

Business and Personal.

The Charge for Insertion under this head is One Dollar a Line for each insertion. If the Notice exceeds Four Lines, One Dollar and a Half per Line will be charged.

Pat. Att'y's & Experts wanted everywhere, to Coll't Millions. Good pay. Add. Am. Pat. Coll'n Co., Phila., Pa.

Agricultural Implements and Industrial Machinery for Export and Domestic Use. R. H. Allen & Co., N. Y.

John McDonald (formerly of Kingston, Jamaica) will please address Geo. B. Lundy, Balmoral, Ontario, Ca.

A Responsible Patent Right Manager Wanted—Carriages and R. R. Cars can be run without oiling. Address or call on Geo. Beck, Charlotte, Monroe, Co., N. Y.

Adjustable Screw Wrenches (Monkey Wrenches), equal to the best in strength and utility. Mailed, post paid, viz.: 6 in., 66c.; 8 in., 75c.; 10 in., 90c.; 12 in., \$1; 15 in., \$1.50. E. H. Hawley, New Haven, Conn.

Pattern Makers can get Metallic Pattern Letters, to letter patterns, of H. W. Knight, Seneca Falls, N. Y.

Wanted, to take charge of Shop, a good Machinist who can invest \$2,000 in the business. Address, with reference, N. Upham, Agent, Athol, Mass.

Models for Inventors. H. B. Morris, Ithaca, N. Y.

Wanted to Buy Patents of Saleable Articles in Iron or Brass. Address, with particulars, "Star," 245 North 8th St., Philadelphia, Pa.

Jethro Wood.—If any of our readers can send or refer us to any publication containing a portrait of Jethro Wood, the plow inventor, we should be obliged. Munn & Co.

For the cheapest and best Small Portable Engine manufactured, address Peter Walrath, Chittenango, N. Y.

Amateur Scroll Saws, the best.—Address, with stamp, Trump Bros., Wilmington, Del.

Hand Fire Engines, Lift and Force Pumps for fire and all other purposes. Address Rumsey & Co., Seneca Falls, N. Y., U. S. A.

Drops for Sale—Very Cheap—One each 250 & 400 lb. Sheet metal stamping. Hull & Belden Co., Danbury, Ct.

Linen Hose, Rubber lined and unlined, for factories or fire engines, at lowest rates. Greene, Tweed & Co., 18 Park Place, New York.

Baxter's Adjustable Wrench for first class Mechanics, 62 cents each. Sent by mail on receipt of price. Greene, Tweed & Co., 18 Park Place, New York.

See Boul't's Paneling, Moulding, and Dovetailing Machine at Centennial, B. 8-55. Send for pamphlet and sample of work. B. C. Mach'y Co., Battle Creek, Mich.

M. Shaw, Manufacturer of Insulated Wire for galvanic and telegraph purposes, &c., 259 W. 27th St., N. Y.

F. C. Beach & Co., makers of the Tom Thumb Telegraph and other electrical machines, have removed to 530 Water Street, New York.

Pat'd Graining Stencils—J. J. Callow, Cleveland, O.

Lathe Dogs, Expanding Mandrels, Steel Clamps, &c., for Machinists. Manufactured by G. W. LeCount, So. Norwalk, Ct. Send for reduced Price List.

Dynamo-Electric Machines for electro-plating and other purposes. Send for illustrated circular. W. Hochhausen, 132 William St., New York.

"Abbe" Bolt Forging Machines and Palmer Power Hammers a specialty. Send for reduced price lists. S. C. Forsaith & Co., Manchester, N. H.

400 new & 2d hand Machines, at low prices, fully described in printed lists. Send stamp, stating just what you want. S. C. Forsaith & Co., Manchester, N. H.

Driving Belts made to order, to accomplish work required. Send full particulars for prices to C. W. Army, 145 North Third St., Philadelphia, Pa.

Scientific American—The early Volumes for sale—very cheap—either bound or in numbers. Address A. F. R., Box 773, New York City.

Hydrant Hose, Pipes, and Couplings. Send for prices to Bailey, Farrell & Co., Pittsburgh, Pa.

Machine-cut brass gear wheels, for models, &c. List free. D. Gilbert & Son, 212 Chester St., Phila., Pa.

"Dead Stroke" Power Hammers—recently greatly improved, increasing cost over 10 per cent. Prices reduced over 20 per cent. Hull & Belden Co., Danbury, Ct.

Power & Foot Presses & all Fruit-can Tools. Feracate Wks., Bridgeton, N. J. & C. 27, Mch. Hall, Cent'l.

Shingles and Heading Sawing Machine. See advertisement of Trevor & Co., Lockport, N. Y.

Steel Castings, from one lb. to five thousand lbs. Invaluable for strength and durability. Circulars free. Pittsburgh Steel Casting Co., Pittsburgh, Pa.

For best Presses, Dies, and Fruit Can Tools, Bliss & Williams, cor. of Plymouth and Jay, Brooklyn, N. Y.

For Solid Wrought-Iron Beams, etc., see advertisement. Address Union Iron Mills, Pittsburgh, Pa., for lithograph, &c.

Hotchkiss & Ball, Meriden, Conn., Foundrymen and workers of sheet metal. Fine Gray Iron Castings to order. Job work solicited.

For Solid Emery Wheels and Machinery, send to the Union Stone Co., Boston, Mass., for circular.

Hydraulic Presses and Jacks, new and second hand. Lathes and Machinery for Polishing and Bunting metals. E. Lyon, 470 Grand Street, New York.

Diamond Tools—J. Dickinson, 64 Nassau St., N. Y. Temples and Oilcans. Draper, Hopedale, Mass.

Notes & Queries

W. C. W. will find directions for purifying his cistern water on p. 395, vol. 32.—R. C. C. will find a description of an incubator on p. 273, vol. 33.—E. F. Y. can waterproof his boots by following the directions on p. 154, vol. 26. Wire will do as well or better than string for the two cent telegraph.—G. P. A. will find a recipe for a durable paint for iron on p. 319, vol. 31.—W. R. H. is informed that a steam derrick is commonly used for raising a sunken ship.—A. P. M. can clean light leather shoes by the process described on p. 68, vol. 34.—W. C. M., J. C. L., J. H. D., E. L., R., J. H. P., & Co., S. & E., and many others, who ask us to recommend books on industrial and scientific subjects, should address the booksellers who advertise in our columns, all of whom are trustworthy firms, for catalogues.

(1) F. McA. says: I have produced colors from a certain bug, and I have also procured a color from the gum of the fir tree. How can I tell whether they are dyes or not? A. Treat

them with the various solvents, such as water, alcohol, acid liquids, alkaline solutions, etc., until you discover the proper solvent. Then experiment with the solution obtained on woolen and other goods with the various mordants. 2. How can I separate nitric acid from a mixture without altering the nature of the mixture? A. You fail to state with what the acid is associated. It is necessary to know this in order to answer your question.

(2) J. W. and others.—We do not think that feathers are generally injured by steam heating. We believe this method is considered one of the best ways of purifying feathers.

(3) A. S. asks: 1. Is a person liable to get the hydrophobia from having been bitten by a dog entirely free from it? A. No. 2. How soon does it make its appearance? A. Sometimes years elapse, but it is oftener developed in a few days or weeks. 3. What are its first symptoms? A. It is characterized, as its name implies, by a singular loathing for water, also by violent spasms of pain in the spinal column and brain.

(4) J. W. W. says: A friend contends that whisky, brandy, etc., increase in strength after they are three years old. I contend that they continue to decrease as long as there is any spirit remaining. Which is correct? A. As far as we have observed, the liquors, if kept in barrels, decrease constantly in the percentage of alcohol by evaporation and otherwise.

(5) J. E. F. asks:—What can I mix with cod-tion seed oil, as a substitute for boiled oil in paints, and to make it act as a dryer? A. Litharge.

(6) A subscriber asks: Is it possible for an iceboat sailing in any direction to sail faster than the wind? A. Yes. On smooth ice, sailing at the proper angle, ice boats often move much faster than the wind. The wedge principle is involved. For example: a wedge two inches square at the head, six inches long, sloped on one side to point. If such a wedge be introduced between two sufficiently strong bodies, one of which is fixed, the other movable against the sloping side of the wedge: if sufficient force is applied to the movable body, it will expel the wedge, which latter must move six inches, during the same time that the impelling body moves two inches. The ice boat sail is the wedge, ice the fixed body, wind the force acting against the sloping side of the wedge.

MINERALS, ETC.—Specimens have been received from the following correspondents, and examined, with the results stated:

J. M. N.—It is clay containing a large percentage of carbonate of lime.—E. W.—It is an trilobite, found in the older fossiliferous rocks. It was long supposed to be an insect fossil, but it was at length ascertained that it corresponded most nearly to the living genera of crustaceans, the *gerolls*, *lumulus*, *branchipus*.—D. K. C.—The specimen appears to be brown coal.—H. & J.—The specimen of clay is of unusual purity, and gives a very clear porcelain.—G. H. S.—Nos. 1 and 3 are magnetic oxide of iron (lodestone). No. 2 is spiegeleisen, a carburet of iron with manganese.—R. C. J.—Your sample appears to be a scrap of spiegeleisen—a carburet of iron.—F. T. M.—The water contains a considerable quantity of carbonate of iron in solution, which, on exposure to air, is precipitated by the escape of the carbonic acid with which the water is charged. The sediment consists of hydrated sesquioxide and carbonate of iron, together with some carbonate of lime. The water will be improved by the addition of a little lime water—not too much.—It. Y. G.—It is an impure clay containing iron. It might be employed for the purpose you mention. There is an alloy commonly known by the name of unionment.—We have received a slate pencil box, not labeled, containing a number of pieces of granite, gneiss rock, and hornblende.

J. A. P. asks: In making fruit butter, etc., I am anxious to know if the dried fruit is wholly used, or is there a mixture of both dried and fresh? Is it ground, or reduced by boiling, etc.?—A. R. asks: Can any one inform me of the process of making lager beer?—P. McS. O'F. asks: What purpose does the two-fold division of the back and belly of a violin serve? Is the belly carved or scooped out to the proper shape, or is the material steamed and then compressed to the required shape?—J. N. J. asks: How much does a wagon axle need to be set under, and why should not the under side be straight or level as it lays in the box? Does the concavity of the wheel make any difference as to the setting of the axle? Is not a straight wheel better and stronger than one that is concave?

COMMUNICATIONS RECEIVED.

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

- On the Moon's Longitude. By J. H.
On Working Men's Education. By A. S.
On Weight on and in the Earth. By H. A. H.
Also inquires and answers from the following:
G. F.—L. H.—H. T.—F. T. H.—E. C. W.—W. C.—C. C.—C. F. S.—J. E. K.—F. E. H.—M. D. H.—G. T. W.—J. F. C. G.—V. T. B.—G. W. P.

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 inquiries analogous to the following are sent: "Who sells friction match making machinery? Who is the best railway ticket printing machine? Why do not makers of telegraph batteries advertise in the SCIENTIFIC AMERICAN? Who sells the best carriage varnish?" All such personal inquiries 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

August 1, 1876,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list, including both the specifications and drawings, will be furnished from this office for one dollar. In ordering, please state the number and date of the patent desired, and remit to Munn & Co., 37 Park Row, New York city.

Table listing inventions with patent numbers and names of inventors. Includes items like Air brake relief valve, Air compressor, Alarm circuit closer, etc.

Table listing inventions with patent numbers and names of inventors. Includes items like Gas for motive power, Gas meter, Gas washer, Gate-closing device, etc.

Table listing various mechanical parts and their prices, including stamp cancellers, stockings, stoves, and various tools.

Table listing designs patented, including torches, window shades, crosses, and various mechanical devices.

[A copy of any one of the above patents may be had by remitting one dollar to Munn & Co., 37 Park Row, New York city.]

Table titled 'SCHEDULE OF PATENT FEES' listing costs for various patent-related services.

Advertisements.

Inside Page, each insertion --- 75 cents a line. Back Page, each insertion --- \$1.00 a line.

WANTED—Circulars and Catalogues, Price Lists of Articles suitable for the Swedish Market.

VINEGAR, HOW MADE IN 10 HOURS from Cider, Wine or Sorghum, without using drugs.

OLIENE COMPOUND A SUBSTITUTE FOR OIL FOR LUBRICATING MACHINERY. Will save 50 per cent.

YOUNG AMERICA SCROLL SAW beats the world. J. M. BEUGLER, M'FG, Williamsport, Pa.

ENGINEERS and Engine Owners should all understand the ALLEN GOVERNOR. Illustrated circular sent free.

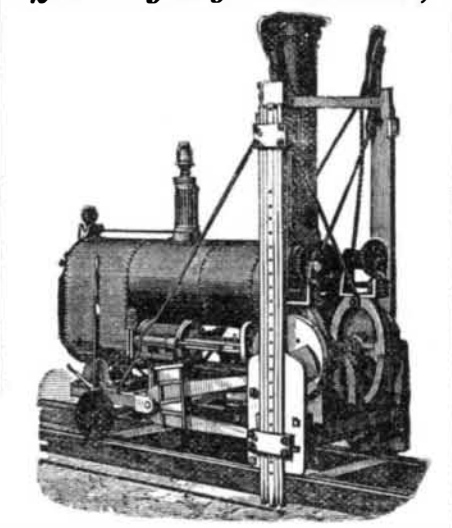
UNITED STATES PATENT ASSOCIATION. A meeting of this Society will be held at the Hall of the Franklin Institute, in the City of Philadelphia, on Thursday, September 7th, at 11 o'clock, A. M.

WHIPPLE'S Patent Door Knob. Awarded a Bronze Medal at the American Institute Fair for 1874.

Planing & Matching. Moulding, Re-sawing, and Tenoning Machines. Scroll Saws and General Wood-Working Machinery.

AIR COMPRESSORS FOR ALL PURPOSES. A SPECIALTY OF HEAVY PRESSURES.

Stone Channeling OR Quarrying Machine.



WARDWELL PATENT, FOR CUTTING STONE INTO VARIOUS SIZES AND DIMENSIONS IN ALL KINDS OF QUARRIES.

FILES.

The very best in the United States are those of the old and well-known "WHEELER, MADDEN & CLEMSON" brand.

HOW TO MAKE SPIRAL SPRINGS. By Joshua Rose. With three engravings of the tools, which are easily made, and complete practical directions for working.

DAYTON CAM PUMP.

Designed especially for Boiler Feeding. Are Pumping water at 268° F. No Dead Centers. The Steam Valve is a plain Slide Valve.

Smith, Vaile & Co., DAYTON, OHIO. AMATEUR WORKERS Can find everything they desire in Rare and Fancy Woods.

WE ENAMEL IN FINE JET BLACK every variety of turned wood work parts of machinery, castings, tin ware and other metal work ENAMELED JET BLACKS, in wood or metal, made to order.

WATER SUPPLY FOR TOWNS AND VILLAGES. By Clarence Delafield, C. E. A concise and valuable Report, showing the Cost and Merits of the Various Systems—Discussion of the Holy System, its Merits and Defects—The Reservoir System, with Pumps, Cost, and Advantages—Results Obtained and Economy of Use of Various Systems in Different Towns, with Names and Duty Realized, Facts and Figures to enable Town Committees to judge for themselves as to the system best suited for their wants.

D. LANGELL'S ASTHMA & CATARRH REMEDY. Having struggled twenty years between life and death with ASTHMA, I experimented by compounding roots and herbs and inhaling the medicine.

WANTED—To manufacture some Patented Article, either wood or metal, of acknowledged merit, on royalty—when exclusive right for the northwest can be had.

Wood-Working Machinery, Such as Woodworth Planing, Tongueing, and Grooving Machines, Danley's Planers, Richardson's Patent Improved Tenon Machines, Moulding, and Resaw Machines, and Wood-Working Machinery generally.

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.

THE CENTENNIAL INTERNATIONAL EXHIBITION OF 1876.—The full History and Progress of the Exhibition, maps of the grounds, engravings of the buildings, news and accounts of all the most notable objects, are given weekly in the SCIENTIFIC AMERICAN SUPPLEMENT.

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THE TRADE ENGINE.



FOR ALL KINDS OF MACHINERY—Apply to S. C. HILLS, 51 Cortlandt St., New York.

NOTICE TO MILLWRIGHTS. Tenders are invited, from responsible parties, for the Millwright work in the "Dunlop Elevator and Mill," on Quay Street, Albany, N. Y.

Lathes, Planers, Shapers, Drills, Gear & Bolt Cutters, &c. E. GOULD, Newark, N. J.

CIVIL and MECHANICAL ENGINEERING at the Rensselaer Polytechnic Institute, Troy, N. Y.

EAGLE FOOT LATHES, With Scroll and Circular Saw Attachments, Slide Rest, Tools, &c.; also Small Engine Lathes, Metal Hand Planers, &c.

BEAN'S FRICTION CLUTCH, The Best on the Globe, Universally adopted by ROLLING MILLS.

THE Bigelow Engine, The Cheapest and Best Portable Engine offered to the Public.



Price, 4 Horse Power.....\$300 " 6 " ".....400 " 8 " ".....475 " 10 " ".....545 " 12 " ".....720 " 15 " ".....300

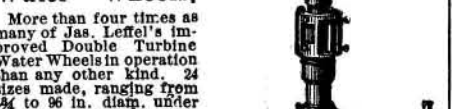
Price of Stationary Engines: Without Boilers. 4 Horse Power.....\$150 6 " ".....175 7 to 8 1/2 Horse Power.....225 12 to 15 " ".....300

PATENT SCROLL SAWS. Our specialty is Scroll and Band Saws. Over 800 Machines in use.

\$12 a day at home. Agents wanted. Outfit and terms free. TRUE & Co., Augusta, Maine.

SPARE THE CROTON & SAVE THE COST. Driven or Tube Wells furnished to large consumers of Croton and Ridgewood Water.

Water Wheels. More than four times as many of Jas. Leffel's Improved Double Turbine Water Wheels in operation than any other kind.



MACHINERY OF EVERY DESCRIPTION, COLD ROLLED SHAFTING, HANGERS, PULLEYS, COUPLINGS, BELTING, TANTIE EMERY WHEELS AND GRINDERS, IN STOCK.

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REVERSIBLE HOISTING ENGINE FOR ALL PURPOSES.

WANTED Men to travel and sell goods to dealers. No peddling. \$80 a month, hotel and traveling expenses paid.

NORWICH University Scientific and Military School, Northfield, Vt. Address Prof. CHARLES DOLE.

MANUFACTURERS AND PATENTEES having useful articles, suitable for the Hardware Trade and desiring aid to manufacture and introduce the same.

OTIS' SAFETY HOISTING Machinery.

CELEBRATED FOOT LATHES. Foot Power, Back-gear Screw Lathes, Small Hand and Power Planers for Metal, Small Gear Cutters, Slide-rests, Ball Machine for Lathes, Foot Scroll Saws, light and heavy, Foot Circular Saws. Just the thing for amateurs and artisans.

MACHINERY OF IMPROVED STYLES FOR making SHINGLES, HEADING, and STAVES; also GUAGE LATHES for TURNING HANDLES.

BLOSSOM ROCK, HARBOR OF SAN FRANCISCO. Full Account of its Removal, Method and Cost. By Col. R. S. Williamson.

Pond's Tools.

ENGINE LATHES, PLANERS, DRILLS, &c. Send for Catalogue. DAVID W. POND, Successor to LUCIUS W. POND, Worcester, Mass.

JOYFUL News for Boys and Girls!! Young and Old!!! NEW INVENTION just patented for the time.

STEAM ENGINES FOR SALE.

I offer the following very superior Todd & Rafferty Engines for sale at greatly reduced prices: One 18x36, one 12x18, one 12x24, one 10x24, one 8x30, one 7x16, one 5x10 on legs, one 8x15, portable one 12x16, double hoisting; all first class and entirely new.

ENGINES and BOILERS.

CENTENNIAL MILLS. Harrison's Standard Flouring and Grinding Mills.

Excel all others in Machinery Hall in the quantity and quality of flour and meal produced, and are ahead of the age. Prices 50 per cent below any others in the market.

The HOADLEY PORTABLE STEAM ENGINE.

HARVARD UNIVERSITY DENTAL SCHOOL. The next year of this school begins under the new plan, Sept. 25, 1876, and ends June 27, 1877.

Stubs' Files, Tools & Steel. Machinists' Fine Tools, Jewelers' and Engravers' Supplies, Lathes, Chucks, Vises, Taps and Dies, Reamers, Morse Drills, Files, and small Tools of all kinds.

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