any shape, to metal, glass, and other smooth surfaces, the cement is highly recommended.

(6571) R. J. C. says: Can you inform me how to restore crushed and bent feathers, also directions for cleansing them? A. To restore when feathers are bent and out of curl, they should be exposed to steam, or else put in boiling water for one minute, when they should be taken out and laid in temperate water for some time. For directions for cleaning feathers see our "Scientific American Cyclopaedia of Receipts, Notes and Queries."

TO INVENTORS.

An experience of nearly fifty 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 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 2, 1895, AND EACH BEARING THAT DATE.

(See note at end of list about copies of these patents.)

Table listing inventions and their patent numbers. Includes items like Advertising device, Aerial navigation, Agricultural implements, Air compressor, Album support, Amido base and colors therefrom, Annunciator, Arm support, Automatic register, Automobile sprinkler, Axle lubricator, Band cutter and feeder, Banjo, Basin waste stop, Bath cabinet, Bathtub fixture, Battery, Bearing shaft, Bed, Bed spring, Bell call, Berth, Bicycle case, Bill holder, Boiler, Boiler furnace, Bolting cloth brush, Book, Book machine, Boot or shoe, Bottle stopping machine, Bottle support, Bottle valve stopper, Bougie, Bracket, Brake, Brake lever, Bridge gate, Bridge gate, Bride, Brushes, Bucket, Bucket, Building, Building, Camera, Can capping machine, Cannon valve, Car attachment, Car brake, Car brake, Car coupling, Car coupling, Car coupling, Car door movement, Car draught rigging, Car fender, Car fender, Car operating mechanism, Cars, Cars, Carriage, Cartridge case, Cartridge case, Cartridge case, Cash register and indicator, Check case, Check pad, Churn, Churn, Churn, Churn, Clay, Clothes drier, Clutch driving device for motors, Clutch, Coal, Cock, Collar, Collar, Combining machine, Commutator brush, Concrete on inclined surfaces, Conveyor for tamping materials, Cooler, Corn breaker, Corrugating machine, Cotton gin, Cots, Coupling, Crushing and grinding mill, Cultivator, Cultivator, Currycomb, Curtain, Cutter, Cutting tool, Dental bridgework, Dental chair attachment, Derailing switch, Deak and seat, Door and banger, Door, Door, Drill, Drilling tool, Drying frame, Dye, Dye, Dyeing machine, Ear muff, Eaves trough hanger, Electric circuits, Electric machine, Electric wire joint, Electrical conductors, Electrolytic process, Elevator door, Elevators, Embalming instrument, Engine.