

NEW BOOKS, ETC.

ANIMATED PICTURES. By C. Francis Jenkins. Washington, 1898. Pp. 118. Price \$2.50.

The volume before us deals with the development of moving photography and is written by an inventor of a successful machine. His advice on the technical aspect of the subject is very valuable, and there is no doubt it will be interesting to many photographers.

THE BUTTERFLY BOOK. A Popular Guide to a Knowledge of the Butterflies of North America. By W. J. Holland. New York: Doubleday & McClure Company, 1898. Pp. 382. Price \$3.

The time has arrived when thoroughly scientific books, especially books on natural history, with proper plates and illustrations, can be sold at a price which puts them within the reach of even the scientific student, whose purse is proverbially small.

OUR NAVY IN THE WAR WITH SPAIN. By John R. Spears. New York: Charles Scribner's Sons, 1898. Pp. 406. Over 100 illustrations. Price \$2.

This very timely and interesting work really forms the fifth volume of the author's well known "History of Our Navy," with which it agrees in general style of text and illustrations.

THE PRACTICAL COMPOUNDING OF OILS, TALLOW, AND GREASE FOR LUBRICATION, ETC. By an Expert Oil Refiner. London: Scott, Greenwood & Company. New York: D. Van Nostrand Company, 1898. Pp. 96. Price \$3.50.

A practical work by a practical man is always of standard value. The volume before us treats comprehensively the subject of hydrocarbon oils, animal and fish oils, compound oils, vegetable oils, lamp oils, machinery greases, etc.

THE SPEED LATHE. By A. G. Compton and James A. De Groodt. New York: John Wiley & Sons, 1898. 12mo. Pp. 134. 99 illustrations. Price \$1.50.

The book before us is the first of a series of three on advanced metal work, giving lessons of the speed lathe, engine lathe, and planing machine, for the use of technical schools, manual training schools, and amateurs.

A New Edition of "Liquors and Preserves" Now Ready.

We have just printed a new edition of De Brevans' "Manufacture of Liquors and Preserves." This will doubtless be welcomed by some of our readers, as the former edition was entirely exhausted and some of our customers were only able to obtain copies at a considerable advance on the published price.

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. C. E. Sentum & Co., Christiania, Norway, Mfrs. Agts. Gasoline Brazing Forge, Turner Brass Works, Chicago. Yankee Notions. Waterbury Button Co., Waterbury, Ct. Handle & Spoke Mch. Ober Lathe Co., Chagrin Falls, O.

Grease Can patent noticed on page 108 of this issue for sale. Address inventor, Alden Crocheron, 206 N. 2d West St., Salt Lake City, Utah.

The celebrated "Hornsby-Akroyd" Patent Safety Oil Engine is built by the De La Vergne Refrigerating Machine Company. Foot of East 13th Street, New York.

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.

Send for new and complete catalogue of Scientific and other books for sale by Munn & Co., 361 Broadway New York. Free on application.

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.

(7594) F. S. G. asks: How many feet of No. 18 bare iron wire (B. & S. gage) will it take to make a core 11 inches long and 1 inch in diameter? Core to be used in an induction coil. A. There are several ways of solving this problem, which we give to show others as well as you how to help themselves.

(7595) W. W. D. writes: I recently magnetized an ordinary black steel pin (the head having been removed) by rubbing it on a lodestone. I am greatly puzzled by the behavior of a compass needle when the magnetized pin is brought near to it.

(7596) G. W. F. asks: 1. What kind of steel is used in the manufacture of permanent magnets? A. The best tool steel should be used. 2. To what extent hardened or tempered? A. Hardened glass hard at the ends, by heating end red hot and plunging into water.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted FEBRUARY 7, 1899.

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

Table listing inventions with names and patent numbers. Includes items like Abdominal bandage, Aerial flying machine, Advertising device, Air brake hose coupling, Air compressing apparatus, Amalgamating apparatus, Animal trap, Assay furnace, Auger, post hole, L. L. Dunbar, Awning operating device, J. J. Reimer, Axle box and lid, C. A. C. McCord (reissue), Axle car, W. C. Davis, Baby's band, A. A. Davies, Bag, See Bath bag, Fruit picker's bag, Mail bag, Bale reducing and pad forming machine, E. J. Stewart, Ball press, J. J. Schultz, Bar for jails, etc., R. C. & W. A. Stewart, Barrel, knock down, E. Walton, Basket making machine, W. Jackson, Bath bag, S. B. Kabinweiser, Bat leabitter, portable, B. C. Williams, Battery, See Electrical battery, Bearing, adjustable, C. N. Dutton, Bed, A. E. Jacobson, Bedstead rail corner connection, E. J. Barcale, Bell bicycle, C. G. Hutchinson, Belt shifter, J. H. Ferguson, Belt, wast, H. J. Gaisman, Bicycle, N. M. Barnes, Bicycle, Ennis & Ross, Bicycle, H. E. Henwood, Bicycle brake, H. Darby, Bicycle chainless gearing, C. W. Hamilton, Bicycle chain, J. Kecker, Bicycle handle bar, adjustable, J. M. Blashfield, Bicycle parcel carrier, Liley & Hennies, Bicycle saddle, J. A. Hunt, Bicycle saddle, W. N. Moore, Bicycle saddle, W. H. Young, Bicycle skid, J. Kecker, Bicycle support, H. T. Sayer, Bicycle supporter, H. Vander Weyde, Binder, temporary, C. T. Rosenthal, Blind fastener, E. Fraeger, Board, See Scaffolding board, Boat elevator, canal, T. G. Hoeh, Boiler, See Steam boiler, Boiler, P. J. Keene, Boiler brace, H. L. Wilson, Boiler water gage, steam, W. P. Phillips, Bolt, See Shutter bolt, Book, manual, G. E. B. Stretch, Box, See Case, Box covering machines, paper cut off for, I. Dreyfuss, Bottle, mullage, H. A. Crosby, Bottle, non-rehizable, J. W. Harbin, Brake, See Bicycle brake, Car brake, Vehicle brake, Brake beam, F. B. Aglar, Brake handle cover, Ramey & Mitschow, Brake operating apparatus, electric, H. S. Graber, Brush handle, E. M. Hewson, Brush, mechanical, R. A. Campbell, Bucket, well, H. Nohsey, Building, portable, E. E. Dunbar, Bung and tap, barrel, K. F. Burke, Burner, See Gas burner, Bushing, barrel tap, E. M. Hewson, Button, button fastener, R. A. Hall, Button and button fastener, Ketchum & Varney, Cabinet, combination kitchen, A. D. Palmer, Cabinet, label, Knappenberger & Barnes, Calibrating apparatus, W. T. Powers, Calibrating machine, M. J. Whitlock, Camera, See Slide, E. B. Barker, Can head cutting and shaping die, B. W. Merfoot, Can heading machine, M. A. Wheaton, Can opener, A. E. Hadley, Can opening implement, N. Anderson, Can shell, R. B. Bamard, Car, B. Wallace, Car brake, railway, J. H. Lee, Car coupling, P. J. Lee, Car coupling, T. Whaley, Car fender, street, B. E. Cutler, Car, motor, E. M. Bixton, Car, sleeping, H. C. Haskins, Car, stock, J. T. Jackson, Car windows, roller screen for, T. E. Barr, Case, See Display case, Cash register, G. V. Hill, Cashier's check, cement & Bassett, Cask, F. Schraudner, Casting and apparatus therefor, art of, J. K. Griffith, Casting armor plates and mould therefor, Beardmore & Holden, Casting gear wheels, obill mould for, J. H. Miller, Cement, making casein, T. A. Haynes, Chair, See Dental chair, Disappearing chair, Chain cover and gear casing, revolving, F. Myers, Circuit breaker and closer, A. T. Hill, Circuit breaker, automatic magnetic, W. M. Scott, Clamp, See Textile clamp, Vine clamp, Clothes rack, G. B. Shepherd, Clothes reel adjusting device, L. Mayer, Coal leading apparatus, J. L. Lamb, Coal, raising, F. P. Phillips, Cook-pot and waste, C. M. Jarrett, Colter cleaning device, F. L. Lamphere, Commutator cleaner, J. T. Morrow, Conduit for wires or cables, E. H. Callaway, Corn husker and feed cutter, P. Rupp, Corset, J. C. Andrews, Cotton gin, E. R. Barber, Coupling, See Air brake hose coupling, Car coupling, Thill coupling, Cover, vessel, Day & Johnson, Crane, electric, W. R. & J. Thomas, Crane, E. W. Gragert, Crate, collapsible, W. Shadinger, Crown loop, M. J. Chilstad, Crutch, R. Schwarting, Cuitivator, J. B. Dunston, Cuitivator, double row, J. Jarvis, Curtain pole, I. Paul, Cutting machine, oval, L. Marchand, Cycle mud and dress guard, combing, R. W. Heardsen, Dental chair, F. Ritter, Dental chair, button box, S. Kirkwood, Dinitro-naphthalene and making same, Product from, M. H. Isler, Disappearing chair, Eran & Hook, Display case, M. Levit, Discharge and grading machine, E. Zielke, Door holder, W. T. Adams, Door lock, safety, C. H. Corey, Drawer, I. M. Kelly, Drilling machine, R. Binnie, Dust collector, C. Robken, Dye and making same, blue-black azo, R. Tagger, Dye and making same, bluish, O. Bally, Dye and making same, green black, O. Bally, Electric machine brush holder, dynamo, G. S. Dunn, Electric meters, prepayment mechanism for, J. Kinney, Electric motor, O. H. & A. F. Pieper, Electric motor, rotating, W. P. Freeman, Electrical battery, L. Paget, Electrochronograph, C. W. Thompson, Elevator, See Boat elevator, Measuring elevator, Elevator car safety brake, I. N. Rogers, Engine, See Gas engine, Piston impact engine, Rotary engine, Rotary internal combustion engine, Engine indicator, steam, J. C. Paige, Engines, cut off for portable or other, J. A. Bell, Envelop, H. E. Dyer, Evaporator, fruit, A. Berger, Excavating, caisson, W. H. Gabagan, Exercising machine, Lubben, Eye cup, F. Stephen, Eyeglasses, W. V. McGurn

Table listing inventions with names and patent numbers. Includes items like Fan motor, C. H. Von Hohenstein, Farm gate, M. M. Dungan, Feed gage, McCallum & Williams, Feed water regulator, automatic, A. E. Burrows, Fence, combined hedge and wire, J. W. Young, Fence machine, portable, T. J. Armstrong, Fence post, L. E. Waterbury, Fence, wire, A. H. Cook, Fence, wire, G. C. Metcalf, Fender, See Car fender, Fertilizers from gas, bag, making, B. Terne, File, document, A. C. Barber, Filter, J. F. Theurer, Filter strainer, J. W. Hyatt, Firearm, magazine, J. M. Browning, Fire cracker, J. R. Hinton, Fire escape, Watson & Stevenson, Fire extinguisher apparatus, C. E. Lombard, Fire extinguisher, chemical, W. M. Spera, Fire lighter, H. Recker, Fire sprinkler, automatic, L. A. Weston, Fireproof sectional chimney or stack, C. S. Doremus, Fish net, J. B. Bjornstrom, Flash light cartridge, J. E. Blackmore, Flour packing machine, C. B. Donaldson, Floor coverings, etc., composition for, J. Haverstick, Foot rest, adjustable, T. B. Coddle, Foot warmer, R. E. Kirkland, Freezing machine, H. A. Fleuss, Fruit picker's bag, J. Wilson, Funnel, Riedel & Grahl, Furnace, See Assay furnace, Furnace fuel gas burner, G. Groll, Furnace grate mounting, R. Galbraith, Furnaces, smoke and gas returning apparatus for, D. Goff, Furniture spring, F. J. Seng, Gage, See Boiler water gage, Feed gage, Rule Game board, A. W. Herald, Game box, H. F. Williams, Gas burner, acetylene, A. H. J. Schulte, Gas burner, electric hand lighting, H. C. Thomson, Gas engine, C. R. Alport, Gas generator apparatus, A. M. Nicholas, Gas generating apparatus, acetylene, L. De Ravel, Gas generator, acetylene, J. A. Deuther, Gas ignition apparatus, Martin & Deimel, Gas lighting, burner and pilot light for incandescent, F. Bartlett, Gas meter, actuated attachment, J. Zander, Gas reducing regulator, E. E. Murphy, Gearing generating machine, O. J. Beale, Gearing friction, F. Burr, Generator, See Gas generator, Steam generator, Glass in manufacturing glassware, machine for automatically gathering and delivering, W. F. Altenbaugh, Glass in manufacturing glassware, machine for gathering, A. M. Nicholas, Glass, process of and apparatus for manufacturing sheet, George & Shurtle, Glove, boxing, W. G. Wood, Glue applying machine, L. A. Halaburt, Gold and silver bearing solutions, filtering apparatus for separating, A. M. Nicholas, Gold washing pan, S. G. Stoodley, Grinding mill, A. F. Davis, Gun barrel, L. Petersen, Gun, breech, loading, W. S. Sims, Gun breech mechanism, W. S. Sims, Guns, percussion lock for breech loading, C. Pehlit, Hammer cushion coupling, trip, L. Mayer, Hammer, power, C. W. Fletcher, Hand held cover, J. Taylor, Harvester, tobacco, W. V. Oakley, Hay loader, H. J. Martin, Heater, See Car heater, Water heater, Heaters, regulating apparatus for steam, F. Tuor, Heating and ventilating pipe, B. J. Conlan, Heating systems, apparatus for preventing condensation of water hammering in circulating pipes of, J. L. Creveling, Hides, skins, or leather, machine for treating, J. Hall, Hinge, W. B. Arnold, Hinge for couches, beds, or adjustable chairs, A. Hutter, Hoop, See Annual, and Berger, Hoop trap, M. J. Phillips, Hoop, See Snap hook, Whiffletree hook, Hoops on oval casks or the like, machine for fixing, J. Leugering, Hose coupling guard, A. B. Quimby, Hose washer, H. D. Porter, Hydrocarbon vapor or gas, apparatus for washing, ington, Ice machine, H. F. Hodges, Incubator, H. M. & W. B. Sheer, Indicator, See Engine indicator, Medicine time indicator, Insect excluder for window sashes, T. E. Barr, Iron, See Smoothing or pressing box iron, Jack, See Repair and assembling jack, Key fastener, T. Craddock, Key seat cutting machine, M. & H. E. Merton, Knitting machine stop mechanism, F. Crawford, Label holder, J. W. Wallack, Lamp, electric arc, W. E. Dennis, Lamp, electric arc, T. E. Drehan, Lamp, electric arc, A. Schweitzer, Lamp, gasoline, J. W. Hile, Lamp, incandescent, A. Graetz, Lath, machine for making sheet metal, G. A. Ohl, Jr., Lathe, automatic, J. E. Clyne, Lathe tool, C. Fosby, Leading machine, H. F. Farnham, Ligature receptacle, J. W. Wallack, Lightning arrester, E. C. Parham, Liquids, separating substances in the state of suspension from, W. Rother, Loading apparatus, vessel, S. H. Bradford, Lock, See Padlock, Seal lock, Lock, A. D. Cruling, Lock, A. Miro, Loom, F. E. Arrouquier, Loom, E. Clavier, Lumber stacking truck, G. W. Soule, Mail bag, G. D. Shepard, Mail pouch, M. Hill, Measuring elevator, liquid, W. F. Harthan, Medicine time indicator, T. F. Handly, Metal cutting machine, C. Cretin, Metal wool, machine for manufacturing, S. Feust, Metals from their ores and apparatus therefor, extracting, J. J. Sheahan, Mill, See Grinding mill, Wire rod mill, Mixing machine, C. Fickelscheer, Motion, device for transmitting, Wagner & Searle, Motor, See Electric motor, Fan motor, Mower, lawn, E. L. Leland, Music holder and tuner, C. Yager, Needle, S. S. Roszell, Newspaper holder, J. Brulins, Nut lock, W. A. Usner, Nut lock, Hawley & Finley, Oils, purifying and refining, J. C. Henderson, Oyster tongs, W. L. Harper, Panel or grid, resistance, A. C. Dinkey, Paper boiler, W. D. Kilburn, Paper folder, R. Michle, Paper roll, H. Thatcher, Pavement, concrete, A. L. Johnson, Pen, fountain, S. D. Ball, Penholders, construction of reservoir, S. N. B. Westlake, Percussion tape and making same, I. M. Rose, Pessary, E. D. Gray, Photographic developer and process of developing, A. Bogensch, Pipe, See Heating and ventilating pipe, Piston impact engine, W. E. & E. F. Prall, Placket closer, A. S. Follansbee, Plow, A. H. Yarborough, Pole top, J. C. Hackett, Post, See Fence post, Post office depository, T. J. Crowder, Potato bug gatherer, M. M. Murden, Press, See Baling press, Printers' furniture, F. Wesel, Printing and numbering device, H. Nathan, Propeller, W. J. Carver, Propelling device, J. Holt, Pulley, sash, C. H. Ocumpaugh, Pulverizer, soil, E. E. Porter, Pump, combined submerged lifting and force, Williams & Gruening, Punching machine, P. F. Greenwood, Puzzle, J. S. Hanson, Puzzle, playing card, M. Johnson, Pyroxylimitation of mosaic and manufacturing same, E. F. Francis, Rack, See Clothes rack, Railway crossings, automatic electric signal for, U. J. Fry

(Continued on page 110)