



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 This is for our information and not for publication.

(8903) C. A. B. asks for the chemical analysis of the so-called oil gas, that is, gas manufactured by the Patton or similar process.

Table with 3 columns: Specific gravity, Per Cent., Per Cent. Rows include Heavy hydrocarbon, Methane, Hydrogen, Carbon monoxide, Carbon dioxide, Oxygen, Nitrogen, Sulphur compounds.

The best book is Walter Hempel's "Methods of Gas Analysis," third edition, translated by L. M. Dennis. You will also find information as to the manufacture and uses of oil gas in our SUPPLEMENTS, Nos. 324, 783, 760, 886, 948, and 600; also SCIENTIFIC AMERICAN, No. 2, Vol. 79, and No. 7, Vol. 84.

(8904) F. G. B. asks what kind of driers can be used with tar paint to dry it in about two days and not affect glass and not crack.

(8905) F. K. S. asks for a formula for an aquarium cement for putting in glass. A. Melt together at a gentle heat 3 parts of linseed oil, 4 parts of tar and 16 parts of resin.

(8906) O. H. asks where the earth's center of gravity is. Supposing that a shaft goes through the earth's center, and a ball drops into it, where will the ball stop?

(8907) W. R. M. asks how to unite broken pieces of gold, silver or bronze articles with what the jewelers call hard solder. I would like to know the details of the process, and also how to make the solder.

(8908) J. R. C. asks what book he should buy to get the receipt for putting designs, etc., on glass, such as a photograph or a scene of any kind.

of vitriol, 100 parts ammonium fluoride and 100 parts of water. 3. Stir 1 part of oil of vitriol into 4 parts of water and allow to cool; then stir in enough finely powdered fluorspar to the consistency of milk.

(8909) D. P. S. asks for some chemical for etching the name or initials on such tools as calipers, scales, and squares, as through stamping they are generally sprung out of shape?

(8910) W. B. writes: Cayenne pepper put into rat-holes will at once clear premises of them. I have tried it in numbers of instances, and never knew it to fail.

(8911) C. E. H. asks: Kindly let me know what a slot magnet is, and also what is meant by compound winding.

(8912) D. O. asks: What is Cornish stone, and what kind of soda, that is, crystal of soda, to use in the glazes in the "Cyclopedia of Receipts," as I am working on them; the wholesale drug houses here, they tell me there are many kinds of soda and potash.

(8913) W. A. P. asks: 1. The best way to reduce a 220-volt circuit down to 110 volts, 15 amperes, capacity. A. You wish 15 amperes to flow with a drop of 110 volts in a 220-volt circuit.

(8914) B. B. asks: 1. How to avoid scratches on the glass when cleaning with ashes before silvering? A. If you would avoid scratches on glass, you should avoid the use of ashes in polishing it.

(8915) W. G. asks: Could you suggest anything that I could mix with coal dust so it could be used for family use? A. Coal dust is briquetted by mixing with coal tar or pitch, subjecting to strong pressure, and usually partially coking after pressure.

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

March 17, 1903, AND EACH BEARING THAT DATE. [See note at end of list about copies of these patents.]

Table listing inventions with patent numbers. Includes: Account sheet, R. G. Woodward; Acid and making same, benzylmethylamin-sulfonic, Levinstein & Muesching; Aerial apparatus, J. L. Gay; Agricultural machine, W. Y. Donahoe; Air brake, F. L. Gullemet; Air compressor, B. Gastal; Air compressor, M. W. Marsden; Air compressor, compound, G. W. Marsh; Air slip, F. A. Summers; Anthracene derivatives and making same, M. Kugel; Automatic lubricator, J. A. Swenson; Automobile propelling means, H. Leupp; Axle and journal box, divided car, W. P. Westcott, Jr.; Bag, See Laundry bag; Bait, artificial, C. C. Shaffer; Balance, spring, S. R. Munson; Banana shipping case, E. O. Pittenger; Bars or shoals, apparatus for removing, E. Bruce; Basket machine, C. G. Gueberg; Basket making machine, C. Gueberg; Bath and fever machine, F. V. Hall; Baths, rose for shower, W. Koeselberg; Bed, sofa, J. Maher; Bedstead and mattress, G. S. Heatley; Bedstead canopy support, turnback, I. E. Palmer; Bell ringing mechanism, electromagnetic, J. J. Sheahan; Binder, temporary, J. L. C. Montague; Bird trap, F. E. Allen; Blacking can, A. E. Sampson; Blocks or joints, subdividing, J. Seales; Boat, E. C. Rosenau; Bookbinder, G. S. Ring; Bookcase, folding, D. Scarborough; Bottle, P. J. Richardson; Bottle filling machine, L. Strobel; Bottle, non-refillable, Koorie & Turpanky; Bottle, non-refillable, F. A. Morko; Bottle, non-refillable, C. H. Pelton; Bottle, etc., stopper, H. Bouton; Bottle stopper, M. J. Conroy; Bottle stopper, G. F. Harding; Bottles, packing, A. Mauser; Brake, R. Saltsman; Brake applicable to motor cars, other railway vehicles, and revolving shafts generally, E. Wadley; Brake system, electric, C. E. Barry; Brick cutting machine, Raymond & Brown; Brick edge smoothing blade, W. Frey; Broiling meat or flesh of animals, etc., apparatus for, F. Rademacher; Broom handling tumbling board, C. H. Porter; Brush, E. T. Baskin; Brush holder, L. Landis; Bucket, garbage, E. C. Seaman; Bucket, grab, A. E. Brown; Building construction, J. G. Meyers; Burner. See Hydrocarbon burner; Button machine, automatic centering and drilling, N. G. Baker; Cableway system, F. H. Lamb; Calendar, F. C. W. Steiler; Calendar support, F. H. Smith; Can header, L. C. Sharp; Can press, F. Klaus; Candy dripping machine, E. F. W. Wieda; Cane, bleaching, Meyer & Besenbruch; Cane, magazine cap-exploding, Stanley & Howard; Capsule tubes, manufacture of, G. H. Paine; Car brake, railway, J. J. Kennedy; Car, burglar proof express, C. Fleischhauer; Car coupling, C. P. Bellows; Car door, J. Brown; Car life guard, tram, G. Geiger; Car, metallic, E. W. Summers; Car roof, C. W. Cress; Car side bearing, H. D. Laughlin; Card holder or file, E. W. Woodruff; Cash carrier and apparatus therefor, M. J. Robertson; Cement post mold, L. H. Stoner; Centrifugal machine, Macfarlane & Robertson; Chair, H. B. Morris; Chair book support, T. Donohue; Chimney block, H. N. Jasper; Cigar box, A. 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McIntyre; Corn or grain dump elevator, Hubbs & Hay; Cotton chopper and cultivator, combined, M. A. Beard; Counter, lunch, F. H. Secord; Counting mechanism, F. C. Rinsche; Crane, hoisting, W. E. Boden; Crane, overhead traveling, G. Mitchell; Cranes and derricks, chain block for overhead, A. L. Roberts; Cranes for preventing the overwinding hoist chains of, G. Mitchell; Crate corner strap, E. F. Gilbert; Crate or case, J. A. Taylor; Cross head, B. J. Reilly; Crupper shield, W. P. Burke; Cuff holder, F. A. Wernig; Cultivator, S. H. and D. Garst; Cultivator, G. L. Wallis; Currents, generating alternating, C. F. Steinmetz; Currents, rectifying alternating, E. Thomson; Curtain pole, D. R. Kinsell; Cutter head, F. Stutzman; Cutter head, rotary, M. W. Mattison; Cycle steering head, motor, C. F. Thoms; Decoy, H. S. Dills; Dental flask press, T. G. Lewis; Dentist's flask, A. S. Steigerwald; Desk clamp, A. R. Ferguson; Door check, S. N. Shank; Door, grab, M. C. Rowell; Door stop and holder, G. B. Thorpe; Dough mixing and raising machine, Allen & Moore;

Table listing inventions with patent numbers. Includes: Draft equalizer, M. Whiteside; Draft-rigging, A. Lipschutz; Draft sill, pressed metal, C. Shallerberger; Drawer, furniture, S. Shick; Dredge, hydraulic, J. Anderson; Drill, C. A. Wessman; Drilling machine anchoring device, I. Wantling; Driving apparatus, J. H. Ingoldisby; Driving mechanism, Otis & Coyle; Dust collector, G. M. Morse; Dye and making same, blue polyzolo, Levinstein & Muesching; Dye and making same, blue sulfur, R. Herz; Dye and making same, green anthracene, O. Bally; Earthenware, manufacture of, E. G. Acheson; Educational apparatus, L. S. Pratt; Electric control of devices at a distance, apparatus for, D. M. Moore; Electric machine frame, dynamo, H. Pfeifer; Electric socket and receptacle attachment, A. F. Hauss; Electrical testing apparatus, H. A. Lewis; Electrode frame, battery, H. Cottrell; Electrode, reversible galvanic battery, H. Cottrell; Elevator electrical appliance, J. H. 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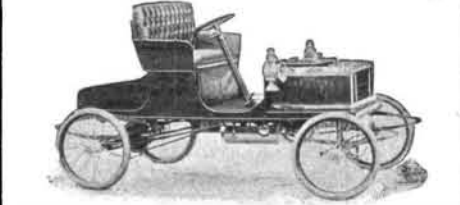
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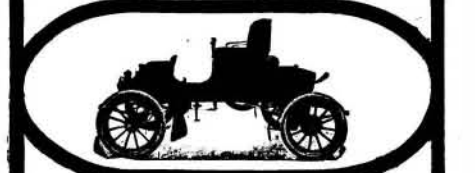
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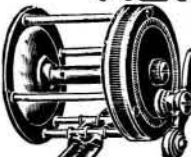
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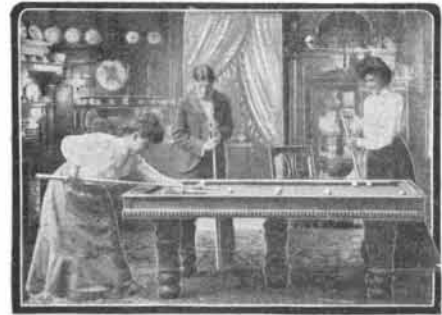


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- Confections, chocolate, H. D. Foss & Co..... 39,935
- Hair restorer, Schou Chemical Co..... 39,940
- Lamps, incandescent electric, Independent Incandescent Lamp Co..... 39,946
- Liniment, E. Bach 39,944
- Medical compound for certain named diseases, Schou Chemical Co..... 39,942
- Medicine for certain named diseases, Anarsarin Chemical Co..... 39,943
- Milk, condensed, Helvetia Milk Condensing Co..... 39,936
- Ointment and tablets for certain named diseases, J. Keun..... 39,945
- Shirts, collars, cuffs, and men's shirt waists, G. P. Ide & Co..... 39,931
- Shirts, collars, cuffs, and men's shirt waists, dress, G. P. Ide & Co..... 39,930
- Sifters, ash, J. P. Hill..... 39,947
- Stationery, certain named, Dovowreath Card Co..... 39,928
- Stationery, certain named, Earl Thompson Co..... 39,929
- Yeast cakes, Mrs. McCullough Yeast Co..... 39,934

LABELS.

- "A Men-Da-Mi-Na," for a cleaning preparation for the hands, etc., M. S. Knibb..... 9,812
- "Andrea Delsarto," for cigars, Landfield Bros. & Co..... 9,807
- "Baby's Bath Toilet Soap," for soap, Liberty Soap Co..... 9,811
- "Benj. B. Miller's Cholera Remedy," for a medicine, B. B. Miller..... 9,802
- "Economy Cleaner," for a cleaning preparation, Bloss-Ellemann-Muhly Manufacturing Co..... 9,814
- "Freeman's Face Powder," for face powder, W. D. Freeman..... 9,809
- "King of Kings Cure," for a medicine, E. J. Dill..... 9,801
- "Maltopentine Gum," for chewing gum, J. W. Morrison, Jr..... 9,815
- "Non-Corrosible Tube Dry Powder Fire Extinguisher," for fire extinguishers, Non-Corrosible Tube Dry Powder Fire Extinguisher Co..... 9,820
- "Oak Orchard Apples," for apples, Orleans County Canning Co..... 9,819
- "Old Jamestown Ter Centenary Rye Whiskey," for whiskey, White Bros..... 9,804
- "Our Baby's Bath Toilet Soap," for soap, Liberty Soap Co..... 9,810
- "Prime Choice," for cigars, American Lithographic Co..... 9,805
- "Red Lion Pills," for kidney pills, W. T. Ballagh..... 9,799
- "Rose's Medicinal Malt Whiskey," for whiskey, R. M. Rose Company..... 9,803
- "Silver Star Tomatoes," for tomatoes, Orleans County Canning Co..... 9,818
- "Sip Sap," for wafers, Lafayette Cracker & Confectionery Co..... 9,816
- "Smoky City Cleaner," for a cleaning preparation, Sanitary Chemical Co..... 9,813
- "Sweet Erin," for cigars, American Lithographic Co..... 9,806
- "Tom Barrett," for cigars, H. J. Cobb..... 9,808
- "Vanille Tonic Laxative," for a medicine, T. S. Booth..... 9,800
- "Vim," for a food preparation, Theo. Poehler Mercantile Co..... 9,817

PRINTS.

- "American Leghorn," for a poultry journal, F. E. Murphy..... 625
- "Regal Mirrorgraph," for boots and shoes, Regal Shoe Co..... 626

A printed copy of the specification and drawing of any patent in the foregoing list, or any patent in print issued since 1863, will be furnished from this office for 10 cents, provided the name and number of the patent desired and the date be given. Address Munn & Co., 361 Broadway, New York.

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ASSAYING and METALLURGICAL ANALYSIS FOR THE USE OF STUDENTS, CHEMISTS, AND ASSAYERS. By E. L. Rhead and A. Humboldt Sexton, F. I. C., F. C. S. London, New York, and Bombay: Longmans, Green & Co. 8vo. Pp. x, 431.

The authors inform us that in writing the present work it was their object to provide the student, chemist or assayer with a handbook sufficiently comprehensive to include the greater part of the work likely to be required in the laboratory or assay office. Most of the improved modern methods in general use are included. The directions for work and the descriptions of processes have been made as simple as possible, to reduce the size of the book. By including the chemical reactions of the materials it has been sought to make the reasons for the procedure clear. Chemical explanations have even been given in great length. Of the three parts in which the book is divided, the first is devoted to laboratory appliances, general processes; the second considers the materials and products in which a metal's estimation is commonly required, the dry test, the methods of conducting dry assaying by fusion or otherwise, the methods of dissolving substances and preparing solutions for the determination of the metals and the method for the gravimetric, volumetric and calorimetric determination with the necessary precautions; and the third is devoted to metallurgical analysis.

ROMANCE OF NATURAL HISTORY. By P. H. Gosse. New York: New Amsterdam Book Company. 1902. Pp. 348.

As its title indicates, this book contains a poetic treatment of a scientific subject. Instead of giving statistics which are harsh and dry, the author attempts an æsthetic exposition of natural history. He does not always indicate the emotion to be elicited but he has sought to paint a series of pictures, the reflection of scenes and aspects in nature which in his mind awaken poetic interest, leaving them to do their proper work.

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