

Correspondents

W. S., of Ohio.—For information relative to bows and arrows see "Boy's Book of Amusements," and kindred works. Subscription received.
D. D. C., of Mass.—You are advised to communicate your invention to some reliable individual having means and sense, and arrange with him to test and bring out your improvement. You will never be able to save six-sevenths of the cost of fuel now required.
C. L. P., of Va.—We think there is nothing patentable in your separator device.
E. S., of La.—Your plan might partially ventilate, but would not disinfect the steamer Susquehanna.
A. R., of Pa.—Urtica is the name applied to the roots of certain plants of the hellebore tribe in China; but which is the precise root that the Chinese employ to drive away musquitos, we cannot say.
A Subscriber, of Ind.—No tool-makers keep on hand tools to tighten boiler tubes. You must have a conical mandrel to fit the tubes of your boiler, and tighten them yourself.
A. W. C. and G. P. D., of Mo.—You can make a beautiful oil for lubricating watches and clocks by agitating the best sperm oil with about 25 per cent of its weight of absolute alcohol. This should be done in a glass bottle for about one hour, then allow the matter to settle, in order to obtain the clear oil. The alcohol removes the water, some of the fatty acid, and the bitumen from the oil. Any oil so treated is greatly improved for lubricating purposes.
J. A. M., of Mass.—Grind up some glass or fine white sand to powder, and boil it in a strong caustic lye, and you will obtain soluble glass. It is not sold in this city.
P. M. McN., of Mich.—You can obtain any kind of colored glass from William Gibbon, glass stainer and decorator, 374 Broadway, this city.
R. M., of Va.—There are no steam boilers in use in which the furnace is not placed in contact with the boiler; but in some iron works the waste heat from the smelting furnaces is used to generate steam in boilers. Wood is the best fuel to employ, if you design to use a furnace separate from the boiler, as the flame extends a long distance into the flue. The horse-power of your boiler will be in proportion to the heating surface. You should allow nine square feet for each horse-power.
J. M. H., of Miss.—Catechu is employed for tanning skins, and it is a good base upon which to apply logwood and a little sulphate of iron in solution, in order to color such skins black. It will also color skins brown, but no other colors, so far as we know. Sewing machines ought to be sold cheaper than they now are. Competition does not seem to affect the price.
J. J. M., of Tenn.—Dana's Mineralogy will give you the information desired in regard to American ores. Address Appleton & Co., this city.
G. W., of N. Y.—The Babbitt patent is generally considered to be invalid in this city, as Mr. Ayres has published affidavits to the effect that he had lined iron journal boxes with a soft metal in the Staten Island dye works prior to the issuing of the patent.
S. Y., of Mass.—The best cement you can use for an aquarium is common pitch; it will not affect the water, because it is not soluble in it.
Wm. F., of Pa.—If you wish us to publish the facts set forth in your letter in regard to the sale of aluminum, you will please embody them in an advertisement, and remit the amount for its publication as per terms—25 cents per line of eight words.
T. W., of Ill.—You have not read the article carefully on page 278, relating to the filling of teeth with tin. You assert that we stated that "tin is a non-conductor." Read the article again, and you will find it states that tin is a "superior non-conductor to gold"—not that it is a non-conductor. The conducting power of gold is 200; tin, 64. Always be sure you are right before you attempt to criticize. You are correct in your opinions regarding the efficiency of lightning rods. The solid section is the grand object; the thicker the rod the better the conductor.
H. T., of Ohio.—We advise you to get a good lift pump for your salt well, and use strong wooden pipes through which to raise the water. The salt will corrode all iron, more or less; but it does not act upon cast so readily as upon wrought iron. You should also use an engine of sufficient power to keep the water low enough to repair the pump if it should get out of order, because no work of man can be relied upon implicitly. We would prefer to use a pump with two, rather than one lift. This is commonly done in deep mines.
H. M. S., of N. Y.—Where there are no ears (the auditory nerve being absent) there can be no sound. The appreciation of vibrations by the sense of hearing is sound, just as the appreciation of objects by the sense of seeing is sight. Bodies do vibrate if there were no ears, and light would shine if there were no eyes; but sound and sight would be unknown.
A. W. Wadsworth.—Please to inform us in what State your Avon is located. There are nine towns of this name in the Post-office Directory, and to make sure of reaching you we should be obliged to write nine letters. Save us this dire necessity, by sending the information we need.
H. B., of Ind.—In 1856, R. D. Nesmith, of Lake Village, N. H., took out a patent for a machine for dressing mill stones. Our opinion of it, formed from an examination of a model, is favorable. Hughes' American Miller is a tolerable work on milling. It can be obtained from H. C. Baird, Philadelphia, Pa.
A. S., of N. H.—We cannot supply the missing numbers of our paper that you want, and do not think you can get them. We are always willing to answer such requests, and to supply missing numbers whenever we have them. But such requests are very numerous, and we have repeatedly said in our columns that we should always attend to them if possible, thus hoping to save ourselves the necessity of replying in every case.—

There are but three primary colors, namely, red, blue, and yellow. A green colored body reflects the blue and yellow rays which form green, while the red ray of light is absorbed. A purple colored object reflects the red and blue rays—the yellow is absorbed; and it is the same with all the other colors. You are mistaken in supposing that there are seven primary colors.
B. S., of Pa.—It is very difficult to dissolve old vulcanized india rubber in turpentine. It should first be steeped in warm oil or grease, then boiled in a lye of caustic alkali, made with potash or soda, after which it should be cut into thin slices, and placed in the turpentine. The turpentine should be kept warm in a close vessel. Naphtha is superior to turpentine as a solvent, but both require the aid of heat.
N. E. H., of Wis.—Common red ink is made with a strong decoction of red Brazil wood, or hypernic, to which is added a little alum and gum arabic. The best red ink is made with carmine, which is a preparation of cochineal. It is dear, and not in common use.
A Prussian gentleman wishes information in regard to a good machine for pegging boots and shoes. Address C. Crupadine, care Messrs. Munn & Co., New York City.
Who can supply machinery for making lime barrels? Information is also wanted in regard to the construction of a lime kiln for stone lime. Address C. H. S., Box 773, New York City.
Money received at the Scientific American Office on account of Patent Office business, for the week ending Saturday, May 29, 1858:—
J. J. P., of Ohio, \$55; D. B. T., of Ohio, \$25; H. R. W., of Ky., \$30; W. P., of Mo., \$10; I. H. Q., of Mich., \$31; I. G., of N. Y., \$60; J. F. T., of S. C., \$25; T. F., of Mo., \$30; G. M., of Mass., \$30; J. I., of N. Y., \$25; J. C. R., of N. Y., \$55; S. R. B., of N. Y., \$30; D. & M., of Ill., \$30; J. S. B., of S. C., \$25; D. C., Jr., of Ala., \$30; D. B., of N. Y., \$30; G. H., of N. Y., \$30; G. H. S., of Iowa, \$30; F. K., of Mass., \$15; H. K., of Ind., \$30; J. H. S., of Ind., \$55; J. R. P., of N. Y., \$250; T. W. L., of N. Y., \$25; J. D. T., of Ohio, \$30; J. D., of Ohio, \$30; S. G., of N. Y., \$30; W. H. Van G., of N. J., \$30; J. H. I., of Ill., \$10; J. P. K., of L. I., \$30; N. C. P. S., of N. Y., \$30; H. & W., of Mich., \$25; B. R., of Mass., \$27; B. A. R., of Conn., \$25; H. C. W., of Mass., \$30; A. S., of Ohio, \$20; A. F., of N. Y., \$25; A. D. S., of Vt., \$35; J. H., of Mass., \$30; J. A. T., of Ohio, \$30.
Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, May 29, 1858:—
D. & M., of Ill.; H. R. W., of Ky.; J. J. P., of O.; E. T. B., of Ga.; G. H., of Mass.; J. L., of N. Y.; D. B. T., of Ohio; J. F. T., of S. C.; J. H. P., of N. J.; J. S. B., of S. C.; K. & B., of N. Y.; A. F., of N. Y.; B. R., of Mass.; T. W. L., of N. Y.; J. C. R., of N. Y.; H. & W., of Mich.; M. C. & B., of Mo.; B. A. R., of Conn.; A. S., of Ohio, (2 cases); A. D. S., of Vt.
TO OUR SUBSCRIBERS.
BACK NUMBERS.—Complete sets of the present volume of the SCIENTIFIC AMERICAN can yet be furnished at the subscription price.
PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within fourteen years, can obtain a copy by addressing a letter to this office, stating the name of the patentee, and date of patent when known, and enclosing \$1 as fee for copying.
TERMS OF ADVERTISING.
Twenty-five cents per line each insertion. We respectfully request that our patrons will make their advertisements as short as possible. Engraving cannot be admitted into the advertising columns.
* * All advertisements must be paid for before inserting.
IMPORTANT TO INVENTORS.
AMERICAN AND FOREIGN PATENT SOLICITORS.—Messrs. MUNN & CO., Proprietors of the SCIENTIFIC AMERICAN, continue to procure patents for inventors in the United States and all foreign countries on the most liberal terms. Our experience is of twelve years' standing, and our facilities are unequalled by any other agency in the world. The long experience we have had in preparing specifications and drawings has rendered us perfectly conversant with the mode of doing business at the United States Patent Office, and with most of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office. Consultation may be had with the firm, between nine and four o'clock, daily, at their principal office, 128 Fulton street, New York. We have lately established a Branch Agency on the corner of F. and Seventh streets, Washington (opposite the United States Patent Office). This office is under the general superintendence of one of the firm, and is in daily communication with the Principal Office in New York, and personal attention will be given at the Patent Office to all such cases as may require it.
We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 65 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we may safely say that three-fourths of all the European patents secured to American citizens are procured through our Agency.
Circulars of information concerning the proper course to be pursued in obtaining patents through our Agency, the requirements of the Patent Office, &c., may be had gratis upon application at the principal office or either of the branches.
Communications and remittances should be addressed to MUNN & COMPANY, No. 128 Fulton street, New York.
The annexed letter from the late Commissioner of Patents we commend to the perusal of all persons interested in obtaining patents:—
Messrs. MUNN & Co.—I take pleasure in stating that while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE came through your hands. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the Office, a marked degree of promptness, skill, and fidelity to the interests of your employers.
Yours, very truly, CHAS. MASON.
MOWING AND REAPING KNIVES OF every description manufactured by C. H. LAME, No. 407 Cherry st., Philadelphia, Pa. First premium awarded by the United States Agricultural Society for mowing and reaping knives.

These machines have no rival.—[Scientific American.]
WHEELER & WILSON'S SEWING MACHINES, 343 Broadway, New York, received the highest premiums awarded in 1857 by the American Institute, New York; Maryland Institute, Baltimore; and at the Maine, Connecticut, Illinois, and Michigan State Fairs. Send for a circular containing editorial and scientific opinions, testimonials from persons of the highest social position, &c.
TO OWNERS OF FOREIGN PATENTS.—An American, having an extensive acquaintance among capitalists in London and Paris, intends returning thither in a few weeks, and would like to undertake the introduction and sale of any valuable patent. Address, with full particulars, Box 755 Post-office, New York.
FIRST-RATE TENON MACHINES FOR SALE LOW.—Medal awarded by the American Institute, New York. C. P. S. WARDWELL, Lake Village, N. H.
MACHINISTS' TOOLS FOR SALE AT HALF PRICE.—I will sell the remainder of the tools belonging to the estate of John Parsley at half price, if called for soon. Said tools are new, and in good order. They consist in part as follows:—One 16 foot planer, 10 hand lathes, 3 spliner drills, 13 No. 1 drills, 1 bolt header, 1 shaft straightener, plane centers and jaws, chucks, all sizes; also 8 of Foster's building block machines. N. D. SPERRY, Trustee, New Haven, Conn.
BELTING AND PACKING.—Niagara Falls Paper Manufacturing Co., Niagara Falls, April 20, 1858. United States Gutta Percha Co.: We duly received the Gutta Percha Belting ordered from you, and after giving it a thorough test the past winter, on our heaviest staves, constantly exposed to water, ice and oil, and making 140 to 160 revolutions per minute, and again on two of our largest "Gwynne Pumps," making from 600 to 700 revolutions per minute, they have given us entire satisfaction, and we think it decidedly the best belting we ever used, and you may look for our future orders as required. S. PETTIBONE, Treasurer and Superintendent.
For sale by the UNITED STATES VULCANIZED GUTTA PERCHA CO., No. 65 Liberty street, New York.
CIRCULARS WITH CUTS, ILLUSTRATING steam engines and machinery for making lumber, shingles, staves, heading chairs, bedsteads, and wheat cleaning machinery, bran dusts, &c., sent for a postage stamp, by applying to L. A. SPALDING, Lockport, N. Y.
FOR SALE—AN EIGHT-HORSE UPRIGHT engine, boiler and fixtures, second-hand, nearly new, all in good running order. Address H. B. MATHER, West Norwalk, Conn.
SECOND-HAND MACHINERY AT VERY low prices for cash.—Steam Engines, Slide Lathes, Planing Machines, Drills, Slotting Machines, &c.; also a variety of Mortising, Tenoning, and Sash Machines, &c., all warranted in good running order. Address CHARLES G. WILLCOX, 87 North Third st., Philadelphia, Pa.
SAMUEL McELROY, CIVIL ENGINEER.—Late U. S. Naval and Civil Engineer. Special attention paid to water-works with pumping power. Address "Engineer's Office," Water-works, Brooklyn, Long Island.
STEAM WHISTLES—IMPROVED PATTERNS manufactured by HAYDEN, SANDERS & CO., 306 Pearl street, New York.
PORTABLE STEAM ENGINES.—S. C. HILLS, 13 Platt street, New York, offers for sale these Engines, with Boilers, Pumps, Headers, &c., all complete, suitable for printers, carpenters, farmers, planters, &c. A 2½ horse can be seen in store; it occupies a space 5 by 3 feet; weight, 1,500 lbs.; price, \$240. Other sizes in proportion.
SLIDE LATHES, IRON PLANERS, UPRIGHT DRILLS, Slotting and Boring Machines, Universal Chucks, and a large assortment of machinists' tools, at greatly reduced prices. Address CHARLES H. SMITH, 135 North Third st., Philadelphia, Pa.
WOODWORTH PLANING MACHINES, Mortising, Tenoning, and Sash Machines, and a full assortment of wood-working machinery, at greatly reduced prices. Address CHARLES H. SMITH, 135 North Third st., Philadelphia, Pa.
\$500. WANTED.—A RESPONSIBLE BUSINESS MAN, to take an interest in a valuable patent for an improvement in Carpenter's Gages, by which one gage answers every purpose of two. Address Box 87, Brooklyn, N. Y.
GLOVER'S PATENT BALANCE IRON FOR Millstones, superior to anything of the kind now in use, giving the most complete balance, without difficulty, and in the shortest time. County, State, or individual rights for sale. Address J. H. GLOVER, Temple Hill, Barren co., Ky.
BOILER INCrustATIONS.—WEISSEN-BORN'S Patent Incrustation Preventer secures the double purpose of preventing scale and acting as a heater, besides being useful as a condenser. STEWART KERR, (Engineer,) Agent, No. 17 Broadway, New York.
PHILADELPHIA RIVET WORKS.—MANUFACTURERS of the celebrated P brand. Boiler, tank, and gasometer rivets, of every diameter, length, and head. PHILLIPS & ALLEN.
WOODWORTH PLANERS—IRON FRAMES to plane 18 to 24 inches wide.—at \$90 to \$110. For sale by S. C. HILLS, 13 Platt street New York.
CLOCKS—TOWN CLOCKS OF ALL SIZES, Regulators and Timepieces for all purposes. Dials for illuminating. VOSBURGH & CO., Agents, No. 26 Liberty street, New York. JOHN SHERRY, Manufacturer, Sag Harbor, N. Y.
SWISS DRAWING INSTRUMENTS—A full stock of these celebrated instruments always on hand. C. T. AMSLER, (formerly Amsler & Wirz,) Philadelphia, Pa.
READ—NEW CATALOGUE, (FOURTH EDITION), with two hundred and fifty illustrations of Mathematical, Optical and Philosophical Instruments, and attachment of a large illustrated sheet, representing the Swiss instruments in their actual size and shape, will be delivered, on application, to all parts of the United States, by sending 12 cents in postage stamps or money, which amount will be deducted from the bill, if an order is sent. C. T. AMSLER, Philadelphia, Pa. No. 635 Chestnut st., Philadelphia, Pa.

STEAM ENGINES, STEAM BOILERS, Steam Pumps, Saw and Grist Mills, Marble Mills, Rice Mills, Quartz Mills for gold quartz, Sugar Mills, Water Wheels, Shafting and Pulleys. The largest assortment of the above in the country, kept constantly on hand by WM. BURDON, 103 Front street, Brooklyn, N. Y.
HARRISON'S 30 INCH GRAIN MILLS.—Latest Patent.—A supply constantly on hand. Price \$200. Address New Haven Manufacturing Co., New Haven, Conn.
THE WORKS OF THE AUBIN GAS CO., (General Office, No. 44 State st., Albany, N. Y.) as now perfected, are adapted to all materials and localities, and are in successful operation in villages, factories, and private dwellings. For full information as to cost, probable income of public works, &c., apply as above. For plans, &c., see SCIENTIFIC AMERICAN of March 13th.
SECOND-HAND MACHINISTS' TOOLS.—Consisting of 20 Engine Lathes, 9 Iron Planers, 4 Upright Drills, Hand Lathes, Chuck, Lathe, Gear Cutters and Vices, all in good order, and for sale low for cash. For particulars, address FRANKLIN SKINNER, 14 Whitney avenue, New Haven, Conn.
MACHINE BELTING, STEAM PACKING, ENGINE HOSES.—The superiority of these articles, manufactured of vulcanized rubber, is established. Every belt will be warranted superior to leather, at one-third less price. The Steam Packing is made in every variety, and warranted to stand 300 degs. of heat. The hose never needs oiling, and is warranted to stand any required pressure; together with all varieties of rubber adapted to mechanical purposes. Directions, prices, &c., can be obtained by mail or otherwise, at our warehouse, NEW YORK BELTING AND PACKING COMPANY, JOHN H. CHEEVER, Treasurer, No. 6 Dey street, New York.
PECK'S PATENT DROP PRESS.—FOR Jewelers, tin and copper workers, gun and other forgings, &c., manufactured by the patentee, MILO PECK & CO., New Haven, Conn.
NEW HAVEN MANUFACTURING CO.—Machinists' Tools, Iron Planers, Engine and Hand Lathes, Drills, Bolt Cutters, Gear Cutters, Chucks, &c., on hand and finishing. These tools are of superior quality, and are for sale low for cash or approved paper. For cuts giving full description and prices, address "New Haven Manufacturing Co., New Haven, Conn."
MACHINERY.—IF YOU WANT THE BEST Portable or Stationary Steam Engines, Woodworth's or Daniels' Planers, or any other kind of machinery for working wood for the least amount of money, address HARRISON FLINT, Danbury, Conn.
FOR SALE—A PATENTED IMPROVEMENT upon Letter Envelopes, by which the owner of the right can monopolize the manufacture. Address CHARLES PHELPS, Salem, Mass.
ENGRAVING ON WOOD AND MECHANICAL DRAWING, by RICHARD TEN EYCK, Jr., 128 Fulton street, New York, Engraver to the Scientific American.
PAGE'S PATENT PORTABLE CIRCULAR SAW MILL, and Portable Steam Engines and Boilers mounted on substantial wheels, ready to saw lumber, thrash wheat or gin cotton. Our Mills will saw from 2,000 to 10,000 feet per day. Address GEO. PAGE & CO., Baltimore, Md.
WOODWORTH PLANING MACHINES.—Having over \$40,000 worth now completed, I will sell, from this time henceforth, at a very reduced price, and am ready to construct any sizes not on hand at short notice. JOHN H. LESTER, 87 Pearl st., Brooklyn, Long Island.
LAP-WELDED IRON BOILER TUBES.—Frosser's Patent.—Every article necessary to fill the tube-plates and set the tubes in the best manner. THOS. PROSSER & SON, 23 Platt st., New York.
OIL! OIL! OIL!—FOR RAILROADS, STEAMERS, and for machinery and burning. Pease's Improved Machinery and Burning Oil will save fifty per cent, and will not gum. This oil possesses qualities vitally essential for lubricating and burning, and found in no other oil. It is offered to the public upon the most reliable, thorough and practical test. Our most skillful engineers and machinists pronounce it superior and cheaper than any other, and the only oil that is in all cases reliable and will not gum. The Scientific American, after several tests, pronounced it "superior to any other they have ever used for machinery." For sale only by the inventor and manufacturer, F. S. PEASE, 61 Main st., Buffalo, N. Y. N. B.—Reliable orders filled for any part of the United States and Europe.
VAIL'S SPEEDWELL IRON WORKS, Morristown, N. J., manufacture Craig's Patent Double-acting Balance Valve Oscillating Steam Engines both stationary and portable, Knowles' Patent Muley, Portable, Gang and Re-sawing Mills, Sugar and Chinese Cane Mills and Sugar Pans, Grist Mills, Mill Irons, Rich's Water-wheels, Forgings and Castings. Orders for the above, and all descriptions of labor-saving machinery will receive prompt attention. JOHN H. LIDGERWOOD & CO., No. 9 Gold street, New York.
CORLISS' PATENT STEAM ENGINES.—About 250, most of them from 40 to 400 horse power, are now in operation. On application, pamphlets will be sent (by mail), containing statements of responsible manufacturing companies where these engines have been furnished, for the saving of fuel, in periods varying from 2½ to 5 years. Boilers, shafting, and gearing. CORLISS STEAM ENGINE CO., Providence, R. I.
PEA SHELLING MACHINE.—PATENTED by W. J. Stevenson, March 30, 1853. This machine is admirably adapted to the use of hotels, dining saloons, boarding houses, private families, pea growers, and pea preservers. State rights for sale. Address the patentee at No. 438 Third avenue, New York City. See engraving on page 34, Vol. XIII, SCIENTIFIC AMERICAN.
FOR SALE—RIGHTS IN TWO PATENTS FOR Steam Engine improvements, being a valuable variable cut-off, and practical direct connection of piston rods with crank, effecting great saving in co. struction and fuel. Interests given to capitalists. Inquire of R. ACKERMANN, 710 Broadway, New York.
PATENT OFFICE MODELS CAREFULLY made on scientific principles, at low prices, by H. SHLABBAUM & CO., 300 Broadway, New York. References at the office of this paper.
ANOTHER WONDER—BALDWIN'S Turbine Water Wheel (represented in No. 51, Volume XII, Sci. Am.), gives from 75 to 97 per cent of power, according to the size of wheel and head employed. Usual sizes, with 4 to 25 feet fall, give 80 to 90 per cent. For information address S. K. BALDWIN, Laconia, N. H.