

RECENTLY PATENTED INVENTIONS.

Agricultural Implements.

FERTILIZER-DISTRIBUTER AND PLANTER.—J. B. CROWDER, Talucah, Ala. The object of the present invention is to provide a device for distributing and depositing fertilizer beneath cotton seed, or other seed in one and the same operation with planting and at any suitable distance from two to five inches below the seed, so that the fertilizer will be placed where it will do the most good and will not be depreciated by evaporation, or be blown away by the wind or be chopped away by the hoed.

Electrical Devices.

VENTILATED MAGNET-COIL.—W. SPENCER, Jr., Schenectady, N. Y. An improvement in magnet coils is provided in this invention, the object being to provide a coil having an inner helix, thoroughly ventilated to prevent heating, and the inner and outer helices separated by air spaces for the same purpose. The greatest possible freedom of air circulation is allowed, not only between the inner and outer helices, but likewise between adjacent convolutions of the inner helix. The inner coil terminates somewhat inward of the ends of the outer helix. By this means the danger of grounding the inner helix by contact with the ends of the outer helix is avoided.

Engineering Improvements.

BOILER.—R. B. HOBSON, Pueblo, Colo. The invention relates to water tube steam boilers in which the tubes are arranged in such a manner that the greatest possible number of tubes are exposed to the first contact of the products of combustion from the furnace, thus dividing the extreme boiler duty among as large a number of pipes as can be gotten into juxtaposition with the furnace or firebox.

ROTAIRY ENGINE.—F. E. WOMER, Fairhaven, Wash. The present invention provides certain improvements in rotary engines whereby the construction is at the same time very simple and most efficient. The parts are so arranged as to require but a comparatively small amount of motive agent. The engine may be made compound or triple expansion by simply increasing the number of engines connected one with the other.

Medical Apparatus.

DIAPHRAGM METER AND EXERCISER.—J. E. RUEBSAM, Washington, D. C. It is the object of this invention to provide a simple apparatus for testing the strength of the diaphragm and also for use therapeutically in exercising it. The apparatus is so constructed that the force of expiration acts to propel a small carriage resting upon a horizontal and vertically adjustable support. This carriage is weighted to any degree required to give the desired gage or test of the strength of the diaphragm of the person using the apparatus.

WOUND-CLOSING DEVICE.—G. J. VAN SCHOTT, Passaic, N. J. An improved wound-closing device is herein provided which permits the surgeon or other person to quickly close up a superficial flesh wound without the use of plasters or resorting to sewing with needle and thread as heretofore generally practiced. The device consists of a flexible U-shaped clip with its ends projecting inwardly to form pins which engage the edges of the skin and firmly clamp them together.

Mechanical Devices.

PIVOT-GRINDING ATTACHMENT FOR JEWELERS' LATHES.—J. E. JACSON, Jackson, Tenn., and W. R. JACKSON, Franklin, Ky. This lathe attachment is used for grinding watch pivots to the desired size and shape. It is so constructed and applied to the lathe that a horizontal grinder reciprocates in contact with the watch pivot which is secured to and revolves with the head stock. The working position of the grinder may be changed to accommodate pivots of different sizes and so that there is no danger of breaking the pivot.

AMALGAMATOR.—W. F. BEDELL, Kaslo, Can. The improved amalgamator provided by this invention has a simple and durable construction and is very effective in operation. It is so arranged as to utilize the head of material and water to actuate the machine and to insure proper action of the mercury on the heavy valuable material, including flour gold, so that all the valuable material in the charge is completely saved and ready disposal is had of the tailings.

GAS-METER.—J. R. DUPOY, 36 Rue Guer-sant, Paris, France. In this improved meter an oscillating bell is divided into compartments of spiral form extending from the center at which the gas to be measured is admitted toward the periphery where the gas is delivered after measuring. The compartments are bound laterally by partitions having a spirally-curved surface, all the vertical sections of which form arcs of circles having for their center the point of oscillation of the bell. The arrangements of parts is such as to cause an oscillation of the bell when the gas enters the compartment, which oscillation operates the recording instrument.

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

Business and Personal Wants.

READ THIS COLUMN CAREFULLY.—You will find inquiries for certain classes of articles numbered in consecutive order. If you manufacture these goods write us at once and we will send you the name and address of the party desiring the information. In every case it is necessary to give the number of the inquiry. MUNN & CO.

Marine Iron Works. Chicago. Catalogue free.

Inquiry No. 3622.—For makers of tierces, hog-heads or barrels holding about 45 gallons.

For mining engines. J. S. Mundy, Newark, N. J.

Inquiry No. 3623.—For manufacturers of automatic egg boilers.

"C. S." Metal Polish. Indianapolis. Samples free.

Inquiry No. 3624.—For machinery for pressing straw into blocks for fuel purposes.

Coin-operated machines. Willard, 284 Clarkson St., Brooklyn.

Inquiry No. 3625.—For manufacturers of wood-sawing machinery.

Dies, stampings, specialties. L. B. Baker Mfg. Co., Racine, Wis.

Inquiry No. 3626.—For makers of brass tubes.

Sawmill machinery and outfits manufactured by the Lane Mfg. Co. Box 13, Montpelier, Vt.

Inquiry No. 3627.—For manufacturers of smoke consumers or fuel economizers.

Patented articles, principally of cast iron, made and introduced. Atlantic Foundry, Phillipsburg, N. J.

Inquiry No. 3628.—For makers of rope-transmission apparatus.

Let me sell your patent. I have buyers waiting. Charles A. Scott, Granite Building, Rochester, N. Y.

Inquiry No. 3629.—For manufacturers of copper and iron tanks.

Inventions developed and perfected. Designing and machine work. Garvin Machine Co., 149 Varick, cor. Spring Sts., N. Y.

Inquiry No. 3630.—For a machine for engraving name plates on caskets, etc.

Manufacturers of patent articles, dies, stamping tools, light machinery. Quadra Manufacturing Company, 18 South Canal Street, Chicago.

Inquiry No. 3631.—For manufacturers of family sewing machines as sold in department stores.

The largest manufacturer in the world of merry-go-rounds, shooting galleries and hand organs. For prices and terms write to C. W. Parker, Abilene, Kan.

Inquiry No. 3632.—For manufacturers of "Zylonite."

The celebrated "Hornby-Akroyd" Patent Safety Oil Engine is built by the De La Verne Refrigerating Machine Company. Foot of East 138th Street, New York.

Inquiry No. 3633.—For manufacturers of wooden napkin rings in large quantities.

Inventors wishing to sell their patents or to have them manufactured on royalty will find it to their interest to correspond with me.

J. C. Christen, Main and Dock Sts., St. Louis, Mo.

Inquiry No. 3634.—For manufacturers of photographic outfits of different sizes.

REPRESENTATIVES WANTED.—For "Good Roads Magazine," "Teller" and electrical periodicals. Powers Co., 150 Nassau Street, New York.

Inquiry No. 3635.—For parties to manufacture a flat, endless coil spring.

DR. A. ISBERT, technical office, Frankfurt-on-Main, Germany, established 1888, undertakes the sole sale of profitable special articles and novelties in the technical and chemical line for Germany; also the use of patents in the same line and the purchase of chemical and technical products.

Inquiry No. 3636.—For parties to make bicycle rims and tires to order.

Inventors and parties desiring to have patented articles manufactured please take notice:—An old established New England concern, with large experience in manufacturing and marketing specialties of different kinds, desires to obtain control of patented inventions of merit, and would either purchase same outright or manufacture on royalty. All communications will be considered strictly confidential, and we reserve the right to reject any or all inventions submitted. Address P. O. Box No. 316, Bridgeport, Conn.

Inquiry No. 3637.—For makers of celluloid, white rubber and waterproof paper rollers and cuffs.

WANTED.—To manufacture some simple tool or machine, the work of which can be done chiefly on an engine lathe. Geo. W. McKenzie, Wilmington, Mass.

Inquiry No. 3638.—For manufacturers of carpet-cleaning devices, compressed air preferred.

Inquiry No. 3639.—For dealers in hydraulic rams.

Inquiry No. 3640.—For makers of water wheels getting a great amount of power from low head of water.

Inquiry No. 3641.—For machinery for pressing briquettes.

Inquiry No. 3642.—For manufacturers of short-hand typewriters.

Inquiry No. 3643.—For the manufacturers of the "Arlington" rubber collar.

Inquiry No. 3644.—For makers of finished castings to build a small model locomotive.

Inquiry No. 3645.—For dealers in second-hand surveying instruments.

Inquiry No. 3646.—For manufacturers of glass ink bottles.

Inquiry No. 3647.—For parties to make small steam boilers for engines 1-16 to 1-2 h. p. from brass or copper.

Inquiry No. 3648.—For machinery for boring 3 and 4 inch holes in logs to depth of 16 feet.

Inquiry No. 3649.—For the manufacturers of the "Prize Holly Scroll Saw."

Inquiry No. 3650.—For makers of the very lightest engines possible, of 2 or 3 h. p., such as for aerial machines.

Inquiry No. 3651.—For wholesale dealers in underground insular earth.

Inquiry No. 3652.—For machinery for filtering new and old cider.

Inquiry No. 3653.—For makers of machines for making fish nets.

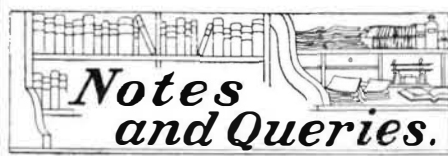
Inquiry No. 3654.—For machines for making ferrules used on wooden handles.

Inquiry No. 3655.—For parties to make small castings.

Inquiry No. 3656.—For makers of phosphorescent paint or ink.

Inquiry No. 3657.—For non-breakable glass milk bottles.

Inquiry No. 3658.—For manufacturers of laundry machinery and supplies.



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.

(8780) W. R. asks: What the different gases are which, if introduced into an enclosed arc lamp, will turn the color red, green, yellow, blue, etc. A. Colored electric lights are ordinarily produced by coating the globe with an aniline dye, made in alcoholic solution, and mixed with a little varnish. We do not know any gas which could withstand the heat of the arc for any time and which could color the arc. Some color can be imparted to the arc by soaking the carbons in solutions of sodium chloride, strontium chloride, or lithium chloride, and drying them thoroughly before using. The light of the arc itself is so intense that it is very difficult to overcome it with any other colored light.

(8781) L. R. B. writes: Last evening our cook set a dish of raw steak in the pantry near an open window; the steak was salted lightly with fine salt. Near morning, while it was still dark, I chanced to look into the pantry and saw a faint silver glow near the window, and upon investigation found it to be the dish of steak giving off a soft silvery light; but when I lighted a match the meat looked natural and all right. I then took the dish of meat to show to others of the household, and it continued to show its soft, silvery light. The steak was cooked for breakfast in the morning, and we all ate of it and could find nothing wrong with it. Can you explain the chemical or scientific reason for it? A. The beefsteak of which you write had become phosphorescent. Incipient decay had set in, and at a certain stage phosphorescence is frequently seen, both in vegetable and animal substances. It had not in this case advanced far enough to produce an odor of decay, and when the meat was cooked the bacteria were killed, and no harm resulted from eating the meat.

(8782) W. E. F. writes: Do you know of any cheap and safe process for breaking up very heavy castings, such as heavy cylinders with 8 to 12 inch thickness of metal? Would be glad to have you advise me if there is any other process than dynamite or nitroglycerine? A. The dynamite or nitroglycerine for breaking large castings is entirely too expensive and dangerous for practical use. The old large naval guns are broken by a heavy weight falling about 30 feet in most of the large foundries. This seems to be the cheapest method available.

(8783) E. M. B. asks how shellac and aniline black are mixed together, such as pattern makers use? A. Aniline black is entirely insoluble. The only way, therefore, to prepare such a mixture would be to dissolve the shellac in the usual manner for a shellac varnish, and then stir in thoroughly the very finely powdered aniline black.

(8784) W. D. L. asks for a recipe for the petrification of wood. A. The term petrification as applied to artificial treatment of wood is a misnomer. The natural process of petrification takes many centuries; the final product is completely mineral, every portion of the original wood having been replaced by mineral deposit, preserving however the form and structure of the primal wood. Artificial petrification consists in depositing some form of mineral matter in the pores of the wood, without removing any of the woody material itself; its object is to render the wood very dense, and resistant to both fire and decay. Paragraphs 1, 3, 4 and 5 under article "Preservation of Wood," in the "SCIENTIFIC AMERICAN Cyclopaedia of Receipts," are processes of petrification. Besides the chemicals there mentioned, wood is often treated with silicate of soda solution, followed by treatment with alum; this gives very good results.

(8785) M. W. asks: How large would an electro motor have to be to drive a ten-foot propeller making twelve hundred revolutions per minute and pumping as much air upward as possible? Also, how large would storage battery have to be to furnish the electricity, and how much would the motor and battery weigh? A. We can give only an approximate answer to your inquiry. That it will require a five-kilowatt motor, weighing about 800 pounds. The storage battery of about 40 cells of large size would weigh about 1,600 pounds.

NEW BOOKS, ETC.

A POPULAR HISTORY OF ASTRONOMY DURING THE NINETEENTH CENTURY. By Agnes M. Clerke. London: Adam & Charles Black. 1902. Pp. xv, 489. Price \$4.

The book which lies before us, and which has now passed to its fourth edition, is one of the most scholarly works on astronomical history which has appeared in England. The author presents her information attractively and scientifically. The illustrations have been carefully selected and do much to elucidate the text.

IN CITY TENTS. By Christine Terhune Herrick. New York and London: G. P. Putnam's Sons. 1902. 16mo. Pp. vii, 229. Price \$1.

The author has written an entertaining little book on the economy of a city household. She tells what she has to tell in a racy way that lends not a little interest to her work.

INDEX OF INVENTIONS

For which Letters Patent of the United States were issued for the Week Ending December 30, 1902,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]

Table listing various inventions and their patent numbers, including Accounting appliance, credit, P. A. McCaskey; Adding and listing machine, W. P. Shattuck; Advertising article, V. Kost; Agitating and separating articles, apparatus for, H. B. Arnold; Agricultural implement, D. Lubin; Agricultural machine, power operated, D. Lubin; Air brake setting device, track clearance for, F. L. Dodgson; Alternator, exciting, E. W. Rice, Jr.; Alternators, compounding, E. W. Rice, Jr.; Aluminium, purifying, E. L. Anderson; Amalgamating apparatus, J. J. Hill; Ammonium salt and making same, cobalt, H. A. Frash; Amusement apparatus, G. W. Schofield; Animal shears, H. Drysdale; Animal trap, W. C. Hooker; Annealing furnace, A. M. Hewlett; Annealing iron or steel castings, A. M. Hewlett; Arc light switchboard, E. M. Hewlett; Atomizer, Tolman & Jones; Automobile transmission frame, Milner & Lansden; Ball, See Golf ball; Ballot marker, T. C. Spelling; Band cutter and feeder, W. Mils; Barrel filler, K. Enzinger; Bathometer, E. J. Sjostrand; Bearing, adjustable, J. S. Heath; Bearings for wheels of agricultural machines, etc., Baseman & Heath; Beating engine, E. A. Jones; Bed attachment, G. Goode; Bedstead table, A. C. Schieding; Bevel and square, combined, T. C. Auringer; Bicycle prop, J. Rasmussen; Binder aprons, fastening means for, J. G. & A. Wangerin; Binder lock, detachable, J. A. Shepherd; Black plates or sheets, apparatus for making, C. W. Bray; Black plates or sheets, manufacture of, C. W. Bray; Blower, fireplace and grate, W. F. Lowry; Boat, submarine, S. Lake; Boiler corrugated furnace, steam, D. B. Morison; Boiler flues, tool for removing, F. E. Lyon; Bolster, body, Geer & Wisor; Book feed for casing-in machines, F. D. Taylor; Bottle, can, etc., tooth powder, H. B. Kent; Bottle holder, Schneider & Carlson; Bottle, non-refillable, R. E. Kabisch; Bottles, combined dauber and stopper for liquid dressing, C. S. Emmert; Bottles or similar vessels, closure device for, R. B. Yerby; Bottles, support for holding, W. E. Brown; Boxes, combined protector and opener for, E. W. Smith; Braiding machine, B. Kirsch; Brake mechanism, G. F. Brandau; Brake mechanism, fluid, W. H. Sauvage; Brake shoe, R. L. Brown; Brake shoe, R. L. Durbin; Branding iron, A. A. Phipps; Brick binder, venter, J. V. H. Jones; Brick cleaning machine, P. Harris; Bricks, interlocking, Choquet & Despature-Cousin; Brush, W. Morrison; Brush, fountain, H. P. McMillan; Bucket, Aspin & Erickson; Burner for burning coal oil, etc., W. L. Messfelder; Cabinet, kitchen, H. N. Lathrop; Cabinet or rack, running account hotel, E. L. Dodson; Cableways, automatic dumping device for, Delaney & Miller; Caffeine, making, B. R. Faunce; Calculating machine, D. J. T. Hiatt; Calculator, W. P. Shattuck; Calculator, T. Fregoso; Callipers, micrometer, F. Spaulding; Can opener, J. M. Nettles; Cans, machine for placing shields in, W. E. Demont; Canning apparatus, L. L. Lawrence; Car blocking and derailing machine, Kenyon & King; Car bolster and bearing, J. E. Norwood; Car brake mechanism, H. E. Putney; Car coupling, S. L. Trueblood; Car fender, street, W. Bilkowitz; Car replacer, A. R. Batchelder; Car sanding mechanism, N. Selbert; Car seat, M. N. Foney; Car seat, L. Janson; Car sleeping, J. E. Batterson; Car wheel, O. A. Cadmus; Carburator, J. P. Nagel; Carpet and weaving same, Persian, Panitsek & Ahorn; Carpet stretcher, J. Lawson; Carpet sweeper bearing, Shanahan & Mason; Carriage, child's, Whitmore & Tillinghast; Carrier, See Platform carrier; Casein compound, H. V. Dunham; Casein register, J. A. Oswald; Casting finished pinions or gear wheels, L. J. Crevelius; Cell box, collapsible, W. H. Ferguson; Chain hook, ornamental, J. H. Swift; Chain making machine, A. S. Standish; Chair, O. L. Ostendorf; Changer, J. Thompson; Chart, reading, O. E. Cone; Cheese cutter, E. Niggli.

(Continued on page 28.)