

A. D. B. asks: How can I make cement gravel walks?—J. A. J. asks: How can I kill or drive away house flies?—J. P. A. asks: What effect will a daily application of tincture of ammonia and rain water have on the hair? Is it injurious thereto?—J. W. asks: 1. Can you recommend any practical work on the manufacture of writing inks? 2. Can any of your readers give me the formula of the British government for manufacturing a black, gall ink? 3. Is it better to dissolve aniline crystals and extract of logwood at a boiling or lower temperature? 4. What, if any, is the advantage of adding gum or acetic acid to aniline inks?

COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

- On Steam Cars. By F. G. W.
On a Coöperative Restaurant. By G. H. K.
On the Benefits of Using Steam Expansively. By F. C.
Also enquiries and answers from the following:
G. T. U.—H. A. H.—D. J. B.—T. W. P.—L. B. S.—L. B.—L. C.

HINTS TO CORRESPONDENTS.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The address of the writer should always be given.

Enquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all; but we generally take pleasure in answering briefly by mail if the writer's address is given.

Hundreds of enquiries analogous to the following are sent: "Please to inform me where I can buy sheet lead, and the price? Where can I purchase a good brick machine? Whose steam engine and boiler would you recommend? Which churn is considered the best? Who makes the best maulage? Where can I buy the best style of windmills?" All such personal enquiries are printed, as will be observed, in the column of "Business and Personal," which is specially set apart for that purpose, subject to the charge mentioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

[OFFICIAL.]

Index of Inventions

FOR WHICH

Letters Patent of the United States WERE GRANTED IN THE WEEK ENDING

July 7, 1874,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

Table listing inventions granted in the week ending July 7, 1874. Includes items like Aerated liquids, fountain for, J. Matthews; Air pump, C. Perks; Awning frame, W. H. Wilson; Bags, etc., wire tie for, J. H. Parkhurst; Bale tie, cotton, W. C. Banks; Barge for coal, etc., J. N. Snowdon; Bed bottom, spring, G. E. Burt; Boats, construction of, C. G. Johnson; Boller due cleaner, Priest et al.; Boiler, steam, P. T. Brownell; Bolt works for safe doors, W. B. Avery; Boot heels, trimming, G. B. Dunham; Boots, nailing, Knowlton & Shepherd; Boot stretcher, T. Winship; Boot soles, trimming, Davis & Howe; Bosom board, C. N. Brainerd; Bottle, syringe, and stopper, R. S. L. Walsh; Bouquet holder, button hole, J. A. Kimball; Bridge top chord, Coolidge & Hemberle; Bucket, sloop, W. T. Gardner; Burner, lamp, G. R. Lyon; Cans, device for heading, G. A. Marsh; Candle holder, W. Ulrich; Car brake, D. H. Dotterer; Car, grain, F. W. Wright; Car spring, J. C. Pickels; Car hoisting apparatus, Skinner & Gifford; Car switch attachment, J. B. Stamour; Caustic alkalies, Juron & Imbert; Chuck, F. Van Fleet; Clamp holder, G. C. Converse; Clothes pin, P. Mutter; Clothes wringer, E. M. Stevens (r); Collar, G. E. Thomas, Sr.; Cooler, milk, Graves & Powers; Corn dropper, R. P. Montague; Corn picking machine, C. McDermott; Cultivator, J. C. Elliott; Cultivator, A. C. Tower; Damper, M. Howles; Dental impression, Teague & Parker; Ditching machine, T. F. Cocks; Door button, E. J. Steele; Door securer, O. F. Fagerstrom; Doors, bolt work for safe, W. B. Avery; Drawer and label holder, Kiedatsch & Wallace; Elevating cup, grain, Nordyke & Marmon; Elevator, hay, E. V. R. Gardner; Elevator, hay and grain, D. Morey; End gate, J. Slinn; Equalizer, draft, J. Elder; Excavator, T. T. Strode; Explosive compound, C. A. & I. S. Browne; Fence wire tightener, Wostenhaver & Adair.

Table listing inventions granted in the week ending July 7, 1874. Includes items like Fertilizer, antiseptic, R. A. Chesebrough; File, L. W. Stockwell; Fire extinguisher, chemical, Lee & Kley; Fountain, self-acting parlor, G. J. Wenck; Fruit dryer, J. Allen; Funnel, S. H. Whitley; Furnace, hot air, B. T. Babbitt; Gas fittings, etc., tapping, L. W. Stockwell; Gas retort, A. C. Rand; Gas purifying hurdle or tray, G. W. Day; Gas purifier, deodorizing, Mackenzie & Isbell; Gas vessels, closing, W. A. Johnston; Gate, automatic, J. Weed; Girder and column, Coolidge & Hemberle; Governer, valve, and cut-off, A. Johnston; Grain in the sack, moving, Kenyon et al.; Grate bar, A. C. Fletcher; Gun lock, J. M. Gardfield; Harrow and cultivator teeth, S. J. Nason; Hides, finishing, Pullman & Edmonds; Horse collar and hame, M. Hubbell; Hose carriage, Lee & Kley; Hydrant, Keegan & Greanelle; Indicator, C. A. Stebbins; Iron, surfacing sheet, J. Stackhouse; Ironing board, B. F. Strickler; Irrigating apparatus, I. Brown; Key fastener, J. B. Andrews; Knobs to spindles, attaching, C. Carpenter; Lamp explosions, illustrating, S. C. & C. B. Mann; Lamp reflector, C. M. Murch; Masks, construction of, L. Girbardt; Meat cutting machine, C. Schwager; Medical compound, J. P. Dyer; Medical compound, Stone & Gilroy; Metal surfaces, ornamenting, E. Goddard; Motor, electro-magnetic, W. S. Sims; Nail blank, lasting, W. E. Fischer; Nails, machine for assorting, J. D. Baird; Nippers, police, A. P. Baldwin; Nut lock, A. C. Fletcher; Oil, treatment of cod liver, J. G. Hava; Ores, etc., desulphurizing, W. W. Hubbell (r); Ores, jigger for separating, W. H. Plumb; Paper bag machine, T. Hotchkiss; Paper box, etc., G. A. Houston; Paper, hollow cylinders of, M. D. Keeney; Paving composition, Goeth & Fedde; Photographic embossing press, W. D. Boyce; Photothography, J. W. Osborne (r); Plants, box for propagating, O. D. Mills; Plow, W. Warlick; Plow, T. L. Webster; Plow, sulky, N. Du Bois; Plow, sulky, D. A. Sears; Pocket book, G. Jasmagy; Pocket book, F. H. Smith; Press, cotton, J. Gramelapacher; Press, cotton, J. H. Simonsin; Press, letter copying, West et al.; Printing press feed gate, J. H. Pinks; Pruning implement, C. Miller; Punch, conductor's registering, R. McCully; Punching machine, G. H. Perkins; Purifier, middlings, J. H. Dedrick; Railroad electric signal, W. Robinson (r); Railroad gate and signal, W. E. Prall; Railroad joint, G. H. and W. P. Hall, Jr.; Railroad rail, V. D. Beach; Railroad rail, L. A. Perrot; Railroad signal, J. A. Rose; Range chimney bottom plate, H. C. Garwood; Register, air-purifying, J. S. Griffith; Ring, finger, J. Annin; Sash fastener, G. Erkson; Sauce pans, handle for, J. H. Preater; Saw mill head block, S. S. Grannis; Saw mill head block, W. G. Hearn; Saws, device for hammering, C. T. Shoemaker; Separator, grain, K. Schwab; Sewing machine, H. A. Blanchard; Sewing machine, D. H. Coles; Sewing machine, S. H. Hall; Sewing machine, J. Speirs; Sewing machine treadle, R. K. Macadam; Soldering tool, J. Sears; Spear, casing, V. Gretter (r); Spinning frame, J. M. Stone; Steam trap, Brown & Foskett; Stencil plate, G. M. Wood; Stoves, E. Smith (r); Stove, fireplace, W. Magill; Stove, heating, M. C. C. Church; Stove leg, K. Evans; Sugar and cane juice, treating, J. Duncan; Sugar, clarifying, J. Nossian; Table fan attachment, H. T. Tustin; Table, ironing, Lorenz & Poggenorff; Table, ironing, W. V. Shaluns; Teaching music, device for, F. Cramer; Tent, portable, E. B. Gildersleeve; Thill coupling, M. W. St. John; Tile machine, J. Whitehead; Trace carrier, J. Crawford; Truck, hook and ladder, Lee & Kley; Type distributing machine, J. A. Reynolds; Type setting machine, J. A. Reynolds; Umbrella, etc., revolving, D. M. Vreeland; Valve, float, J. W. Chamberlain; Vault light, Foley & Murray; Vehicle running gear, E. Osborn; Vehicle spring, A. W. Hall; Vehicle wheel, H. K. Haslett; Veneer, artificial, D. Holmes (r); Wagon seat, W. A. Lamb; Wagon clothes, apparatus for, K. Jacobl; Washing machine, J. M. Adleburger; Washing machine, J. S. Heaton; Washing machine, Newell & Stallings; Water wheel, T. Flinn; Water wheel, W. G. Percival; Weighing machine, registering, J. F. Keeler; Windlass, ship's, A. Russell (r); Work holder, W. W. Tunis; Yacht, etc., after hull of, E. E. Middleton.

APPLICATIONS FOR EXTENSIONS.

Applications have been duly filed and are now pending for the extension of the following Letters Patent. Hearings upon the respective applications are appointed for the days hereinafter mentioned:
30,290.—ORE SEPARATOR.—W. O. Bourne. Sept. 28.
30,297.—REFLECTING LANTERN.—R. Cathcart. Sept. 28.
30,345.—IRON CHIMNEY TOP.—J. Pettengill. Sept. 28.
30,357.—FLOW.—M. G. Slemmons. Sept. 28.
30,371.—WASH BENCH.—S. Wiswell. Sept. 28.
30,376.—CUTTING BOOT HEELS.—E. T. Green. Sept. 28.
30,400.—SOCKET COUPLING.—E. P. Gleason. Sept. 30.
30,442.—FILING GIN SAWS.—S. Yeatman. Sept. 30.
30,446.—MAGAZINE FIREARM.—B. T. Henry. Sept. 30.
30,480.—PUMP.—W. J. Johnson. Oct. 7.

EXTENSION GRANTED.

29,065.—CENTER BOARD VESSEL.—C. E. Ketchum et al.

DESIGNS PATENTED.

7,525 and 7,526.—CARPETS.—J. Hill, Philadelphia, Pa.
7,527.—NON-CONDUCTING PLATFORM.—H. L. Palmer, Brooklyn, N. Y.
7,528 to 7,580.—CARPETS.—T. J. Stearns, Saxtonville, Mass.
7,581 to 7,583.—SHAWLS.—C. H. Landenberger, Phila, Pa.
7,584.—IRON CORNICHE, ETC.—J. A. Niman, Mansfield, O.

TRADE MARKS REGISTERED.

1,862.—HAIR PRESSING.—D. Benliss, New York city.
1,863.—STOVES.—Burdett & Co., Troy, N. Y.
1,864.—OLEINE SOAP.—W. Conway, Philadelphia, Pa.
1,865 and 1,866.—FAMILY FLOUR.—Day & Co., Minneapolis, Minn.
1,867.—COLOGNE WATER.—F. F. Drexel & Co., Baltimore, Md.
1,868.—OATMEAL.—A. M. Johnston & Co., Rockford, Ill.
1,869.—BOTTLED BRANDY.—H. B. Kirk & Co., N. Y. city.
1,870.—CIGARS.—Seidenberg & Co., New York city.
1,871.—CANDLES.—W. H. Woods & Co., Cincinnati, O.

SCHEDULE OF PATENT FEES.

Table listing patent fees: n each caveat \$10, On each Trade Mark \$25, On filing each application for a Patent (7 years) \$15, On issuing each original Patent \$20, On appeal to Examiners-in-Chief \$10, On appeal to Commissioner of Patents \$20, On application for Reissue \$30, On application for Extension of Patent \$50, On granting the Extension \$50, On filing a Disclaimer \$10, On an application for Design (3 1/2 years) \$10, On application for Design (7 years) \$15, On application for Design (14 years) \$30.

CANADIAN PATENTS.

LIST OF PATENTS GRANTED IN CANADA JULY 8 TO 16, 1874.

Table listing Canadian patents granted from July 8 to 16, 1874. Includes items like 3,913.—F. Paterson, Kingston, Frontenac county, Ont. Improvements on portable apparatus for loading and unloading vessels, called "Paterson's Portable Loader and Unloader." July 8, 1874.
3,614.—F. Paterson, Kingston, Frontenac county, Ont. Improvements on steamboats, called "Paterson's Steamboat." July 8, 1874.
3,615.—R. M. Caffall, Alton, Hants county, England. Improvements on appliances for and means of automatically preventing the back rush of gas from gasometers for purifying the gas, and for improving the brilliancy of the lights or flames of gas, called "Caffall's Self Acting Safety Valve." July 8, 1874.
3,616.—J. Scott and A. Scott, Richmond, District of St. Francis, P. Q. Improvements on force pumps for elevating water, etc., and also adapted to fire engines, called "Scott's Improved Pump." July 8, 1874.
3,617.—R. M. Caffall and A. Thomas, London, England. Improvements on apparatus or movable extension pieces for sealing and unsealing dip pipes in gas hydraulic mains when required, called "Caffall & Thomas's Movable Seal for Gas Dip Pipes." July 8, 1874.
3,618.—J. S. Perry and A. Dickey, Albany, Albany county, N. Y., U. S. Improvements on heating stoves, called "Improvements on Heating Stoves." July 8, 1874.
3,619.—G. M. Hinkley, Milwaukee, Milwaukee county, Wis., U. S. Improvements on saw guides, called "Hinkley's Saw Guide." July 8, 1874.
3,620.—T. Robertson, Toronto, York county, Ont. Improvements in lozenge-making machines, called "Robertson's Lozenge Machine." July 8, 1874.
3,621.—S. P. M. Tasker, Philadelphia, Philadelphia county, Pa. Improvements on a metallurgical furnace, called "Tasker's Metallurgical Furnace." July 8, 1874.
3,622.—H. Strait, Troy, Rensselaer county, N. Y., U. S. Improvement on potato diggers and gatherers, called "Strait's Potato Digger and Gatherer." July 8, 1874.
3,623.—A. Strange and K. H. Cornish, London, England. Improvement on machinery for preparing spinning or throwing and doubling cotton, silk, wool, and other fibrous or filamentous substances, called "Strange & Cornish's Spinning Apparatus." July 8, 1874.
3,624.—T. Barnes and R. H. Hudgin, township of Harwick, Kent county, Ont. Improvements on farm and carriage gates, called "Barnes & Hudgin's Farm and Carriage Gate." July 8, 1874.
3,625.—J. H. Wentworth, Boston, Suffolk county, Mass., U. S., assignee of B. Simpson, same place. Improvements in stoves, called "The Improved Stove." July 8, 1874.
3,626.—B. Scott, Brighton, Beaver county, Pa., U. S. Improvements on rail joint for railways, called "Scott's Clamp Truss Joint." July 8, 1874.
3,627.—H. Sweltzer (administrator of the late W. Sweltzer), township of Stephen, Huron county, Ont. Improvements on fanning mills, called "Sweltzer's Improved Labor Saving Fanning Mill." July 9, 1874.
3,628.—J. Hedges, West Wareham, Plymouth county, Mass., U. S. Améliorations aux ravaudeurs de boyaux, dit "Ravaudeur amélioré de boyau." (Improvements in hose.) July 9, 1874.
3,629.—H. M. Welch, Cowansville, Missisquoi county, P. Q. Improvements on steam cooking apparatus, called "Welch & Lewis' Steam Cooker." July 13, 1874.
3,630.—T. H. Price, Lafayette, Tippecanoe county, Ind., U. S. Improvements on heating apparatus for sleighs and carriages, called "Price's Heating Apparatus for Sleighs and Carriages." July 13, 1874.
3,631.—G. Walkey, Toronto, York county, Ont. Improvements in refrigerators, called "Walkey's Refrigerator." July 13, 1874.
3,632.—Levi Sutton, Ottawa, Putnam county, O., U. S. Improvements in automatic car couplings, called "Sutton's Automatic Car Coupling." July 16, 1874.
3,633.—John Noyes, Barnston, Stanstead county, Quebec, assignee of H. A. Cook, Boston Suffolk county, Mass., U. S. Improvements on artificial stone, called "Noyes' Artificial Stone." July 16, 1874.
3,634.—J. J. Lappin, Toronto, Ont. Improvements on car couplers, called "Lappin's Improved Self Acting Car Coupler." July 16, 1874.
3,635.—J. Vivian, London, Ont., assignee of C. Luxton, Hudson City, N. J., U. S. Improvements on peat machines, called "Luxton's Cutting, Compressing, and Filtering Peat Machine." July 16, 1874.
3,636.—A. Walker, Mornington, Perth county, Ont. Improvements on broadcast seed sowers, called "Walker's Broadcast Seed Sower." July 16, 1874.
3,637.—J. Milton House, Orillia, Simcoe county, Ont. Improvements on shingle and heading machines, called "House's Shingle Machine." July 16, 1874.
3,638.—H. Thorne, assignee of P. Oakley, Toronto, York county, Ont. Extension of No. 8, called "Oakley's Lock Washer." July 16, 1874.

Table listing various patents and inventions. Includes items like 3,639.—J. Lott, Liverpool, Lanecaster county, England. Improvements on an apparatus for trimming the edges of straps, called "Lott's Strap Trimmer." July 16, 1874.
3,640.—J. C. Scott, St. Thomas, Montserrat county, Quebec. Improvements in brakes for stopping railway cars and generally to arrest the revolution of wheels, called "Scott's Patent Brake." July 16, 1874.
3,641.—H. Henks, M. F. Carder and O. M. Allen, Kalamazoo, Kalamazoo county, Mich., U. S. Improvements on burial caskets, called "Henks & Carder's Globe Burial Casket." July 16, 1874.
3,642.—G. F. Simonds and J. A. Farsen. Improvements in tempering and forming articles of steel and steel mixed with iron, called "Simonds & Farsen's Improved Process for Tempering and Forming Articles of Steel." July 16, 1874.
3,643.—J. E. Landers, New Bedford, Bristol county, Mass., U. S. Improvements in flower pots, called "Landers' Improved Double Interlocking Flower Pot." July 16, 1874.
3,644.—W. Duchemin, Boston, Suffolk county, Mass., U. S. Improvements in turned shoes, called "Duchemin's Improvement on Turned Shoes." July 16, 1874.
3,645.—A. D. Cable, assignee of T. Gill, Montreal, P. Q. Improvements on faucets, called "The Dominion Compression Valve Cock." July 16, 1874.
3,646.—J. Prince and M. D. Martin, North Troy, Orleans county, Vt., U. S. Improvements on milk pans, called "Prince & Martin's Milk Pans." July 16, 1874.
3,647.—C. Robinson, Cambridge, Middlesex county, Mass., U. S.—Improvements on combined washing and wringing machines, called "Robinson's Combined Washer and Wringer." July 16, 1874.
3,648.—R. M. Wanser, assignee of J. B. McCune. Hamilton, Wentworth county, Ont. Improvement in sewing machine, called "McCune's Reversed Feed for Sewing Machine." July 16, 1874.
3,649.—L. Harrington, Brooklyn, Kings county, N. Y., U. S. Composition of oleaginous substances and improvement in the art or process of preparing the same for the manufacture of artificial butter, called "Harrington's Manufacture of Artificial Butter." July 16, 1874.
3,650.—D. N. B. Coffin, Jr., Newton, Mass., U. S. Improvements on screws for imparting motion to machinery, called "Improvements on Screws for Imparting Motion to Machinery." July 16, 1874.
3,651.—A. Anstead, Gananoque, Leeds county, and R. Cross, Lansdowne township, Leeds county, Ont., Machine for holding the bar of reapers and mowers when being ground, called "Anstead & Cross' Holder for Grinding Reapers and Mowers." July 16, 1874.
3,652.—S. W. Shorey, Boston, Suffolk county, Mass., U. S. Improvements on cutting and trimming attachments for sewing machines, called "Shorey's Cutting and Trimming Attachment for Sewing Machines." July 16, 1874.
3,653.—A. Gould, Bangor city, Penobscot county, Me., U. S. Improvements on machines for cutting and embossing leather, etc., called "Gould's Leather Cutting and Embossing Machine." July 16, 1874.
3,654.—D. V. Wood, Hoboken, N. J., U. S. Improvements on steam hammers, called "Wood's Steam Hammer." July 16, 1874.
3,655.—W. Hamilton, Erie, Erie county, Pa., U. S. Improvements on lubricators, called "Hamilton's Steam Needle Lubricator." July 16, 1874.
3,656.—J. Newhall, Hunterstown, Muskingo county, P. Q. Improvements on attachments for wash boilers, called "Newhall's Adjustable Attachment for Wash Boilers." July 16, 1874.
3,657.—T. D. Hodgson, London, Middlesex county, Ont. Improvements on gas generators for manufacturing gas, called "The Hodgson Improved Gas Generator." July 16, 1874.

Advertisements.

Back Page - - - - - \$1.00 a line.
Inside Page - - - - - 75 cents a line.
Engravings may head advertisements at the same rate per line, by measurement, as the letter press. Advertisements must be received at publication office as early as Friday morning to appear in next issue.

E. M. MAYO'S PAT. BOLT CUTTER.

Send for Illustrated Circular, Cincinnati, Ohio.
FINE COAL AND ORE COLLECTION for Sale, low: ores and coals illustrate chiefly American mines—many Coals, Irons, Leads, &c., some native Silver, (Lake Superior), and Gold. More than 20 States and Territories represented—all labelled, many assayed—over one thousand specimens. Boxed and sent, \$400. Address Prof. H. STAFFORD, Cincinnati, Ohio.

JUST READY.

MINING INDUSTRY OF THE UNITED STATES, including Descriptions of Quartz, Placer, and Hydraulic Mining, Amalgamation, Concentration, Smelting, etc. By ROBERT W. RAYMOND, Ph.D., U. S. Commissioner of Mining Statistics, President of the Am. Inst. Mining Engineers. Author of "Mining, Mills and Furnaces," "Silver and Gold," etc. Illustrated with nearly 100 Engravings and Maps, and a colored Geological Map of the United States. 1 vol., 540 pp. 8vo. Cloth, \$4.50.
"His scientific ability, his practical knowledge of mines and mining, his unerring judgment, all combine to fit him for his position."—Denver News.
"Professor Raymond knows more about the mining interests of this country than any of his contemporaries. ... Invaluable to any one who has anything to do with mines or mining."—Albany Evening Journal.

By the same Author.

SILVER AND GOLD. An Account of the Mining and Metallurgical Industry of the United States, with reference chiefly to the Precious Metals. 1 vol., 566 pages. 8vo., cloth. With plates, \$3.50.

MINES, MILLS AND FURNACES OF THE Precious Metals of the United States. Being a complete exposition of the general Methods employed in the great Mining Industries of America. 1 vol., 566 pp. 8vo., cloth. With plates, \$3.50.

\* To be had through any Bookseller, or will be mailed, post-paid, on receipt of price, by the Publishers, J. B. FORD & CO., 27 Park Place, New York.

A FORTUNE FOR ALL in the Rubber Stamp Business.

Address DORMAN'S STENCIL AND STAMP WORKS, Baltimore, Md.
To Paper Makers and Manufacturers—Send for Circular and Price List of Engraving Time and Pressure Recording Gauges. The High Pressure Air warns of approaching danger, and Charts show how steam is carried. Engine Counters and Locomotive Gauges of superior quality on hand. M. B. EDSON, 91 Liberty St., New York.
\$475 A MONTH TO AGENTS. Address C. M. LINDGREN & BROS., New York City.