



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 This is for our information and not for publication.

(10603) C. S. says: Kindly let me know what substance or combination of chemicals will change its appearance or color under the action of a current of electricity.

(10604) J. O. G. says: Are our battleships equipped with lightning rods? If so, in what way are they so equipped?

(10605) K. H. says: I have an iron-clad fan motor, formerly 220 volts. When I got the motor the armature windings were completely burned out.

(10606) L. M. C. asks for a formula for ox-gall soap for cleansing silk stuffs. A. To wash fine silk stuffs, such as piece goods, ribbons, etc., one cannot do better than employ a soap containing a certain amount of ox-gall, a product that is not surpassed, if indeed it have an equal, for the purpose.

(10607) J. W. asks for a varnish for tin boxes. A. In 75 parts of alcohol dissolve 15 parts of shellac, 2 parts of Venice turpentine, and 8 of sandarac.

(10608) P. J. D. asks for a formula for bookbinders' varnish. A. In 90 parts by weight of alcohol dissolve 12 parts of Venice turpentine and 30 parts, also by weight, of shellac of light yellowish shade.

NEW BOOKS, ETC.

ENGINEERING IN THE UNITED STATES. A Report to the Electors to the Gartside Scholarships on the Results of a Tour in the United States in 1904-05. By Frank Foster. Manchester, England: The University Press. 8vo.; cloth; 114 pages.

A report on American engineering methods written from the English standpoint by a "Gartside Scholar" of the University of Manchester.

SANITARY CONSTRUCTION IN BUILDING. Edited by Paul N. Hasluck. With numerous engravings and diagrams. Philadelphia: David McKay. 16mo.; cloth; 160 pages. Price, \$1.

A comprehensive, clearly written treatise on Sanitary Construction as applied to building. It contains instruction in various questions that have to be met by those who are doing construction work.

MODERN MILLING MACHINES. Their Design, Construction, and Working. A handbook for practical men and engineering students. By Joseph G. Horner. With 269 illustrations. New York: The Norman W. Henley Publishing Company. 8vo.; cloth; 304 pages. Price, \$4.

Milling machines have become highly specialized and the work of milling is now subdivided between different groups of workmen, according to its difficulty, so that no apology is necessary for work which treats of but this single department of machine-shop practice.

TOOLS FOR MACHINISTS AND WOODWORKERS. Including Modern Instruments of Measurement. By Joseph G. Horner. Illustrated with 456 engravings. New York: The Norman W. Henley Publishing Company. 8vo.; cloth; 340 pages. Price, \$3.50.

An account of the tools commonly used by engineers and woodworkers, written chiefly from the standpoint of the men who use them, and who wish to understand the principles underlying the forms in which these tools are found.

MORTARS, PLASTERS, STUCCOS, ARTIFICIAL MARBLES, CONCRETES, PORTLAND CEMENTS AND COMPOSITIONS. Prepared, compiled, and edited by Fred. T. Hodgson. Profusely illustrated. Chicago: F. J. Drake & Co. 12mo.; cloth; 520 pages. Price, \$1.50.

A practical treatise on the various kinds of cements, taking up their use from the period of mixing through all the various stages to the production of the finished building.

STRAY CURRENTS FROM ELECTRIC RAILWAYS. By Dr. Carl Michalke. Translated and edited by Otis Allen Kenyon. New York: The McGraw Publishing Company. 12mo.; cloth; 101 pages. Price, \$1.50.

The electrolysis of pipes and other metallic objects due to leakage of electric currents is a serious problem. A great deal has been written about it in different technical periodicals, but never before has information on the subject been placed in such form so as to be readily accessible.

CYCLOPEDIA OF AMERICAN AGRICULTURE. A Popular Survey of Agricultural Conditions, Practices, and Ideals in the United States and Canada. Edited by L. H. Bailey. In four volumes. Vol. I, Farms. With 100 full-page plates and more than 2,000 illustrations in the text. New York: The Macmillan Company. Quarto; cloth; 618 pages. Price, \$5.

The "Cyclopedia of American Agriculture" was announced several years ago, but unavoidable delays kept back its publication until this year. It collects and presents the most significant facts and opinions now current with respect to agriculture, rather than pointing out new, and perhaps untried, ways.

CASSELL'S CARPENTRY AND JOINERY. Comprising Notes on Materials, Processes, Principles and Practice. Including about 1,800 engravings and 12 plates. Edited by Paul N. Hasluck. Philadelphia: David McKay. 8vo.; cloth; 567 pages. Price, \$3.

An exhaustive practical work on handicrafts, from which theory has been excluded, except where it was necessary for the explanation of some method or process. Although the work is written mainly to meet the needs of those actually practising carpentry and joinery, students preparing for examinations will find this a textbook of great importance.

TELEGRAPH SECONDARY CELL INSTALLATIONS. A Practical Work on the Charging and Management of Accumulators. By Arthur Crotch. London: Guilbert Pitman. 12mo.; cloth; 178 pages; 100 illustrations. Price, \$1.

The installation and maintenance of secondary cells require the knowledge of many principles far beyond those of telegraphy. This volume contains directions on generators, measuring apparatus, charging arrangements, care of secondary cells, and the use of the gas engine, so that the ordinary operator could easily fit himself in the details of battery management by studying its pages.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Issued for the Week Ending August 27, 1907.

AND EACH BEARING THAT DATE

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

Table listing inventions with patent numbers and dates. Includes items like Acid, concentrating nitric, Wolfenstein & Boeters; Air brake, J. B. Wright; Air compressor, hydraulic, J. E. Nash; Air cooled engine, N. E. Harris; Air coupling, F. C. Peabody; Air modifying apparatus, F. White; Air ship, C. McCormick; Air wheel, H. A. Lockwood; Alarm, T. H. Troland; Album, G. A. Jaeger; Ammonium nitrate, production of, E. R. Caspari, et al.; Anchor, guy, L. N. Stewart; Anchor, guy, E. W. Swarthout; Annunciator, F. Sialer; Apparel, wearing, B. P. Neff; Atomizer, T. A. De Vibbiss; Bag, See Feed bag; Bath room for apartment houses, extension, P. G. ...; Bearing for centrifugal separators, spindle, W. Jorgensen; Bearing, roller, E. J. Edwards; Bedstead, E. Blacknell; Bedstead attachment, adjustable, E. M. Car...

Table listing inventions with patent numbers and dates. Includes items like Chime, H. Gibbs; Chimney cowl, T. B. Samuel; Chuck, drill, Morgan & Porter; Chuck for use on hammer rock drills, drill, Stephens & McGrath; Chute, coal, J. Campbell; Cigarette packing machine, Pollard & Behrman; Clock, A. H. Hadley; Cloisonne designs, making decorative, T. Pfister; Cloth drier, E. A. Thornton; Clothes line holder, Fitzhugh & Lovelace; Clover huller stemmer, L. E. Snyder; Clutch mechanism, fluid, F. M. Brown; Coal, ore, and the like, machinery for handling, J. Campbell; Coll. r., W. O. Pierce; Collar, adjustable horse, H. A. Newby; Collar fastening means, W. O. Pierce; Collar scraping machines, propelling roller for, J. Leitschub; Combination engine, W. H. Thompson, Jr.; Combination lock, N. Tobias; Combing machine, T. O'Connell; Combing machine, E. H. Rooney; Combustion apparatus, continuous, E. P. Noyes; Compass, mariner's, J. Keane; Concrete block machine, Schock & Mattes; Concrete curb and other structures, metal nosing for, H. H. Wainwright; Concrete, machine for mixing materials for, W. H. Peters; Condenser cleaner, steam, C. Mild; Controlling mechanism, H. W. Cheney; Conveyor grating, F. Brunotte; Conveying and mixing apparatus, L. K. Davis; Conveying and mixing machine, L. K. Davis; Cooking utensils, heat distributor for, A. B. Cruickshank; Cooler, S. L. Joyner, Jr.; Cork cutting machine, F. Schaumburg; Corn huskers, self-feeder for, O. C. Moore; Corn husking machine, F. J. Fitzpatrick; Corn picker, A. J. Brass; Cotton chopper, B. Lancaster; Counting machine, McTammany & Wright; Couplings device, W. J. King; Cranberry separator, L. A. ayden; Crusher, T. L. & T. J. Sturtevant; Cultivator and harrow, B. E. Huguley; Cultivator and thinner, cotton, G. H. Power; Cultivator beam attachment, W. H. Barham; Cultivator guide, R. M. Jones; Culvert, metallic, C. E. Wintrose; Currents, rectifying and interrupting alternating, O. Rothenstein; Curtain fixture, S. F. Estell; Cutlery, table, W. H. Smith; Cutter head, rotary, E. Haber; Cutting machine receiver, A. Allen; Cutting mechanism, W. S. Luckett; Dam or dike construction for riprap, wing, D. Neale; Dashboard holder, J. W. Yochem; Deborner cutter or knife, calf, Zoeller & Hodge; Dental filling, J. Hood; Dental plugger, G. H. Shinn; Dial, H. C. Ingraham; Diamond holder, Strong & Paige; Digger, See Potato-digger; Display rack, B. Szczys; Distilling apparatus, H. A. Mackie; Door, J. A. Benisch; Door, barn, S. Schooley; Door lock, F. Muschenheim; Door, rotary, J. B. Drucker; Doubling and twisting machine roll, Macfarlane & Ferenbach; Draft attachment for agricultural implements, J. Eddy; Draft equalizer, J. Miller; Drawing instrument, J. Degen; Drying and counting mechanism, G. W. Swift, Jr.; Drying frame, threau, J. Knott; Drill, C. H. Phillips; Drip pan, E. C. Reiter; Driving box brass, C. Mark; Driving gear control, W. H. Douglas; Drum and cymbal beater, combined, Volkwein & Quinn; Dye and making same, sulfur, W. Herzberg; Dyeing establishments, horse for, J. Knott; Egg poaching pan, W. J. Graham; Electric cable and wire, device for pulling, D. H. Garber; Electric reciprocating device, J. D. Rubin; Electric resistance bodies, production of, F. Bolling; Electric switch, J. J. Ross; Electric wire conduits, machine for making tubular, A. P. Hinksy; Electrical cut-out switch, W. H. Ringwood; End gate, A. Roberts; Engine sparking plug, gas, Thomas & Bolinski; Engine testing device, explosive, H. C. Estep; Engraving machine, pantographic, C. Kuehner; Excavating machine, G. J. Miller; Exercising apparatus, R. E. Patterson; Explosive engine, J. Palmer; Explosive engine, J. J. Leary; Fan and turbine engine, centrifugal, L. J. Wing; Fan, ceiling, A. Rosenberg; Fan, turbine, L. J. Wing; Fatty matter, manufacture of easily emulsifiable, E. Werner; Feed bag, K. H. Cressman; Feed cutter attachment, L. E. Rice; Fence post base, W. B. Woodruff; Fiber, vegetable, B. S. Summers; Fibrous material, retting or degumming, C. R. Rogers; Filter, water, J. S. Tollefson; Filtering apparatus, D. J. Kelly; Fire escape, J. Bowen; Fire escape, T. G. Howes, et al.; Fire escape, C. H. Redman; Fire extinguisher, J. H. Brown; Firearm, J. M. Browning; Fireproofing device, O. Kahnweiler; Fishing line caster, F. J. Bennett; Floor finishing apparatus, N. D. S. K. Beck; Flour bolting machine, M. C. & I. C. Landes; Fluid gage, M. Martin, reissue; Fluid pressure system, S. B. Stewart, Jr.; Folding rack, Roman & Barry; Fruit picker, E. Gier; Fuel, manufacturing artificial, Foreman & Thornton; Furnace attachment, Moler & Moser; Furnace door frame, L. H. Knox; Furnaces, water cooled door for, L. L. Knox; Furniture and analogous structure, B. F. Hull; Game trap, automatic, M. Shelton; Garment hanger, E. O. Felthous; Garment supporter, A. M. Ziegler; Garment supporting clasp, J. F. Atwood; Gas burner, B. L. Noyes; Gas burner, G. S. Andrews; Gas burner, oil, Dyer & Elliott; Gas cut-off, automatic, Fairbanks & Rice; Gas engine, C. H. Morgan; Gas furnace installation, H. Koppers; Gas generators, hood for discharge pipes of, Davis; Gas machine, acetylene, W. A. Wallace, et al.; Gasket, H. E. Grey; Gasoline engine, L. Wotting; Gate, See End-gate; Gear, power transmitting, G. G. Talmage; Gear, variable speed and reversing, D. S. Flvey; Gearing, reversing and speed changing, G. Talmage; Gearing, variable speed, Esom & Biggs; Glass working furnace, M. Lillron & Irwin; Grain distributor, N. C. Heckman;