

RECENTLY PATENTED INVENTIONS.

Engineering.

FEED WATER HEATER AND PURIFIER.—Daniel M. Robinson, Bay City, Mich. This is an apparatus to be incased in the flue or masonry of an ordinary boiler to utilize the waste heat for heating the feed water.

Railway Appliances.

CAR AXLE BOX LUBRICATOR.—James S. Patten, Baltimore, Md. This is an improvement in formerly patented inventions of the same inventor which have been subjected to practical use on cars in ordinary service.

CAR DOOR.—William E. Hoyt, Ravenswood, West Va. This inventor has devised improved means for supporting and manipulating the flush side doors of ordinary freight cars.

Electrical.

DOOR OPENER.—John Schneider, Long Island City, N. Y. This is an improvement on a former patented invention of the same inventor for a simple and durable electric door opener.

ELECTRIC LAMP HANGER.—David Aitchison, Easton, Pa. This improvement is more especially designed for use with incandescent lamps, permitting of conveniently raising or lowering the lamp or moving it sidewise as desired.

Mechanical.

SAW.—Henry J. Frederick, Brainerd, Minn. This is an improvement in buck saws, fret saws, and other saws having frames, by which the operator may quickly give at any time the desired tension to the sawblade.

SIDING CUTTER AND GAGE.—Thomas W. Purdy, Link, Ohio. Among devices employed in laying siding boards on buildings, this invention presents a strong and easily operated device.

Agricultural.

COTTON PLANTER.—Morse P. Scott, Woodville, Miss. According to this improvement the seed box and furrow opener may, by means of a simple hand lever, be conveniently elevated or depressed to provide for shallow or deep planting.

COTTON CHOPPER.—This is an additional improvement of the same inventor, providing means whereby superfluous plants may be chopped from the rows and the rows simultaneously cultivated.

Miscellaneous.

Vault Cash Indicator.—Samuel R. Hamilton, Farmersville, Texas. This is a device for indicating the amount of money, commercial articles, etc., in a safe or vault.

indicating the amount of money, commercial articles, etc., in a safe or vault. It has a casing which may be conveniently placed upon a desk, safe, etc., in L-shaped in form, and comprises a series of casings, in the vertical portions of which are arranged slide blocks bearing on their faces numerals, one above the other, which are made to appear in openings in the front of the casing as the block is moved up or down.

HOSE COUPLING.—Joseph S. Blackburn, Salem, Ohio. This is an improvement on a formerly patented invention of the same inventor, to adapt the coupling to hose of large sizes and dispense with some features, reducing the cost.

NOTE.—Copies of any of the above patents will be furnished by Munn & Co., for 25 cents each. Please send name of the patentee, title of invention, and date of this paper.

NEW BOOKS AND PUBLICATIONS.

CELLULOSE. An outline of the chemistry of the structural elements of plants with reference to their natural history and industrial uses. By Cross and Bevan. London and New York: Longmans, Green & Company. 1895. Pp. vi., 320. Price \$4.

In the present day of wood pulp factories and vulcanized fiber goods, a work on cellulose, the basis of all manufactures of this type, seems peculiarly timely. The book under review is a treatise on the chemistry and microscopy of the subject.

THE VENTILATION OF MINES. By J. T. Beard. First edition. New York: John Wiley & Sons. 1894. Pp. xiii, 170. Price \$2.50. No index.

It is refreshing to find so clear and good a treatise written by an American author, and forming a work adapted for those operating American mines. Heretofore, by some fatality, many of the mining engineering books of the day have been published in England, and have been written from the insular standpoint that an Englishman excels in accentuating.

ON INDIA'S FRONTIER; OR, NEPAL, THE GURKHAS' MYSTERIOUS LAND. By Henry Ballantine. New York: J. Selwin Tait & Sons. Pp. 192. Price \$2.50.

This attractive work, with its numerous illustrations, describes travels in India in a very graphic way. Readers of Rudyard Kipling will remember his admiration for the Gurkha soldiers. In this we hear something of their land, with numerous illustrations of buildings and people of the country, and have, besides, a most interesting and readable book.

TRANSACTIONS OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS. Volume XV. 1894. New York City: Published by the Society. Pp. 1359.

The size of this volume, its absolutely model index and the general make-up of the volume, are three things that alone are highly creditable to the society publishing it. The matter contained in the papers is of great value to the profession, and the volume itself must be read to obtain an idea of the wealth of material to be found between its covers.

DER BRUCKENBAU IN DEN VEREINIGTEN STAATEN AMERIKAS. Von Professor W. Ritter. Zurich: Albert Raustein. 1895. Pp. 66. 12 plates and 60 figures. Price \$1.50.

The report of the Swiss delegate to the Columbian Exhibition of 1893 is based on a three months' journey in the United States, as the most valuable information regarding our bridges could not be found at the Exhibition itself, but had to be collected at the bridges. The author principally points out what is new relative to the bridges built in Europe.

RATIONAL BUILDING. Being a translation of the article "Construction," in the Dictionnaire Raisonné de l'Architecture Française of M. Eugene-Emmanuel Viollet-le-Duc. By George Martin Huss, architect. New York and London: Macmillan & Company. 1895. Pp. xii, 367. Price \$3.

M. Viollet-le-Duc's works have attained a wide popularity. We find in this treatise on architecture a most elegant example of book making, containing very numerous illustrations introduced in the text. The eminently philosophical treatment of the subject is perceptible throughout, it is evident even from the type of illustrations used, which, by the use of perspective or isometric projection, are made to give a better representation than usual of the exact appearance and construction of the more complicated forms, such as groined arches, clustered arches and general construction.

THE SNOW-CHURCH COMPANY'S LEGAL AND BANKING YEAR BOOK FOR BANKERS, LAWYERS, AND THE BUSINESS PUBLIC. 1895. Collection laws revised to January 1, 1895. New York: The Snow-Church Surety Company. Pp. 1261.

This extensive work, covering, in a general way, the laws affecting banking and collecting business, is a thorough production, and one which can be warmly recommended to the profession. When it is realized that it contains far over 1,000 pages of fine type touching on the laws of all North America, it will be seen that it is not possible to give it an adequate review.

CORTINA METHOD. Intended for use in schools, etc., and for self-study. French in twenty lessons, with a system of articulation, based on English equivalents, for acquiring a correct pronunciation. By R. D. De la Cortina, M.A. Revised by Professor J. Leroux, Professor of Modern Languages at the United States Naval Academy. Book First. New York: R. D. Cortina. 1895. Pp. x, 108. Price 50 cents.

SCIENTIFIC AMERICAN BUILDING EDITION.

MAY, 1895.—(No. 115.)

TABLE OF CONTENTS.

- 1. Plate in colors, showing a residence at Glen Ridge, N. J., recently erected for W. T. Taliaferro, Esq. Perspective elevation and floor plans. A fine example in the Colonial style. Mr. Chas. E. Miller, architect, New York.
2. Perspective elevation and floor plans of a cottage at Tenafly, N. J., erected for Chas. Vogt, Esq., at a cost of \$5,800 complete. Mr. W. L. Stoddart, architect, New York. An attractive design.
3. A dwelling at Kennebunkport, Me. Three perspective elevations and floor plans. A most picturesque residence, with many artistic features. Mr. Henry P. Clark, architect, Boston, Mass.
4. A log cabin chapel recently erected at Black Rock, Conn. Perspective elevation and ground plan. Mr. Bruce Price, architect, New York.
5. A cottage at Park-Hill-on-Hudson, N. Y., recently erected for Geo. L. Rose, Esq., at a cost of \$12,000 complete. Two perspective elevations and floor plans. Mr. A. F. Leicht, architect, New York. A well executed design, showing many excellent features.
6. A house at Orange, N. J., recently completed for Thomas L. Smith, Esq. Messrs. Child & De Goll, architects, New York. A pleasing design in the Colonial style.
7. The Youkers Public School, No. 8, at Bronxville, N. Y. A good example of school architecture.
8. A dwelling of modern design, recently erected for M. Strong, Esq., at Montclair, N. J. Two perspective elevations and floor plans. Cost complete, \$6,000. Mr. Christopher Myers, architect, New York.
9. A house at Indiana, Pa. Perspective elevation and floor plans. Cost complete \$3,100. Architect, Mr. E. M. Lockard, Indiana, Pa. An attractive design in the Colonial style.
10. A very attractive residence at Montclair, N. J., erected for Frederick S. Gage, Esq. Perspective elevation and floor plans. Mr. E. R. North, architect, Montclair, N. J.
11. View of Capistrano Station, California.
12. Design for a fireplace.
13. The brick power station of the Brooklyn City Railroad Company.
14. Miscellaneous Contents: A State park in the Catskill Mountains.—To prevent the slamming of screen doors, illustrated.—Quarrying by means of fire.—A new lawn sprinkler, illustrated.—Art in metal tile roofing, illustrated.—An improved hot water heater, illustrated.—A macadamized road through swampy land.—Tinners' hardware and roofers' supplies.—Screen doors, illustrated.—Stair finishing, illustrated.—A hoist for use over hatchways, illustrated.—Ventilating the school room.—Gas burning range, illustrated.

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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 30 cents each. Books referred to promptly supplied on receipt of price. Minerals sent for examination should be distinctly marked or labeled.

(6506) W. T. says: Would you please advise me how to treat cow's horns to soften them so they can be pressed in different shapes and then become hard again? A. The bony core of the horn is first removed; the next process is to cut off with a saw the tip of the horn, that is, the whole of its solid part, which is used by the cutlers for knife handles and sundry other purposes. The remainder of the horn is left entire, or is sawn across into lengths, according to the use to which it is destined. Next it is immersed in boiling water for half an hour, by which it is softened, and while hot is held in the flame of a coal or wood fire; taking care to bring the inside as well as the outside of the horn, if from an old animal, in contact with the blaze. It is kept there till it acquires the temperature of molten lead or thereabout, and in consequence becomes very soft. In this state it is slit lengthwise by a strong pointed knife like a pruning knife, and by means of two pairs of pincers, applied one to each edge of the slit, the cylinder is opened nearly flat. The degree of compression is regulated by the use to which the horn is afterward to be put. When it is intended for leaves of lanterns, the pressure is to be sufficiently strong (in the language of the workmen) to break the grain, by which is meant separating in a slight degree the laminae of which it is composed, so as to allow the round-pointed knife to be introduced between them, in order to effect a complete separation. For combs the plates of horn should be pressed as little as possible, so that the teeth may not split at the points. They are shaped chiefly by means of rasps and scrapers of various forms, after having been roughed out by a hatchet or saw; the teeth are cut by a double saw fixed in a back, the two plates being set to different depths, so that the first cuts the teeth only half way down, and is followed by the other, which cuts the whole length; the teeth are then finished and pointed by triangular rasps. Horn for knife handles is sawn into blanks, slit, pared, and partially shaped; then heated in water and pressed between dies. It is afterward scraped, buffed, and polished.

(6507) J. R. J. says: What is known as the best or surest remedy to remove freckles from the face? A. Hydrarg. bichlor. . . . . gr. xii. Acid hydrochlor. pure . . . . . dr. iii. Fruct. amygd. amar. . . . . oz. i. Glycerini, Price's. . . . . oz. i. Tinct. benzoïn. . . . . dr. ii. Aqua flor. aurant. . . . . q. s.

Dissolve the corrosive sublimate in 3 ounces of the orange flower water, add the hydrochloric acid, and set aside. Blanch the bitter almonds, and bruise them in a Wedgwood mortar, adding thereto the glycerine and using the pestle vigorously; a smooth paste is thus obtained. Then add gradually about 9 ounces of the orange flower water, stirring constantly, continuing this operation until a fine, creamy emulsion is the result. Subject this to violent agitation—preferably with the aid of a mechanical egg whisk—and allow the tincture of benzoïn to fall into it the while drop by drop. Then add the mercurial solution, filter, and make up the whole to the measure of 1 imperial pint with more orange flower water. This preparation is recommended by an eminent dermatologist as being invariably efficacious in the treat

