

NEW BOOKS, ETC.

ALTERNATING CURRENT MACHINERY. By William Esty, S.B., M.A. Chicago: American School of Correspondence, 1905. 8vo.; pp. 432.

The prevailing impression among men who have obtained their electrical knowledge from practice, that one must be a college graduate to be able to understand a book on alternating currents, is in most cases not far from the truth. Very few books on this important subject use simple mathematical proofs. Calculus is largely used except in such books as make it a special point to avoid this advanced subject. But these books can hardly claim to be any simpler mathematically, because the algebraic and trigonometric problems introduced are usually of the most involved character. Mr. Esty in the present work has carried the simplification a long step further by avoiding mathematics as far as possible, and where impossible, using such simple reasoning as will be clear to anyone acquainted only with the rudiments of algebra, geometry, and trigonometry. The special aim of the book is to explain first the physical theory, second the application, behavior, and operation, and third the structural details of the various apparatus. The usual tests and the calculations based on them are also explained. The volume has been prepared particularly for use by the American School of Correspondence, and, therefore, contains many examples which help to fix the matter in the student's mind.

ELECTRICAL INSTRUMENTS AND TESTING. By Norman H. Schneider, New York: Spon & Chamberlain, 1905. 12mo.; pp. 199. Price, \$1.

This book describes in simple language the apparatus and formulas used in tests in the daily work of the engine room, power house, or technical school. The galvanometers, voltmeters, ammeters, rheostats, Wheatstone bridge, potentiometer, portable testing sets, etc., are described in very simple language, and the simplest formulas for their use are given. The book also has a number of tables giving the resistance of copper wire, and the increase of resistance with temperature, the natural tangents of angles, voltmeter readings and resistance tests, etc.

THE POTATO. By Samuel Fraser, Assistant Agronomist, Cornell University. New York: Orange Judd Company, 1905. 12mo.; pp. 200. Price, 75 cents.

This book is a manual for the potato grower. While the practical side of potato culture has been emphasized, much scientific information of value has also been included. The author has drawn a vast amount of information from the American Agricultural Experiment Station Reports of the past fifteen years, and also from data obtained from Europe. The author himself has had a wide experience in potato culture, both commercially and experimentally, in Great Britain and America. Among the subjects discussed are Soils; Rotation of Crops; Manuring and Fertilizing; Consideration of Seeds; Varieties; Planting; Management of the Growing Crop; Obstructions to Growth and Development; Sprays and Spraying; Harvesting; Storing; Production, Transportation, and Markets, and the Chemical Composition and Food Value. The book is illustrated with over fifty cuts, and there is no doubt that it will be found extremely valuable to the potato grower.

INDEX OF INVENTIONS For which Letters Patent of the United States were Issued for the Week Ending May 2, 1905

AND EACH BEARING THAT DATE [See note at end of list about copies of these patents.]

Table listing inventions with names and dates, including Adling machine, Addressing machine, Adhesive and making same, Adjustable chair, Air brake apparatus, Air brake system, Anemometer, Anchor bolt, Ash pan, Atomizer, Auger, Autographic register, Automobile controlling means, Automobile driving gear, Automobile spring seat, Awning, Axle, Bagging machine, Ball-making machine, Balance, Bales, Baling press, Band sawing knife, Band saw, Bath cabinet, Bearing, Beds, Bedclothes holder, Bedstead, Beer cooler, Belt clasp, Beverage dispensing apparatus, Bicycle supplemental seat attachment, Bill holder, Billiard cue, Binder, Binder, temporary, Binder, temporary, Boats, Boiler, Boiler, H. L. Des Anges, Boiler, G. Olson

Wood-working Machinery For fitting, cross-cutting, notching, grooving, boring, scroll-sawing, edge moulding, mortising; for working wood in any manner. Send for catalogue A. The Seneca Falls M'fg Co., 95 Water St., Seneca Falls, N. Y.

ENGINE & FOOT LATHES TOOLS & SUPPLIES SEBASTIAN LATHÉ CO. CINCINNATI, O.

Veeder Counters to register reciprocating movements or revolutions. Cut full size. Booklet Free VEEDER MFG. CO. Hartford, Conn.

THE ELECTRICAL AGE 25 Cents a Copy The Best Electrical Paper Published THE ELECTRICAL AGE 3 West 29th Street, New York

THE "LEADER" 11 H.P. Gasoline Auto Marine Engine Built like a watch. Beautifully finished. Accurately constructed. Light, strong, reliable and noiseless in operation. Suitable for launches from 15 to 18 ft in length. Price complete, \$150.00 net, as discount. Thoroughly guaranteed. Perfect Speed Control. Complete descriptive catalogue upon application. MANUFACTURED BY CLAUDE SINTZ, 92 S. Front St., Grand Rapids, Mich.

THE OBER LATHES For Turning Axe, Adze, Pick, Sledge, Hatchet, Hammer, Auger, File, Knife and Chisel Handles, Whiffletrees, Yokes, Spokes, Porch Spindles, Stair Bannisters Table and Chair Legs and other irregular work. Send for Circular A The Ober Mfg. Co., 10 Bell St., Chagrin Falls, O., U.S.A.

CLEAR VIEW Acetylene Search Light for Small Yachts, Launches and Pleasure Boats of all kinds. Generates its own gas. Projects a powerful light. Entirely automatic. Indispensable for night boating; making landings; detecting obstructions; locating buoys and penetrating fog, etc. WRITE FOR CATALOGUE. AMERICAN ACETYLENE STOVE CO., 536 Masonic Temple, MINNEAPOLIS, MINN.

HOW TO MAKE AN ELECTRICAL Furnace for Amateur's Use.—The utilization of 110 volt electric circuit for small furnace work. By N. M. Hopkins. This valuable article is accompanied by detailed working drawings on a large scale, and the furnace can be made by any amateur who is versed in the use of tools. This article is contained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 1182. Price 10 cents. For sale by MUNN & Co., 361 Broadway, New York City, or by any bookseller or newsdealer.

A GOOD INVESTMENT For \$1.75 we will send by express (not prepaid), complete N. D. outfit with full instructions for learning TELEGRAPH OPERATING. A fascinating study that will enable you to earn good wages. Send for our catalogue. Established 1879. J. H. BENNETT & Co., Inc. 29 Park Place New York

The Right Kind of a Motor on land or water. Salisbury Double Cylinder Motor 4 1/2 x 5. Water Jacket Cylinders and Head, Aluminum Crank Case, Self-Oiling, Nickel Steel Valves, forged Steel Shafts. Saltatory Motors are Reliable. Prices moderate. Send for Catalogue. BUFFALO ENGINE CO., Mrs. 272-274 Michigan St., Buffalo, N. Y.

WORK SHOPS of Wood and Metal Workers, without steam power, equipped with BARNES' FOOT POWER MACHINERY allow lower bids on jobs, and give greater profit on the work. Machines sent on trial if desired. Catalog Free. W. F. & JOHN BARNES CO. Established 1872. 1999 RUBY ST. ROCKFORD, ILL.

THE WATERBURY Emery Grinder, with adjustable table, for flat surface grinding and finishing, and for ordinary tool grinding. Send for Catalogue. BLAKE & JOHNSON P. O. BOX 7, WATERBURY, CONN

Do You Use Chucks? If so our catalogue will interest you. Sent free. New styles. New sizes. Liberal discounts. THE CUSHMAN CHUCK WORKS Chucks Exclusively Hartford, Conn.

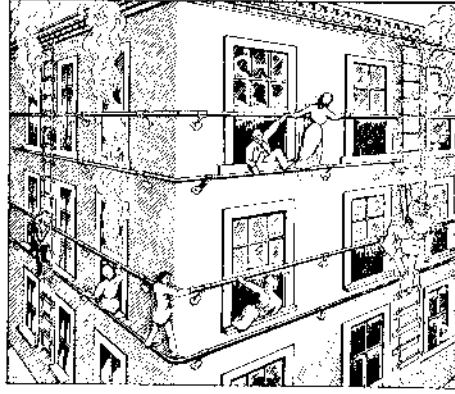
Table listing various mechanical parts and tools with prices, including Bolt, Book, Boring machine, Bottle, Bottle holder, Bottle, non-refillable, Bottle, non-refillable, Bottle, non-refillable, Bottle stopper, Bottle washing machine, Boxes, machine for attaching fabrics to, Bracket, T. Smith, reissue, Brake beam, E. Pesson, Brake head, F. Sargent, Brake operating mechanism, vehicle, J. L. Peacock, Brake shoe, W. M. Simpson, Brake shoe, H. H. Wright, Brake shoe, F. Sargent, Branding apparatus, A. McLeod, Brick machine, E. W. Rider, Bronze or other metal plates, manufacturing, Chp. Oeser, reissue, Brush, bristle fastener, C. E. Flemming, Brushes, manufacture of, W. Herbert, Jr., Bucket, elevator, G. Nikel, Buckle, back band, W. R. Medaris, Building block molding machine, J. W. Shone, Building construction, E. G. Perrot, Building construction, O. Price, Building construction bracket, F. Meyer, Bung and tapping device for use therewith, beer, C. A. Gildemeyer, Bung for fermenting vessels, W. Laux, Bunsen burner, H. P. Mielienhausen, Burr, J. Naser, reissue, Butter into bricks, machine for forming, W. H. & A. Y. Neack, Button and loop therefor, Howe & Spehr, Cabinet, hunter's, Parsley & Shea, Cable haul, J. L. Wagner, Calendar, W. Zaehring, Can. See Milk can, Candy machine, A. J. McPann, Cane or crutch attachment, A. Kunkel, Car, J. R. Bowling, Car coupling, safety, W. D. Worthington, Car door, W. J. Cocklin, Car door, railway, Ingoldsby & Bowling, Car lighting system, electric, Apperson & Kohler, Car, low side gondola, G. I. King, reissue, Car side, J. R. Bowling, Car starter, Smith & Griffin, Car transmission or body bolster, railway, J. C. Wands, Car wheel, C. W. Sherman, Carving machine, F. N. Pitts, Carpenter's bracket, J. G. W. & C. S. Grieves, Carpenter's sledge, W. H. Vroeland, Carriage seat and couch, combined, J. W. Angel, Carriage top former, J. P. Shipman, Carrier, E. C. Leonardson, Carts, double gear for, D. Giberson, Carving machine bit, S. F. Anderson, Case hardening, C. Lamargese, Cash slip and refunding voucher, combined, B. E. Seymour, Jr., Casting apparatus, E. A. Uehling, Casting metals, machine for making sand molds for, H. E. Primmore, Castings, core for making hollow, T. H. Springston, Celery digger, L. M. Yale, Chain, carrier, W. Douglass, Channeling machine, A. A. Ahlquist, Chemical engine, W. B. Donnell, Chlorates and perchlorates, manufacture of, M. Couleru, Chuck, O. M. Mowat, Chute, H. H. Porter, Jr., Cigar, O. Denker, Cigar branding machine, P. Gebhard, Cigar cutter, J. W. Hileman, Cigar cutter and receptacle, combined, G. Nilsen, Cigarette paper holder, M. P. Casterline, Clamp, F. Margraff, Clasp pin, L. C. Seng, Clock, electric striking, U. L. Collins, Clock or watch movement, G. Sgherlino, Clock, stop, L. Witte, Clock synchronizing system, H. W. Piageon, Clothes pin, F. H. Perry, Clothes pin, wire, E. W. & R. L. Ball, Clothing table, C. J. Stafford, Clutch for power transmission, friction, W. E. Andree, Clutch, friction, O. Ohlsson, Clutch, friction, P. Medart, Clutch, safety, A. A. Ambler, Coal bin, turret, C. C. Collette, Coffee mill, W. J. Bussinger, Coffin or casket, C. D. Crandal, Coin counter, J. M. Johnson, Coin holder, Trahan & O'Brien, Coke, producing compressed, A. D. Shrewsbury, Concrete building block mold, C. G. Cenger, Concrete track construction, H. B. Nichols, Conduit adjustable outlet-box, interior, W. F. Bossert, Conveyor, Peters & Hungerford, Conveyor tube, A. A. Smith, Copper sulfate, making, A. L. Walker, Copying bath, W. A. Murray, Corn husker, L. Holland-Letz, Corset, J. Lindauer, Corset, apparel, D. Kops, Corset-stay, J. E. Doolittle, Cotton, compressing, S. J. Webb, Cotton gin, G. A. Lowry, Cotton picking machine, J. F. Appleby, Counter or desk, shop or other, M. Greenfield, Counter, point, C. Z. Ellis, Coupling device, H. Ammann, Crib, bed, or the like, folding, D. Frank, Crimping machine, C. B. McDonald, Cultivator, two-row, F. E. Pearson, Curtain drapery clamp, M. E. Kniveton, Curtain hanger, C. McDonner, Cutter head, Shelburne & Buettner, Cutter head, W. A. Williams, Dam, W. L. Church, Dental scraper, J. W. Ivory, Dentist's excavating bur, W. Homann, Detachable handle for brooms, mops, etc., M. Hartman, Digger. See Celery digger, Diseases, apparatus for the treatment of certain, A. H. Pohl, Disinfecting apparatus, C. J. Walz, Display apparatus, electric, E. L. Zalinski, Display rack, R. E. Nelsen, Display rack, H. Burt, Ditching machine, W. Unstead, Door holder, H. B. Sargent, Door releaser and starter, G. Wildeman, Door sealer, C. E. & F. M. Earhart, Door, warehouse, J. Erwood, Doors or the like, means for locking folding, F. Bohne, Dough raising apparatus, J. G. Simpson, Doughnut cutter, A. E. Baum, Drainage and vent fitting, sanitary, F. Walker, Drawer handle, H. Bersig, Dredger, C. Dellmann, Drill support, adjustable, C. I. Eddy, Drying, grinding, and screening apparatus, L. Rissmuller, Dust collectors, separating pocket for, A. C. Brantingham, Dust pan, S. J. & L. Corner, Dye, azo, Julius & Fussenegger, Ear ring, Hill & Doyal, Electric circuit establishing means, G. Thompson, Electric current safety device, M. G. 789,082, Electric heater, H. M. Hill, Electric meter and power transmitter, O. R. Van Vechten

The Fay & Bowen Motor won in three events in the Palm Beach Races in February.

It was a winner in the Marblehead Races last July. No crank required to start it. Speed regulation perfect. A reliable, simple, powerful engine. Send for catalogue of Motors and complete Motor Boats.

Fay & Bowen Engine Co. 80 Lake St., Geneva, N. Y., U. S. A.

SAFETY IN CASE OF FIRE In all hotels, hospitals, asylums, theatres, churches, schools, factories and all public buildings, as well as private residences, is doubly assured when these structures are equipped with the



Each room and window is provided with a safe and permanent means of egress, avoiding the rushing through smoky or burning halls and corridors and consequent dangers to life and limb. Any number of people can escape easily and quickly by the new method. Best and most economical fire escape system ever devised. For circulars and full particulars, address

COVERT FIRE ESCAPE CO., TROY, N. Y.

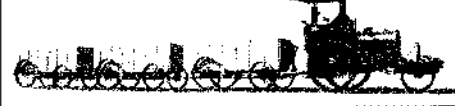
THE LOCKE ADDER NOW EVERYBODY CAN HAVE AN ADDING MACHINE. Its operation is so simple that a child can use it. It is the only machine of its kind that is so simple and so accurate. Write for free booklet. Agents wanted. C. E. Locke & Co. 85 Walnut St., Kenosha, Wis.

THE ELECTRICAL AGE 25 Cents a Copy The Best Electrical Paper Published THE ELECTRICAL AGE 3 West 29th Street, New York

\$95.00 Buys our Fishing Launch Equipped with our celebrated 1/4 H.P. motors. Known over the world as the "Bull Pup." Complete catalog of engines for asking. FAIRFIELD MOTOR WORKS, Fairfield, Conn.

STEAM TURBINES.—THEIR CONSTRUCTION, Operation and Commercial Application. SCIENTIFIC AMERICAN SUPPLEMENTS 1306, 1307, 1308, 1422, 1400, 1447, 1370, 1372. The articles have all been prepared by experts in steam engineering. Price 10 cents each, by mail. MUNN & Co., 361 Broadway, New York City, and all newsdealers.

Road Freighting Traction Engines



Over 200 in use on Pacific Coast alone. Siberia, Spain, India, Central America, Sandwich Islands have them. Engines 110 Horse-power. Wood, Coal, or Oil burning. Hauls 50 tons, takes grades 5 to 25 per cent. Capacity each car 16 tons.

THE BEST MFG. COMPANY San Leandro, California

Igniter Dynamos For all classes of GAS ENGINES for make and break or jump spark systems. Our latest type price \$15. Write for circular of magnetos, etc. THE CARLISLE & FINCH CO. 233 E. Clifton Ave. Cincinnati, O.

PATENTS Our Hand Book on Patents, Trade-Marks, etc., sent free. Patents procured through MUNN & Co. receive free notice in the SCIENTIFIC AMERICAN MUNN & CO., 361 Broadway, N. Y. BRANCH OFFICE: 625 F St., Washington, D.C.