

[OFFICIAL]

Index of Inventions

FOR WHICH Letters Patent of the United States

WERE GRANTED FOR THE WEEK ENDING

September 23, 1873,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

Table listing inventions such as Acid, sulphuric, Thomson et al., Adding machine, S. Pool, Atomizer or vaporizer, J. N. Gerard, etc.

Table listing inventions such as Meat mangle, S. D. Ingham, Medical compound, J. Fehr, Medical compound, U. H. Kellogg, etc.

APPLICATIONS FOR EXTENSIONS.

Table listing applications for extensions such as 22,590.—CLARIFYING CANE JUICE.—R. A. Stewart. Dec. 10.

EXTENSIONS GRANTED.

Table listing extensions granted such as 25,565.—ROLLING MILL.—J. & G. Fritz.

DESIGNS PATENTED.

Table listing designs patented such as 6,890.—TYPE.—E. C. Ruthven, Philadelphia, Pa.

6,892 & 6,893.—TYPE.—R. Smith, Philadelphia, Pa.

6,894.—CHAIRS.—J. M. Waters, Cincinnati, O.

TRADE MARKS REGISTERED.

Table listing trade marks registered such as 1,461.—SILK FABRICS, ETC.—Bernstein et al., N. Y. city.

SCHEDULE OF PATENT FEES:

Table listing patent fees such as On each caveat \$10, On each Trade-Mark \$25.

VALUE OF PATENTS And How to Obtain Them.

Practical Hints to Inventors.

ROBABLY no investment of a small sum of money brings a greater return than the expense incurred in obtaining a patent when the invention is but a small one.

More than FIFTY THOUSAND inventors have availed themselves of the services of MUNN & Co. during the TWENTY-SIX years they have acted as solicitors and Publishers of the SCIENTIFIC AMERICAN.

HOW TO OBTAIN Patents

This is the closing inquiry in nearly every letter, describing some invention which comes to this office. A positive answer can only be had by presenting a complete application for a patent to the Commissioner of Patents.

How Can I Best Secure My Invention?

This is an inquiry which one inventor naturally asks another, who has had some experience in obtaining patents. His answer generally is as follows, and correct: Construct a neat model, not over a foot in any dimension—smaller if possible—and send by express, prepaid, addressed to MUNN & Co., 37 Park Row, together with a description of its operation and merits.

Preliminary Examination.

In order to have such search, make out a written description of the invention, in your own words, and a pencil, or pen and ink, sketch. Send these, with the fee of \$5, by mail, addressed to MUNN & Co., 37 Park Row, and in due time you will receive an acknowledgment thereof, followed by a written report in regard to the patentability of your improvement.

To Make an Application for a Patent.

The applicant for a patent should furnish a model of his invention if susceptible of one, although sometimes it may be dispensed with; or, if the invention be a chemical production, he must furnish samples of the ingredients of which his composition consists.

Foreign Patents.

The population of Great Britain is 31,000,000; of France, 37,000,000; Belgium, 5,000,000; Austria, 36,000,000; Prussia, 40,000,000; and Russia, 70,000,000. Patents may be secured by American citizens in all of these countries.

never be a better time than the present to take patents abroad. We have reliable business connections with the principal capitals of Europe.

Rejected Cases.

Rejected cases, or defective papers, remodeled for parties who have made applications for themselves, or through other agents. Terms moderate. Address MUNN & Co., stating particulars.

Reissues.

A reissue is granted to the original patentee, his heirs or the assignees of the entire interest, when, by reason of an insufficient or defective specification, the original patent is invalid, provided the error has arisen from inadvertence, accident, or mistake, without any fraudulent or deceptive intention.

Caveats.

Persons desiring to file a caveat can have the papers prepared in the shortest time, by sending a sketch and description of the invention. The Government fee for a caveat is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & Co., 37 Park Row New York

Canadian Patents.

On the first of September, 1872, the new patent law of Canada went into force, and patents are now granted to citizens of the United States on the same favorable terms as to citizens of the Dominion.

In order to apply for a patent in Canada, the applicant must furnish a model, specification and duplicate drawings, substantially the same as in applying for an American patent.

The patent may be taken out either for five years (government fee \$20), or for ten years (government fee \$40) or for fifteen years (government fee \$60). The five and ten year patents may be extended to the term of fifteen years. The formalities for extension are simple and not expensive.

American inventions, even if already patented in this country, can be patented in Canada provided the American patent is not more than one year old.

All persons who desire to take out patents in Canada are requested to communicate with MUNN & Co., 37 Park Row, New York, who will give prompt attention to the business and furnish full instruction.

Value of Extended Patents.

Did patentees realize the fact that their inventions are likely to be more productive of profit during the seven years of extension than the first full term for which their patents were granted, we think more would avail themselves of the extension privilege. Patents granted prior to 1831 may be extended for seven years, for the benefit of the inventor, or of his heirs in case of the decease of the inventor, by due application to the Patent Office, ninety days before the termination of the patent.

Trademarks.

Any person or firm domiciled in the United States, or any foreign corporation residing in any foreign country where similar privileges are extended to citizens of the United States, may register their designs and obtain protection. This is very important to manufacturers in this country, and equally so to foreigners. For full particulars address MUNN & Co., 37 Park Row, New York.

Design Patents.

Foreign designers and manufacturers, who send goods to this country, may secure patents here upon their new patterns, and thus prevent others from fabricating or selling the same goods in this market.

A patent for a design may be granted to any person whether citizen or alien, for any new and original design for a manufacture, bust, statue, or any relief, or bas relief, any new and original design for the printing of woolen, silk, cotton, or other fabrics, any new and original impression, ornament, pattern, print, or picture, to be printed, painted, cast, or otherwise placed on or worked into any article of manufacture.

Design patents are equally as important to citizens as to foreigners. For full particulars send for pamphlet to MUNN & Co., 37 Park Row, New York.

Copies of Patents.

Persons desiring any patent issued from 1836 to November 26, 1867, can be supplied with official copies at a reasonable cost, the price depending upon the extent of drawings and length of specification.

Any patent issued since November 27, 1867, at which time the Patent Office commenced printing the drawing and specifications, may be had by remitting to this office \$1.

A copy of the claims of any patent issued since 1836 will be furnished for \$1.

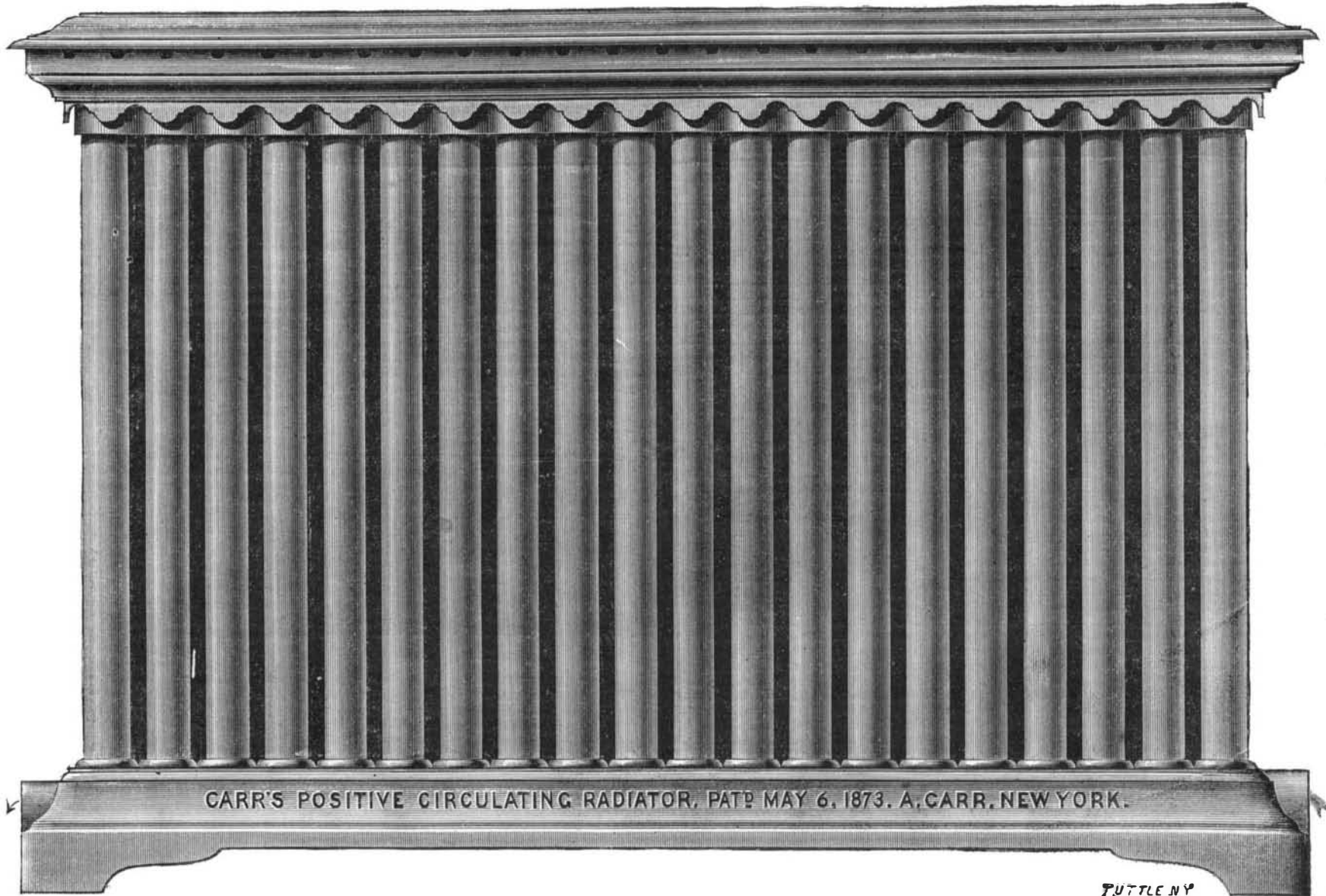
When ordering copies, please to remit for the same as above, and state name of patentee, title of invention, and date of patent. Address MUNN & Co., Patent Solicitors, 37 Park Row, New York.

MUNN & Co. will be happy to see inventors in person, at their office, or to advise them by letter. In all cases they may expect an honest opinion. For such consultations, opinions, and advice, no charge is made. Write plain; do not use pencil or pale ink; be brief.

All business committed to our care, and all consultations, are kept secret and strictly confidential.

In all matters pertaining to patents, such as conducting interferences, procuring extensions, drawing assignments, examinations into the validity of patents, etc., special care and attention is given. For information and for pamphlets of instruction and advice

Address MUNN & CO., PUBLISHERS SCIENTIFIC AMERICAN, 37 Park Row, New York. OFFICE IN WASHINGTON—Corner F and 7th Streets, Opposite Patent Office.



CARR'S POSITIVE CIRCULATING RADIATOR. PATD MAY 6, 1873. A. CARR, NEW YORK.

CARR'S POSITIVE CIRCULATING STEAM RADIATOR.

Send for Circular and Price List to A. CARR, 43 Courtlandt street, New York.

To Electro-Platers.

BATTERIES, CHEMICALS, AND MATERIALS, in sets or single, with books of instruction for Nickel or Silver Plating, by THOMAS HALL, Manufacturing Electrician, 19 Bromfield Street, Boston, Mass. Illustrated catalog, use sent free.

FOR SALE—A most important, useful and valuable invention. An independent fortune to any party who desires to handle. Applications should be made immediately. Address S. care G. E. HUTCHINSON, 114 Superior Street, Cleveland, O.

TO MACHINISTS.

FOR SALE—One Cast Iron Fly Wheel Pulley, 12 feet dia., 24 in. face—bored for 10 1/2 shaft—turned true—in halves—weighs 7800 lbs. Price \$300. 76 feet 5 inch Wro't Iron Steam Pipe—flange joints—with an elbow. Price \$150 per foot. 120 feet 18 inch and 75 feet 24 inch best doubled and pegged, cemented oak tanned Leather Belting, in good order. Price 50 per cent from list. Also, 2 single-flue Boilers, 2 inch dia., 22 feet long. 1 do. do. 4 1/2 " " 25 " " 25 feet long. For further information, address MARSHALL P. MITCH, 40 F. O. Avenue, Baltimore, Md

JUST PUBLISHED,

A Fresh Work on Mining.

SILVER AND GOLD:

An Account of the Mining and Metallurgical Industry of the United States, with reference chiefly to the Precious Metals. By R. W. RAYMOND, Ph. D., U. S. Commissioner of Mining Statistics, President of the Am. Inst. of Mining Engineers, editor of "Engineering and Mining Journal," Author of "Mines of the West," "American Mines and Mining," "Mines, Mills, and Furnaces," etc., etc.

WITH PLATES.

1 Vol., 8vo. Extra Cloth. \$3.50.

The energy and thoroughness with which Mr. Raymond has prosecuted his investigations, and the rare intelligence and intimate acquaintance with mining and metallurgy, manifested in his writings on these subjects have been widely acknowledged, and his reputation will ensure an interest in this, his latest work.

To be had of Booksellers, or will be sent to any address, post-paid, on receipt of price, by the Publishers,

J. B. FORD & CO.,

27 Park Place, New York.

FOR SALE—State Rights to Manufacture the Metal Sash patented July 8, 1873. To parties wishing to start in a legitimate business, there is no surer investment. The profits are from 75 to 80 per cent, and the invention is a radical improvement on the old style of making metal sash. For further information, address inventor, JOHN D. MORAN, 205 Hudson St., N. Y.

A Set of 12 Steel Lathe Dogs,

From 3/4 to 4 inch.....\$17.30 " " to 2 ".....\$ 8.00 Iron, from 3/4 to 2 inch.....\$ 5.50 " " to 4 ".....\$15.00 1 Set of Steel Clamps.....\$12.50 " " Iron Expanding Mandrels taking anything from 3/4 to 4 inches, &c. Sent to C. W. LE COUNT, South Norwalk, Conn., for Circular.

\$10 to \$20 per day. Agents wanted everywhere. Particulars free. A. H. BLAIR & CO., St. Louis, Mo.

\$375 A MONTH to Male or Female Agents. NOVELTY CO., Biddeford, Me.

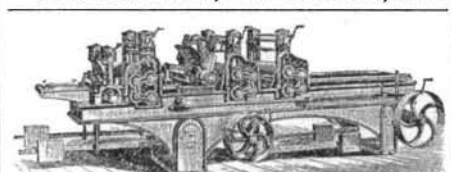
12 Samples sent by mail for 50 cts., that retail quick for \$10. R. L. WOLCOTT, 181 Chatham Square, New York.

WOODBURY'S PATENT Planing and Matching and Molding Machines, Gray & Wood's Planers, Self-acting Saw A bars, and other wood working machinery. S. A. WOODS, 81 Liberty street, N. Y.; Send for Circulars. 67 Sudbury street, Boston.

Crown 8vo., Clo., Illustrated, \$2. Mail free. WORKSHOP RECEIPTS,

For the use of MANUFACTURERS, MECHANICS, and SCIENTIFIC AMATEURS; edited by Ernest Spou. Containing Receipts for Bookbinding—Candles—Cements—Concretes—Drawing Office Details—Dyeing—Electro-Metallurgy—Enamels—Engraving on Wood, Copper, Gold, Silver, Steel and Stone—Etching—Fire works—Glass Cutting—Gums—Japans—Lubricants—Marble Working—Nitro Glycerine—Painting in Oils, Water Colors, as well as Fresco, House, Transparency, Sign and Carriage Painting—Photography—Pottery—Polishes—Soap—Solders—Taxidermy—Varnishes—Veneering—Waterproofing—Stencil Plates—Crayons, and others too numerous to mention.

E. & F. N. SPON, 446 Broome St., N. Y.



Patent Woodworth, Daniels and Dimension Planers Moulding, Mortising, Tenoning and a great variety of other Machinery for Working in Wood. Sole Manufacturers of the celebrated Farmer Patent Matcher Heads and Antifriction Cutters and the New England Band Saw. Factory 26 Salisbury St., Worcester, Mass. Sales-room 121 Chambers & 108 Reade Sts., N. Y. R. BALL & CO.

Valuable Manufacturing Property FOR SALE.

THE undersigned offers for sale the Shops and Machinery of THE GLEN & HALL MANUFACTURING COMPANY, located upon East avenue, about one mile east of the limits of the city of Rochester. The property extends to and has a fine Vertical Dock upon the Erie Canal. It is but six hundred feet from the N. Y. C. & H. R. R., and one thousand feet from Brighton Station. A connecting track may be laid, if desired. The buildings are mostly Brick, new, and first class in every particular. They include a three-story Machine Shop, 150 by 50 feet, heated with steam, with Steam Elevator to attic floor 10 by 20 feet; stories 14, 12, and 13 feet high, with very fine light. Forging Shop adjoining, 70 by 40 feet. Foundry, 60 by 80 feet, with wing for cupola; Engine and Boiler House, Fire-proof Pattern House, Paint House, Sheels, &c. The Machinery includes a Fifty Horse Power Engine, Steam Fire Pump, and a full line of Wood and Iron Working Machinery, mostly new and all strictly first class. The shops will be sold with or without the moveable machinery, and with six or more acres of land. The shops and machinery are in complete working order and now in operation. For any kind of wood or iron manufacturing where an eligible location, fine shops and plenty of room, with superior shipping facilities are desired, this property offers a rare opportunity to purchasers. For further information, apply to or address EUGENE GLEN, Receiver, Rochester, N. Y.

PRICE ONLY 10 CENTS PER POUND. Thomas's Fluid Tannate of Soda removes Scale and does not injure Boiler. It proves entirely satisfactory where all other preparations have failed. One party writes: "Each application removed two bushels of scales from his Boiler, and the iron looks well where the scales have come off, and it is saving about 15 per cent of fuel." Sold in Barrels 500 lb., half Barrels 250 lb., quarter Barrels 125 lb. Address orders to N. SPENCER THOMAS, Elmira, N. Y.

SUPERIOR TO ALL OTHERS. LIMET & CO'S STANDARD FRENCH FILES. HOMER FOOT & Co., Sole Agents, 20 Platt Street, New York. A full assortment of STUBS' and GROBET'S Files.

The American Turbine Water Wheel. Recently improved and submitted to thorough scientific tests by James Emerson, showing the following useful effect of the power of the water utilized, being the highest results ever known. Percentage of Part Gate: 1/2, 50.08; 3/4, 69.64; 5/8, 78.73; 3/4, 82.53; 3/4, 82.90. Per cent. of Whole Gate: 83.14. A full report may be obtained of STOUT, MILLS & TEMPLE, Dayton, Ohio.

1832. SCHEENCK'S PATENT. 1871. WOODWORTH PLANERS. And Re-Sawing Machines, Wood and Iron Working Machinery, Engines, Boilers, etc. JOHN B. SCHEENCK'S SONS, Matteawan, N. Y. and 118 Liberty St., New York.

THE SCIENCE RECORD FOR 1873.

A Compendium of the Scientific Progress and Discoveries of the Preceding Year. Illustrated with over 150 Engravings. 600 pages, octavo. Price, \$2.

THIS NEW AND splendid book embraces the most interesting Facts and Discoveries in the various Arts and Sciences that have transpired during the preceding year exhibiting in one view the General Progress of the World in the following Departments: 1.—CHEMISTRY AND METALLURGY. 2.—MECHANICS AND ENGINEERING. 3.—ELECTRICITY, LIGHT, HEAT, SOUND. 4.—TECHNOLOGY.—Embracing New and Useful Inventions and Discoveries relating to THE ARTS: 5.—BOTANY AND HORTICULTURE. 6.—AGRICULTURE. 7.—RURAL AND HOUSEHOLD ECONOMY. 8.—MATERIA MEDICA, THERAPEUTICS, HYGIENE. 9.—NATURAL HISTORY AND ZOOLOGY. 10 & 11.—METEOROLOGY TERRESTRIAL PHYSICS, GEOGRAPHY. 12.—GEOLOGY AND MINERALOGY. 13.—ASTRONOMY. 14.—BIOGRAPHY.

Every person who desires to be well informed concerning the Progress of the Arts and Sciences should have a copy of SCIENCE RECORD FOR 1873. It is a most interesting and valuable book, and should have a place in every Household, in every Library. 600 pages, Octavo. Handsomely Bound. Over 150 Engravings. Price, \$2. Sent by mail to all parts of the country, on receipt of the price. A liberal discount to the trade and to savassers. For sale at all the principal Bookstores.

MUNN & CO., PUBLISHERS, 37 Park Row, New York City.

THE SCIENTIFIC AMERICAN will be sent one year and one copy of SCIENCE RECORD FOR 1873, on receipt of \$4.50.

SCIENCE RECORD FOR 1873, uniform with the above. Price \$2. Library binding, \$2.50.

WORKING CLASS Male or Female, \$30 week, employment at home, day or evening; no capital; instructions & valuable package of goods sent free by mail. Address, with six cent return stamp, M. YOUNG & CO., 178 Greenwich St., N. Y.

WROUGHT IRON BEAMS & GIRDERS

THE Union Iron Mills, Pittsburgh, Pa. The attention of Engineers and Architects is called to our Improved Wrought-iron Beams and Girders (patented), in which the compound welds between the stem and flanges, which have proved so objectionable in the old mode of manufacturing, are entirely avoided, we are prepared to furnish all sizes at terms as favorable as can be obtained elsewhere. For descriptive literature, ha!ress Carnegie, Kloman & Co, Union Iron Mills, Pittsburg, Pa.

SILICATES OF SODA & POTASH SOLUBLE GLASS in all forms. Chloride of Calcium, Magnesia in native form, Hydrofluoric Acid, Nickel Salts, Sulphate and Chloride. Metals and Metallic Oxides. Feldspar, Flint, and Fluorspar finely ground. Manganese, Black Oxide. All rare Chemicals and Drugs made to order by L. & J. W. FEUCHTWANGER, Chemists and Importers, 55 Cedar Street, New York. Editors of Treatises on "Gems," \$5.25 per copy; "Fermented Liquors," \$3.12 per copy; "Soluble Glass," \$1 per copy; "Nickel," 50c. per copy. All mailed free.

JOSEPH A. SPRINGER, SOLICITOR OF PATENTS FOR THE ISLAND OF CUBA. Address U. S. CONSULATE GENERAL, Havana.

ALCOTT LATHES, for Broom, Rake, and Hoe Handles. S. C. HILLS, 51 Courtlandt St., N. Y.

REYNOLDS' Turbine Water Wheels. 30 Years' experience enables me to excel in Gearing Mills of all kinds, and furnishing them reliable, economical power. Scientific pamphlet free. GEO. TALLCOT, 96 Liberty Street, New York.

THE HYDRAULIC ROTARY GOVERNOR secures to Water Wheels exact speed under all possible conditions, whether simple or the most complex. Under extreme variations it operates the entire gate in ten seconds. Warranty unlimited. No pay till tested. JOHN S. ROGERS Treas., 19 John St. Boston, Mass.

PATTERN & BRANDING LETTERS—SHARP, Flat or Rounding Surfaces—Large stock. PAVEMENT Letters, suitable for ARTIFICIAL STONEWORK. VAN DERBURGH, WELLS & CO., 18 Dutch, cor. Fulton St., New York

Pass This By If you are a fool or a lunatic, but if you are sane and wish to make money, address, EUREKA PORTABLE TABLE CO., St. Louis.

\$125 A MONTH to Lady Agents everywhere Address ELLIS MANUF'G CO., Waltham, Mass

FOR SALE—The right to manufacture and sell the Patent Stave Grain Baskets in the States of Ohio, Pennsylvania, and New York. Said Baskets protected by numerous patents issued to Horace C. Jones and others. G. I. BREWSTER, Appleton, Wis.

Niagara Steam Pump. CHAS. B. HARDICK, 28 Adams st., Brooklyn, N. Y.

MASON'S PAT'T FRICTION CLUTCHES are manufactured by Volney W. Mason & Co., Providence, R. I. Agents, L. B. BROOKS, 60 Cliff street, New York; TAPLIN, RICE & CO., Akron, Ohio.



Advertisements

Advertisements will be admitted on this page at the rate of \$1.00 per line for each insertion. Engravings may head advertisements at the same rate per line by measurement, as the letter-press.

PRATT'S ASTRAL OIL.

Safest and best Oil ever made—burns in any lamp—for sale everywhere.



JUST PUBLISHED! "Facts and Suggestions regarding the Right Choice and Right Use of Solid Emery Wheels and Emery Grinding Machinery." 124 pages. This Pamphlet is offered to the Public at the most complete Manual on the subject of Emery Grinding yet published. SENT, post-paid, on receipt of 25 cents. Address THE TANITE CO., Stroudsburg, Pa.

HOW ABOUT YOUR PAY ROLL? Is not THIS the time—now when working forces are being reduced, and each man's effort is to see how FEW hands he can get along with—is not this the time to study carefully the claims of labor-saving tools? How much Wages will a good Emery Grinding Machine draw? How many men now working with File, and Grindstone, and Cold Chisel, and Vise, can be dispensed with by running a Rotary File a mile a minute? How many Pay Roll Swelling men will it take to do with Vise and File, what one man will do with that never-dulling Rotary File, a Tanite Emery Wheel? That File will use not a crystal of Adamant, and whose speed is as 5,500 feet to 60 feet. When money is scarce, Labor Saving Tools are cheap!

Improved Foot Lathes. Small Engine Lathes, Small Gear Cutters, Hand Planes for metal, Ball Turning Machines, Slide Rests, Foot Scroll Saws. The very best. Selling everywhere. Catalogues free. N. H. BALDWIN, Laconia, N.H.

HORSE STALL FLOOR, Patented through the Scientific American Patent Agency, June 4, 1872. Rights sent by mail with full instructions how to make and use, together with Brass Patent Stamp, on receipt of 50 cts. each. They will keep the stall clean and the horse much more comfortable. Requires but one third of the usual amount of bedding, and is so simple that any man can make them with but little expense. G. W. GORDON, Chelsea, Mass.

Digestion and Dyspepsia. A COMPLETE EXPLANATION OF THE PHYSIOLOGY OF THE Digestive Processes, with the Symptoms and Treatment of Dyspepsia and other Disorders. By R. T. TRAIL, M.D. By far the best and only complete work on the subject; every process of digestion is carefully illustrated, and fully explained. The causes of dyspepsia, with minute directions for the successful treatment of a disease from which the world is suffering, more perhaps, than from any other. This book tells us "what to eat" and "how to eat it," "what to do" and "how to do it," "to cure Dyspepsia without medicine." For sale by booksellers, or sent first post, on receipt of price, \$1. By S. R. WELLS, Publisher, 329 Broadway, New York. State where you saw this advt. We have also "The Brain," 50 cents; "Hygienic Hand-Book," \$2; "Hydrophobic Encyclopedia," \$4.50; THE SCIENCE OF HEALTH, a first-class monthly, \$2 a year, 6 months on trial. Send for this treated Catalogue and Special List of private medical works.

SELF OILERS, FOR ALL KINDS OF MACHINERY AND STEAM CHESTS OF ENGINES. Owing to recent improvements in our works, we are enabled to sell Oil Cups, equal in finish and utility, at 25 per cent less than any house in the country. T. HOLLAND, 8 Gold Street, New York.

NUMEROUS TESTS HAVE PROVED N.F. BURNHAM'S NEW TURBINE WATER WHEEL TO BE THE BEST EVER INVENTED. PAMPHLET FREE. ADDRESS, YORK, PA.

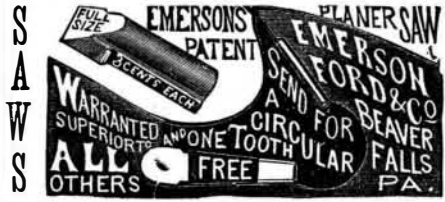
KIDDER'S PASTILES—A Sure Relief for Asthma. STOWELL & CO. Charlestown, Mass.



HOUSTON'S PATENT TURBINE WATER WHEEL. Simplest, Strongest, Cheapest, Best. In the test at Holyoke, in 1872, the Houston gave the highest percentage ever shown in a reliable test and the highest average results ever obtained. In practical use it is everywhere demonstrating its superiority over all others. Emerson's full report furnished on application. Send for Circular. MERRILL & HOUSTON IRON WORKS, Beloit, Wisconsin.

Malleable Iron & Steel Castings

MADE TO PATTERN BY CARR, CRAWLEY & DEVLIN, OFFICE, 307 ARCH STREET, PHILADELPHIA, PA., Manufacturers also of FINE GREY IRON CASTINGS, and an assortment of BUILDING AND CABINET, CARRIAGE AND SADDLERY HARDWARE for the Trade.



Todd & Rafferty Machine Co. MANUFACTURERS OF The celebrated Greene Variable Cut-Off Engine; Lowe's Patent Tubular and Flue Boilers; Plain Slide Valve Stationary, Hoisting, and Portable Engines. Boilers of all kinds. Steam Pumps, Mill Gearing, Shafting, &c.; Silk, Tow, Oakum, Bagging, Rope, Flax, and Hemp Machinery. Agents for the New Haven Manufacturing Co.'s Machinists' Tools; for Judson's Governors and Stop-Valves; Sturtevant Blowers; and Differential Pulley-Blocks. WAREHOUSES, 10 BARCLAY ST., NEW YORK. WORKS, PATERSON, NEW JERSEY.

LUBRICATORS. DREYFUS' transparent Self-acting Oilers, for all sorts of Machinery and Shafting, are reliable in all seasons, saving 75-95 per cent. The SELF-ACTING LUBRICATOR for Cylinders is now adopted by over 150 R.R. in the U.S., and by hundreds of stationary engines. NATHAN & DREYFUS, 108 Liberty St., N.Y.

Working Models And Experimental Machinery, Metal, or Wood, made to order by J. F. WERNER, 62 Center st., N. Y.

SUPER-HEATERS Save fuel, and supply DRY steam. Easily attached to any boiler. HENRY W. BULKLEY, Engineer, 98 Liberty St., New York.

Pyrometers. For testing Ovens, Boiler flues, Blast furnaces. Super-Heated Steam, Oil Stills, &c. Address HENRY W. BULKLEY, 98 Liberty St., New York.

500,000 LBS IRON MELTED IN 8 1/2 HOURS. MESS THWAITS & CARBUTT MAKERS ROOTS BLOWER ENGLAND. "I USED TWO No 5 ROOTS BLOWER WHEN CASTING THE 250 TON ANVIL BLOCK MELTING 30 TONS IRON PER HOUR. I SHALL IN FUTURE EXCLUSIVELY RECOMMEND THIS BLOWER." RH. & F.M. ROOTS CONNERSVILLE IND. W. IRELAND S.S. TOWNSEND GENL AGT 31 LIBERTY ST. N.Y. PATENTEE IRELANDS CUPOLA.

AGENTS WANTED—Anybody can make it pay. First class articles for Office and House hold use. Manufacturers' prices and enormous profits. Address, for circular, JAS. H. WHITE, Newark, N.J.

SCHLENKER'S PATENT BOLT CUTTER. NEW INVENTION. ADDRESS, HOWARD IRON WORKS, BUFFALO, N.Y.

WIRE ROPE. JOHN A. ROEBLING'S SONS MANUFACTURERS, TRENTON, N. J. FOR Inclined Planes, Standing Ship Rigging Bridges, Ferries, Stays, or Guys on Derricks & Cranes, Tiller Ropes, Sash Cords of Copper and Iron, Lightning Conductors of Copper. Special attention given to hoisting rope of all kinds for Mines and Elevators. Apply for circular, giving price and other information. Send for pamphlet on Transmission of Power by Wire Ropes. A large stock constantly on hand at New York Warehouse No. 117 Liberty street.

WIRE ROPE. John W. Mason & Co., 43 Broadway, New York.

IRON PLANERS, ENGINE LATHES Drills, and other Machinists' Tools, of superior quality, on hand, and finishing. For sale low. For Description and Price address NEW HAVEN MANUFACTURING CO. New Haven, Conn. Machinist's Tools, EXTRA HEAVY AND IMPROVED. LUCIUS W. POND, MANUFACTURER Worcester, Mass. Warerooms, 98 Liberty St., New York. A. C. STEBBINS, Agent.

PAT. WATER-PROOF BUILDING PAPER. NO TAR USED. Parties using this Paper once will use no other. COFFIN & LYON, Paper and Twine Warehouse, No. 23 Beekman Street, New York, Sole Agents. Samples and Catalogues sent free.

IRON STEAMSHIP BUILDERS. NEAFIE & LEVY, PENN WORKS, MARINE ENGINES, BOILERS, AND BUILDERS OF COMPOUND ENGINES, PHILADELPHIA, PA.

STEAM BOILER AND PIPE COVERING. Saves ten to twenty per cent. CHALMERS SPENCE CO., foot E. 9th St., N. Y.; 1202 N. 2nd St., St. Louis, Mo.

CARPENTERS. A specimen copy of the AMERICAN BUILDER mailed to you free by sending address to CHARLES D. LAKEY, Publisher, 25 Murray Street, New York.

EVERY VARIETY STEAM PUMPS. SEND FOR ILLUSTRATED CATALOGUE COPE & MAXWELL MFG. CO. HAMILTON, OHIO.

NOYE'S MILL FURNISHING WORKS are the largest in the United States. They make Burr Millstones, Portable Mills, Saut Machines, Packers, Mill Picks, Water Wheels, Pulleys and Gearing, specially adapted to four mills. Send for catalogue. J. T. NOYE & SON, Buffalo, N. Y.

KEEP YOUR BOILERS CLEAN. ANTI LAMINA prevents and removes scale in Steam Boilers—does not injure the Iron. In use over five years. Patented. J. J. ALLEN'S SONS, Philadelphia, Pa.

AMERICAN SAW CO., No. 1 Ferry St., New York. Movable-Toothed Circular Saws PERFORATED CROSS-CUT, AND SOLID SAWS. ALSO, IVENS & BROOKES PATENT Eccentric-Geared Power Press.

RANSOM SYPHON CONDENSER perfects and maintains vacuum on Steam Engines at cost of one per cent its value, and by its use Vacuum Pans are run with full vacuum without Air Pump. Please call at the Company's office, Buffalo, N. Y. Circulars sent to any address.

STATIONARY AND PORTABLE STEAM ENGINES. Babcock & Wilcox Patent Safety Boilers, LEFFEL'S DOUBLE TURBINE WATER WHEEL, SHAFTING, PULLEYS, HANGERS AND GEARING. POOLE & HUNT, BALTIMORE.

"Soluble Glass," Manufactured by L. & J. W. FEUCHTWANGER, New York.

LEFFEL'S IMPROVED DOUBLE TURBINE WATER WHEEL. New Book Just Out—160 PAGES SENT FREE. JAMES LEFFEL & CO., SPRINGFIELD, OHIO, or 109 LIBERTY ST., N. Y. CITY.

ROGERS' TANNATE OF SODA, against R incrustation in boilers; generally approved by Scientists and Engineers. Send for Book. FOUR OUNCES—COSTING ONLY 9 CENTS—DAILY WILL CLEAN, AND KEEP CLEAN, AN AVERAGE BOILER WITH AVERAGE WATER AND PRESSURE. 35 cents per pound. Address JOS. G. ROGERS & CO., Madison, Ind. The manufacture or use of any form of Tannate of Soda, for above purpose, is our EXCLUSIVE right under patents. Any infringements of same will be vigorously prosecuted.

MAGIC LANTERNS AND STEREOTYPES, for Public Exhibitions, Outdoor Advertisements, etc., etc. A good paying investment for a man with small capital. Catalogues free. McALLISTER, Optician, 49 Nassau St., New York.

How Pig Iron can be Made FOR FIVE DOLLARS A TON, CLEAR OF SULPHUR. Inquire of D. C. FLINT, Bardolph, Ills.

EMERY WHEEL MACHINERY for grinding Tools and Metals, gumming Saws, cleaning Castings, grinding Planer Knives perfectly straight—unequaled for the sterling quality of its material and workmanship, the durability of every part. Address AMERICAN TWIST DRILL COMPANY, Woonsocket, R. I.

PORTLAND CEMENT, From the best London Manufacturers. For sale by JAMES BRAND, 55 Cliff St., N. Y. A Practical Treatise on Cement furnished for 25 cents.

T. V. Carpenter, Advertising Agent. Address Box 778, New York city.

THREE PLY ROOFING. In Use Ten Years. A good article, well recommended, and suitable for either steep or flat roofs. Send for Circular and Samples. MICA ROOFING CO., 73 Maiden Lane, New York.

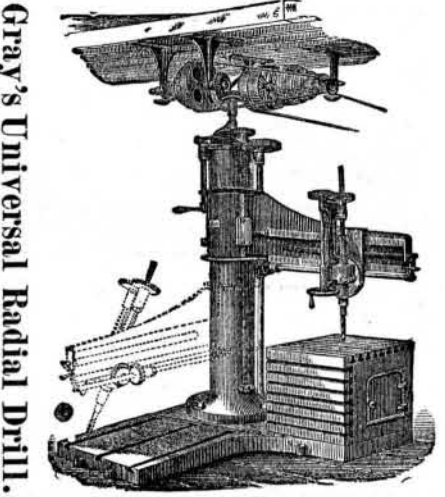
THE LATEST IMPROVEMENT IN LUBRICATORS. This NEEDLE-VALVE OIL FEEDER for Locomotive and Stationary Engines has met with great success. Master Mechanics will be furnished with Sample Cups by addressing CINCINNATI BRASS WORKS.

P. BLAISDELL & CO., MANUFACTURERS OF THE BEST Patent Drill Presses, with Quick Return Motion, In the Market, also other Machinist Tools. SEND FOR CUTS. WORCESTER, MASS.

BUILDERS SEND FOR BOOK CATALOGUE BICKNELL, 27 Warren st., N.Y.

The Pulsometer or Magic Pump. The simplest, most durable and effective steam pump now in use. Adapted to all situations and performs all the functions of a steam pump without its consequent wear and care. No machinery about it. Nothing to wear out. Will pump gritty or muddy water without wear or injury to its parts. It cannot get out of order. C. HENRY HALL & CO., 20 Cortlandt Street, New York City.

NILESTOOL WORKS, HAMILTON, OHIO.



MAHOGANY, ROSEWOOD, WALNUT, WHITE HOLLY SATIN WOOD HUNGARIAN ASH, AND ALL KINDS OF WOODS. IN LOGS, PLANK, BOARDS, AND VENEERS. GEO. W. READ & CO., Millard Yard, 196 to 200 Lewis St., cor. 6th St., E. R., N. Y. Orders by mail promptly and faithfully executed. Enclose 3c. stamp for Catalogue and Price List.

Veneer Cutting Machines FOR SALE. ONE ROTARY MACHINE, cutting 4 ft. long and 4 ft. diameter. ONE SLICING MACHINE, cutting 5 ft. 6 in. long. Both in perfect order, with pulleys, shafting, etc. Complete for immediate use. Price low. Address GEO. W. READ & CO., 186 to 200 Lewis Street, E. R., New York.

THE HEALD & SISCO Patent Centrifugal Pumps, VERTICAL & HORIZONTAL. First Prizes at New Orleans, Cincinnati, and New York. "Medal of Special Award," American Institute, 1872. Perfect satisfaction guaranteed. The cheapest, most durable, popular and successful Pump known, for Paper Makers, Tanners, Contractors, Brick Makers, Distillers, etc. Pumps with engine on frame, complete, at low figures, for Wrecking, Dredging, Irrigating, etc. Illustrated pamphlet, free. 600 references to parties actually using the Pump. 22 pages of the strongest possible testimony. Address HEALD, SISCO & CO., Baldwinville, N. Y.

N. Y. Safety Steam Power Co., 30 CORTLANDT STREET, NEW YORK Superior STEAM ENGINES AND BOILERS, by special machinery and duplication of parts. They are Safe, Economical, Easily Managed and not liable to derangement. Their COMBINED ENGINE AND BOILER is peculiarly adapted to all purposes requiring small power. More than 400 engines, from 2 to 100 horse power, in use. Send for illustrated circular.

\$75 to \$250 per month, everywhere male and female, to introduce the GENUINE IMPROVED COMMON SENSE FAMILY SEWING MACHINE. This Machine will stitch, hem, fell, tack, quilt, cord, bind, braid and embroider in a most superior manner. Price only \$15. Fully licensed and warranted for five years. We will pay \$100 for any machine that will sew a stronger, more beautiful, or more elastic seam than ours. It makes the "Elastic Lock Stitch." Every second stitch can be cut, and still the cloth cannot be pulled apart without tearing it. We pay Agents from \$75 to \$250 per month and expenses, or a commission on which twice the amount can be made. Address SECOMB & CO., Boston, Mass.; Pittsburgh, Pa.; Chicago, Ill.; or St. Louis, Mo.

TRY THE VICTOR DRILL CHUCK.—Warranted to hold with a clasp of the hand. Triumphant at Vienna. HUBBARD & CURTIS MANUFACTURING CO., Address Middletown, Conn.

THE "Scientific American" is printed with CHAS. ENEU JOHNSON & CO.'S INK, Tenth and Lombard sts., Philadelphia and 59 Gold st., New York.