

Correspondents

S. K. & J. A. Moore, of Mount Jackson, Va., wish to correspond with bolt and nut manufacturers. J. B. M., of N. Y.—The method of affixing wooden profile letters to stone is by applying white lead, ground in oil, as it comes from the keg, to the back of the letters, and pressing them against the wall, to prevent the lead from losing its adhesive qualities, on account of the absorption of the oil by the stone. Ascertain where the letter is to be placed, and form a rough outline of the letter on the stone with any oil color, and when dry apply the letter. The color should have gypsum as a dryer. P. S., of —We think that the reason why you have been able to explode kerosene is because alcohol has been mixed with it as an adulteration. Kerosene itself can scarcely be called explosive, and we have never heard of any accident resulting from its use. P. R., of N. Y.—Your theory of accounting for the fact that water exerts more power on a water wheel at night than in the daytime, by assuming that the air is lighter, and consequently a cubic foot of water weighs more than in the daytime, can scarcely be correct, for even supposing such to be the case, the wheel and machinery, or the resistance to the action of the water would also increase in the same proportion; so we must try and discover some other reason. C. S. G., of N. Y.—You will find articles on roofing cement on pages 286 and 294 of the present volume, Sci. Am. S. S. W., of Ky.—The best work you can get for your purpose is Dana's "Manual of Mineralogy," published in New Haven; it will give you more information than any book we know. You had better get the specimens from some friend in Louisville, where we should think plenty are to be procured. W. B. B., of Ill.—If you buy the right to use a machine in a certain county, of course you cannot use it in a county that you did not purchase. B. D. J., of Pa.—Vessels and pipes lined with glass, porcelain, &c., for the purposes you name, are well-known. You could not obtain a patent therefor. A. H. L., of Wis.—The rule which you have applied to calculate the horse-power of your engine is correct, except that you should have allowed 20 per cent for the difference of pressure between the boiler and the cylinder. W. H. Smith, of Newport, R. I., wishes to correspond with parties that have machinery for inserting card teeth, No. 12 or 14 wire, through two or three-ply rubber belting, 12 or 14 inches wide. W. H. S., of R. I.—The cotton is picked from the pod in the field, leaving the boll on the stalk. See engraving of a cotton harvester on page 280, this volume, Sci. Am. We have concluded to give you a three-column engraving. G. W. McQ., of Tenn.—A stream of water of 64 cubic inches, moving at a velocity of 5 feet per second, has a nominal power of 13-1,000 of one horse-power; and the same stream, moving at a velocity of four feet per second has 1-100 of one horse-power. This is ascertained by calculating the weight of 64 cubic inches of water, which is equal to a little less than 1 1/2 lbs., (accurately equal to 1.459 lbs.) multiplying this by the velocity in feet per second, and dividing by 550. It is impossible to use a stream of water having only five feet velocity on a fall of 36 feet, or on a fall of 18 feet. A heavy body falling over a height of 36 feet acquires a velocity of 48 feet, and it accomplishes this in 1 1/2 seconds; the same body falling over 18 feet acquires a velocity of 34 feet in little over one second. It will always have a bad effect if the water is brought in a chute on the wheel, as the percussion or the impact thus effected causes a reaction which retards the motion of the wheel. To lay down the rules for the construction of a water wheel for a given quantity of water at a given fall would take more space than we can spare in one number of our paper. Numbers of books have been written on this subject. We would only remark that for high falls over 30 feet a turbine wheel is always the best. W. H. T., of C. W.—Butter is produced by the oxygen of the air being brought into contact with the fatty substance of the cream. The shortest way to make butter is not the best. The cream should be kept in an airy apartment, and when churning the cream should be at a temperature of 60 degrees. A. M. S., of Mass.—We have carefully examined your sketch of the sash-fastening, and are sorry to state that it does not contain any patentable features. Substantially the same device has frequently passed through our office. C. M., of Kansas.—We have examined the rough sketch of your plan for a method of steering vessels, and cannot discover anything of a patentable character in any of its parts. We would not, therefore, advise you to prosecute it any further. J. P. & Co., of Pa.—The best method you can adopt to consume your smoke is to request the stoker, every time he "fires up," to push the red-hot fuel to the back of the grate, and then to place the new fuel on the front, give the bars a rake, and never by any chance throw damp fine coal or tan on the top of hot and burning material. This, we suspect, is the cause of your smoke. N. H., of Ohio.—We have examined your sketch of feed gear for muley saw, and are of opinion that it is not patentable. We have seen substantially similar devices. S. E., of Ill.—We have carefully examined your model of a clothes' washing machine, and would state so much has been done in this line that at this late day it is extremely difficult to say anything regarding its patentability. We have seen the same idea carried out in various ways. We would suggest that you should have a preliminary examination made by us at Washington. In such cases, where so many patents exist, it is always advisable.

Money received at the Scientific American Office on account of Patent Office business, for the week ending Saturday, July 17, 1858:—

T. H., of Ohio, \$30; J. L. E., of Texas, \$65; C. W. & W. W. M., of Ill., \$25; T. P., of Mo., \$68; H. & M., of Pa., \$10; W. H. Van G., of N. J., \$20; S. D. C., of Wis., \$25; A. S., of Ill., \$35; T. E. S., of Pa., \$25; A. F. & J. H. A., of Conn., \$30; E. G. A., of Conn., \$25; J. P., of Ohio, \$25; R. M. T., of Mich., \$34; H. C. S., of Ohio, \$5; P. & H., of N. Y., \$25; F. K., of N. Y., \$25; J. B., of N. Y., \$15; J. W. H., of R. I., \$73; J. A. T., of Ohio, \$25; R. M., of N. Y., \$30; A. F., of Ohio, \$20; A. P., of Tenn., \$30; E. G. G., of N. Y., \$25; W. A. M., of Minn. Ter., \$30; W. M. W., of N. Y., \$50; D. C. R., of Ill., \$27; G. W., of N. Y., \$30; A. J. D., of Cal., \$25; E. W. K., of Ill., \$25; N. T. S., of Mass., \$55; W. N. T., of Iowa, \$30; H. & H., of N. Y., \$25; J. R. F., of Ohio, \$25; A. T. of N. Y., \$25; J. B. of Conn., \$33; F. B., of Conn., \$30; T. S., of Pa., \$100; W. N. W. Jr., of Ohio, \$25; J. M., of Miss., \$20; J. O., of N. Y., \$25; J. H. W., of Wis., \$25; F. G., of L. I., \$32; B. O., of Ohio, \$30; P. R. L., of S. C., \$30; A. M. H., of N. Y., \$25; T. R. R., of Ohio, \$25; E. S., of La., \$35; J. D. F., of Conn., \$20; O. H. S. B., of Ind., \$30; M. M. of L. I., \$25; O. S., of L. I., \$25; W. W., of Conn., \$56. Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, July 17, 1858:— E. G. G., of N. Y.; W. N. W. Jr., of Ohio; F. G., of L. I.; D. C. R., of Ill.; F. K., of N. Y.; F. B., of Vt.; H. C. F., of Pa.; W. M. W., of N. Y.; J. B., of N. Y.; E. W. K., of Ill.; J. D. F., of Conn.; W. W., of Conn.; C. W. & W. W. M., of Ill.; T. P., of Mo.; A. G. D., of Conn.; F. & B., of Wis.; A. J., of N. Y.; A. J. D., of Cal.; O. S., of L. I.; J. P., of Ohio; T. E. B., of Conn.; H. & H., of N. Y.; K. & F., of Texas; J. W. H., of R. I.; A. F., of Ohio; M. M., of L. I.; J. H. W., of Wis.; T. E. T., of Pa.; E. G. A., of Conn.; A. M. H., of N. Y.; E. S., of La.; T. R. R., of Ohio; G. C., of N. Y.; H. C. S., of Ohio; J. R. F., of Ohio.

Literary Notices.

BIBLIOTHECA SACRA. W. F. Draper, Andover, Mass. This most valuable periodical for the present month contains a number of articles which show the power of its contributors to their full advantage, the best being "The Greek Church," by Rev. J. M. Manning, of Boston, and "Was Peter in Rome and Bishop of the Church at Rome," translated from the German of Eilendorf, by E. Goodrich Smith.

CHARLESTON MEDICAL JOURNAL AND REVIEW. J. Dickson Burns, M. D., Charleston, S. C. The bi-monthly number for July contains a portrait of Prof. Meigs, of Philadelphia, and many articles of interest not only to the medical world, but to the general public also. There is a candor, openness and honesty about this journal which pleases us much, and in our opinion it is one of the first publications of its kind in the world.

THE CINCINNATUS. Farmers' College, College Hill, Ohio. This periodical, designed to promote scientific agriculture and pomology, and also to inculcate a higher taste in science and art among agriculturists, is improving rapidly; and as the subscription is very low we heartily recommend it.

NEW ORLEANS MEDICAL NEWS. Edited by D. Warren Brickell, M. D., and P. D. Fierce, M. D. The July number of this valuable periodical contains much matter which is of interest to the faculty, and all the medical news that is worth hearing in the South.

TO OUR SUBSCRIBERS.

RECEIPTS.—When money is paid at the office for subscriptions, a receipt for it will always be given; but when subscribers remit their money by mail, they may consider the arrival of the first paper a bona fide acknowledgment of the receipt of their funds. The Post Office law does not allow publishers to enclose receipts in the paper.

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. Engravings cannot be admitted into the advertising columns.

\*. All advertisements must be paid for before inserting.

TO GAS COMPANIES.—WANTED BY A young man a situation as superintendent of gas works; is practically acquainted with the manufacture of gas in all its branches; is also acquainted with the manufacture of meters and all gas apparatus. Satisfactory references given. Address ENGINEER, care of Dr. Deck, 15 Exchange Place, New York.

THE "COUNTRY GENTLEMAN"—THE best of the agricultural or horticultural papers for any latitude or locality is published weekly, each number containing sixteen large quarto closely printed pages, at the low price of \$2 a year, by LUTHER TUCKER & SON, Albany, N. Y.

N. B.—A new volume begins July 1st. Send for a specimen number.

IMPORTANT TO IRON AND BRASS FOUNDRERS.—After a series of experiments I have invented a method of constructing molds for iron, brass or other metals, which can only be cast at a high heat, of cheap material, easily obtained in any section, and as easily worked or constructed as any ordinary mold of sand. Many thousand casts may be made from these molds without any risk of injury, if properly managed; they are not likely to blow, or get out of order. They can be worked with great rapidity (once every 2 minutes if necessary), which fact renders them very valuable to malleable iron workers. My charge for the recipe, with full directions, is \$10, accompanied by an obligation from the applicant to entire secrecy. A liberal discount will be made to those wishing to buy exclusive territory—States or towns. Letters Patent will be applied for. Address, W. HUDGIN, Practical Chemist, Bowling Green, Va.

LATH MILL.—J. H. BACHELDER'S PATENT. State and County rights for sale. For description see Sci. Am., Vol. 13, No. 29. Address SAMUEL COMBS, Hudson, Mich.

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. 66 Chancery Lane, London; 20 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. 125 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.

STEAM WHISTLES.—IMPROVED PATENTERS for locomotive and stationary engines. A large assortment constantly on hand. Manufactured by HAYDEN, SANDERS & CO., 306 Pearl st., New York.

ECCENTRIC SCREW AND GRIPPING WRENCH.—Hyde's patent—for sale by all hardware stores. Proprietors, GRAY BROTHERS, New York City.

THE SUBSCRIBER HAS ESTABLISHED the manufacture of his Self-straining Saw Mill Irons, at Chicago, Ill. Letters addressed to him at Chicago for the next three weeks will receive personal and prompt attention, if accompanied with a stamp. July 6, 1858. S. E. PARSONS.

HARRISON'S 20 AND 30 INCH GRAIN Mills constantly on hand. Address New Haven Manufacturing Co., New Haven, Conn.

FOR SALE—AN S-HORSE UPRIGHT Engine, Boiler, and fixtures, second-hand (nearly new), all in good running order. Address H. B. MATHER, West Norwalk, Conn.

5,000 AGENTS WANTED.—TO SELL four new inventions. Agents have made over \$25,000. Better than all other similar agencies. Send four stamps and get eighty pages particulars, gratis. EPHRAIM BROWN, Lowell, Mass.

BALLOONS FOR THE FOURTH OF JULY.—Illuminated and tri-colored—a great amusement. Size from 6 to 20 feet circumference. Price from 50 cents to \$3 each. Address I. S. CLOUGH, Sole Agent, No. 231 Pearl street, New York.

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 engines, constantly exposed to water, ice and oil, and making 100 to 150 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 we may look for our future orders as required. S. PETTIBONE, Treasurer and Superintendent. For sale by the UNITED STATES VULCANIZED GUTTA PERCHA CO., No. 66 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 dusters, &c., sent for a postage stamp, by applying to L. A. SPALDING, Lockport, N. Y.

IRON PLANERS AND ENGINE LATHES of all sizes, also 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."

S. D. BARNETT, MALLEABLE AND GREY Iron Foundry, Hamilton, corner of McWhorter st. Newark, N. J. Orders promptly attended to.

SECOND-HAND MACHINISTS' TOOLS.—Viz., Engine and Hand Lathes, Iron Planers, Drills, Chuck Lathes, Gear Cutter and Vises, all in good order, and for sale low for cash. Also one new first-class Woodworth Planing and Matching Machine. Address FRANKLIN SKINNER, Agent, 14 Whitney avenue, New Haven, Conn.

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.

MACHINERY.—S. C. HILLS, NO. 12 PLATT street, New York, dealer in Steam Engines, Boilers, Planers, Lathes, Chucks, Drills, Pumps; Morsing, Tenoning, and Sash Machines, Woodworth's and Daniel's Planers, Dick's Punches, Presses and Shears; Cob and Corn Mills; Harrison's Grist Mills; Johnson's Shingle Mills; Belting, Oil, &c.

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, 102 Front street, Brooklyn, N. Y.

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.

MACHINE BELTING, STEAM PACKING, ENGINE ROSE.—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.

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.

LAP-WELDED IRON BOILER TUBES.—Prosser's Patent.—Every article necessary to drill the tube-plates and set the tubes in the best manner. THOS. PROSSER & SON, 28 Platt st., New York.

WOODWORTH PLANERS—IRON FRAMES to plane 15 to 24 inches wide—at \$90 to \$110. For sale by S. C. HILLS, 12 Platt street New York.

ANDREWS' CENTRIFUGAL FORCE AND Suction Pumps.—Illustrated in Sci. Am., October 24, 1857. Sizes, from 60 to 4,000 gallons per minute. Larger sizes made to order. Pump, sand, gravel, coal, paper pulp, &c., and for simplicity, durability, and economy of power, are superior to any pump made. WILLIAM D. ANDREWS, No. 414 Water st., New York.

PHILADELPHIA RIVET WORKS.—Manufacturers of the celebrated P brand. Boiler, tank, and gasometer rivets, of every diam., length, and head. PHILLIPS & ALLEN.

CLARK'S REGULATOR.—FROM TEN TO twenty-five per cent saving in fuel is guaranteed in the use of Clark's Patent Steam and Fire Regulators; besides giving the most perfect regularity of flow at any desired pressure, and no fear of explosions. Send for circular at 229 Broadway, New York City. E. R. PRATT, Secretary.

NEW ORLEANS.—YOSE & WEST, Commission Merchants for the sale of Machinery, Agricultural Implements, &c., New Orleans. Refer to W. P. Converse & Co., 42 Pine street, New York.

ENGRAVING ON WOOD AND MECHANICAL DRAWING, by RICHARD TEN EYCK, Jr., 125 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, 57 Pearl st., Brooklyn, Long Island.

EVERY MILLWRIGHT, ALL MILLOWNERS, and those interested in hydrodynamics, should become acquainted with the merits and principles of the Improved Fourneyron Turbine Water Wheel, or the "Universal Turbine," a wheel the most economical in the use of water, and giving the highest percentage, with a partially raised gate, of any yet discovered. It gives from 75 to 97 per cent of power, according to the size of wheel and head employed. For information address S. K. BALDWIN, Laconia, N. H.

N. B.—For low falls of one, two, or three feet, also for any fall, it will surpass all others.

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 Tie-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 2 1/2 to 5 years. Boilers, shafting, and gearing. CORLISS STEAM ENGINE CO., Providence, R. I.

PATENT OFFICE MODELS CAREFULLY made on scientific principles, at low prices, by H. SHLARBAUM & CO., 300 Broadway, New York. References at the office of this paper.