

RECENTLY PATENTED INVENTIONS.

Engineering.

STEAM GENERATOR.—Charles W. Van-derburgh, Seattle, Wash. This generator has at its base...

COAL DUMP.—Joseph J. Lane, Nelsonville, Ohio. This device is especially designed for unloading coal or ore cars...

DUMPING SCOW.—William Fallon, New York City. This is an improvement on a formerly patented invention of the same inventor...

BRAKE.—Francis D. Verran, Republic, Mich. For cars used in mines working on inclined planes this brake is especially adapted...

Railway Appliances.

TIE PLATE.—Walter H. Wilson, New York City. This plate has longitudinal ribs on its upper surface, and guards for the rail-securing spikes...

SWITCH.—William C. Dillman, Brooklyn, N. Y. Two patents have been granted this inventor for an extremely simple switch and switch-working mechanism...

RAIL JOINT.—Dr. Miles O. Perkins, Galveston, Texas. According to this improvement the base plate, seated under the meeting ends of two rails, is made with inwardly projecting flanges...

Electrical.

ELECTROLYTICAL APPARATUS.—Oscar Knofler, Charlottenburg, Germany. According to this invention a series of electrodes consist of an insulating frame and of separate conducting plates...

ELECTRIC BELT.—William E. J. Lawlor, Portland, Oregon. This belt is tubular, inclosing a series of batteries linked together, webbing being secured to the inner surface of the belt at the rear...

Agricultural.

HAY RAKE AND LOADER.—Peter M. Thompson, Anaconda, Montana. In this machine the teeth accommodate themselves to undulating ground, and may be readily raised and lowered...

carried upward, while a hood over the upper portion of the machine will guide large masses of hay over the top of the elevator.

THRASHING MACHINE ATTACHMENT.—William L. Johnson and William L. Hay, Franklin, Tenn. An air blast stacking attachment has been devised by these inventors...

Miscellaneous.

PROCESS OF PURIFYING GLUE.—Peter Cooper Hewitt, New York City. This invention provides a simple, inexpensive and effective method of removing impurities from glue...

DISINFECTING DEVICE.—Salomon and Emil Taussig, New York City. This is a portable device to disinfect places where there are contaminating exhalations...

SAWHORSE.—Charles D. Snell, Oxford, Me. In this horse the log to be sawed is supported by conical rollers of different inclinations...

LUBRICATOR FOR JOURNALS.—Pan-kratiz Knauer, Elizabeth, N. J. This inventor has devised a novel arrangement of spring-supported disks whereby a single series of disks is disposed directly beneath the journal...

SALIVA PUMP.—Allison R. Lawshe, Trenton, N. J. This is an apparatus for the use of doctors and dentists, for the removal of saliva from a patient's mouth while undergoing treatment...

CLAMP.—Alta M. Cole, Asheville, N. C. This is a device more especially designed for the use of engravers, to hold plates, brushes, mirrors, and other articles to be engraved...

HEATER.—John McLoughlin, Boston, Mass. This heater is preferably arranged as a fireplace, and is designed to use gas. The fire box in front of a hot air chamber has blocks of clay and asbestos to represent fuel...

SASH LOCK, LIFT AND BALANCE.—Onslow K. Gardner, Pittsburg, Pa. This invention is an improvement in such locks operating in connection with a rack attached to the side of a window frame...

HOOK AND EYE.—Frederick W. Wall, Fort Worth, Tex. Each member of this hook and eye is made of a continuous piece of wire doubled on itself to form a base part and a return part...

"VICTOR" WASHING MACHINE.—Thomas Bunker, Weeping Water, Neb. This machine has a corrugated bottom and removable corrugated sides, in connection with a simple collapsible and expandible rack...

HOT WATER BAG THERMOMETER.—Henry Weinhagen, Hoboken, N. J., and Ferdinand King, New York City. According to this invention the hot water bag is made with a tubular projection or pocket at one side leading into the interior of the bag...

Notre.—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.

TRANSACTIONS OF THE AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS. Vol. X. New York City: Published by the Institute. 1893. Pp. x, 719.

This large, closely printed volume, to a certain extent, produces a depressing effect, as showing the immense activity now existing in the electrical field...

L'ALUMINUM, LE MANGANESE, LE BARYUM, LE STRONTIUM, LE CALCIUM ET LE MAGNESIUM. A. Lejeal. Introduction par M. U. Le Verrier. Paris: Librairie J. B. Bailliere et Fils. 1894. Pp. 348. Price \$1.

This work is mainly devoted to one metal, aluminum, but the author has gone beyond this subject, and has added to aluminum, its treatment, and metallurgy...

SCIENTIFIC AMERICAN BUILDING EDITION.

JULY, 1894.—(No. 105.)

TABLE OF CONTENTS.

- 1. An elegant plate in colors showing a half stone and half frame summer cottage erected at a cost of \$4,500. Perspective views and floor plans. Mr. H. Howard, architect, New York City. An attractive design.
2. Plate in colors showing a Queen Anne dwelling at Melrose, Pa., recently erected for W. H. Miller, Esq. Perspective elevation and floor plans. Cost \$8,500. Mr. A. M. Walkup, architect, Philadelphia, Pa.
3. Full page engraving of Nonsuch Palace.
4. A half-timbered house at Rosemont, Pa., recently erected for John H. Converse, Esq., at a cost of \$11,000. Perspective elevation and floor plans. Mr. T. P. Chandler, Jr., architect, Philadelphia, Pa. A handsome design.
5. Engravings and floor plans of a cottage at Jamaica, L. I., recently completed for B. S. Waters, Esq. A popular design of American style. Cost \$5,800 complete. Messrs. Daus & Osborne, architects, Brooklyn, N. Y.
6. Residence at Yonkers, N. Y., recently erected for Cheever N. Ely, Esq. Perspective elevations and floor plans. Mr. Augustus Howe, architect, New York. A pleasing design.
7. A dwelling at Hackensack, N. J., recently erected for Mrs. Maria Bogart. Perspective elevations and floor plans. Mr. W. L. Stoddard, architect, Tenafly, N. J. A model design.
8. A colonial cottage at Hartford, Conn., erected for W. F. Goody, Esq. An attractive design. Floor plans and perspective elevations. Cost \$4,750 complete. Mr. Henry D. Hooker, architect, New York City.
9. A residence at Edgewater, Ill., recently erected for G. F. Lange, Esq. Perspective elevations and floor plans. A pleasing design.
10. A residence at Bryn Mawr, Pa., recently erected for Prof. Herbert W. Smyth. Three perspective elevations and floor plans. Cost complete, \$6,500. Mr. J. C. Worthington, architect, Philadelphia, Pa.
11. A picturesque country cottage at Greenwich, Conn. Perspective elevations and floor plans. Messrs. A. H. Throp & W. S. Knowles, architects, New York City. An attractive design.
12. Design for a stairway.
13. Miscellaneous Contents: The passing of the carpet, illustrated.—Why not remodel the old home? Illustrated.—Mott's "Sunray" steam boiler, illustrated.—Modern brick machinery.—The "Ideal" sash pulley, illustrated.—Improved wood working machinery, illustrated.—Elevators for the New Commercial building, Philadelphia.—Architectural wood turning, illustrated.—The Beverage cooker, illustrated.—The Variety wood worker, illustrated.—The "Monarch" fireproof partition, illustrated.—View of the Hotel Phoenix, Winston, N. C.

The Scientific American Architects and Builders Edition is issued monthly. \$2.50 a year. Single copies, 25 cents. Forty large quarto pages, equal to about two hundred ordinary book pages; forming, practically, a large and splendid MAGAZINE OF ARCHITECTURE, richly adorned with elegant plates in colors and with fine engravings, illustrating the most interesting examples of Modern Architectural Construction and allied subjects.

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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

"U. S." metal polish. Indianapolis. Samples free.

Wanted—A sandblast machine for obscuring sheet glass. F. J. Riester, 29 Pearl Street, Buffalo, N. Y.

Distance Reading Thermometers.—See illus. advertisement, page 32. Ward & Doron, Rochester, N. Y.

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

Centrifugal Pumps for paper and pulp mills. Irrigating and sand pumping plants. Irvin Van Wie, Syracuse, N. Y.

Patent for Sale—Wire implement, useful in all fruit and agricultural sections. M. S. Moremen, Switzerland, Florida.

Emerson, Smith & Co., Ltd., Beaver Falls, Pa., will send Sawyer's Hand Book on Circulars and Band Saws free to any address.

Split Pulleys at Low prices, and of same strength and appearance as Whole Pulleys. Yocom & Son's Shafting Works, Drinker St., Philadelphia, Pa.

The Carter Pressure Water Filter and Purifier, for hotels, factories, etc. See illustrated adv., page 47. Field Force Pump Co., Lockport, N. Y.

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.

Competent persons who desire agencies for a new popular book, of ready sale, with handsome profit, may apply to Munn & Co., Scientific American office, 361 Broadway, New York.

Patent Electric Vice. What is claimed, is time saving. No turning of handle to bring jaws to the work, simply one sliding movement. Capital Mach. Tool Co., Auburn, N. Y.

"Coal Oil Johnny's" petroleum soap removes ink and grease from printers' and mechanics' hands. Unsurpassed also for toilet use. Used by U. S. government. Sold by M. Jenkins, 124 Warren Street, New York.



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.

(6164) E. B. T. asks: What is the best method of annealing toolsteel? A. Slow cooling of tool steel buried in hot ashes or lime from a full red heat is the approved way of annealing for ordinary use. For producing an extra soft steel for die sinkers and punch cutters' use, the steel is taken from the ash or lime bath just as the red heat has disappeared and plunged in water. This is called water annealing and makes the steel soft and suitable for delicate chiseling and engraving.

(6165) A. M. W. says: Will you please tell me how to make an inking pad for a rubber stamp? A. The following is said to be a cushion that will give color permanently. It consists of a box filled with an elastic composition, saturated with a suitable color. The cushion fulfills its purpose for years without being renewed, always contains sufficient moisture, which is drawn from the atmosphere, and continues to act as a color stamp cushion so long as a remnant of the mass or composition remains in the box or receptacle. This cushion or pad is too soft to be self-supporting, but should be held in a low, flat pan, and have a permanent cloth cover. The composition consists preferably of 1 part gelatine, 1 part water, 6 parts glycerine, and 6 parts coloring matter. A suitable black color can be made from the following materials: 1 part gelatine glue, 2 parts lampblack, aniline black, or a suitable quantity of logwood extract, 10 parts of glycerine, 1 part absolute alcohol, 2 parts water, 1 part Venetian soap, 1 part salicylic acid. For red, blue, or violet, 1 part gelatine glue, 2 parts aniline of desired color, 1 part absolute alcohol, 10 parts glycerine, 1 part Venetian soap, and 1 part salicylic acid.

(6166) J. T. V. says: Will you please tell me what kind of paint I can use on old developing trays? A. Use asphaltum varnish, or coat the bottom or sides of the wooden tray with

Table with 2 columns: Substance and Weight. Resin 1 part. Beeswax 2 " Paraffine 3 "

Melt the above first, warm the tray, and while hot apply composition with a brush.

(6167) S. W. R. asks where to get a very sensitive and not too expensive galvanometer. I have several catalogues from dealers, but the instruments are all very expensive. I require an extremely sensitive instrument, that is to say, I need an instrument that will detect extremely weak currents, but not costing more than \$12 to \$15. A. You can procure a galvanometer of this kind from dealers in electrical goods who advertise in our columns, or you can readily make a galvanometer of this kind. You will find directions in the SUPPLEMENT.

(6168) S. J. M. asks: 1. Will a telephone not using a battery work through one wire, having ground connection for return current, say a 1 mile line? A. Yes. 2. How can the zinc in a gravity bat-