

TO CORRESPONDENTS.

J. P. C., of N. Y.—The same plan of propulsion by pistons, forced into a water chamber against the water at the stern of a vessel, has been proposed to us before, but it is not new; it is illustrated in the London Mechanics' Magazine for 1845.

L. A. S., of Pa.—We fully concur in your arrangement with the Commissioner.

S. C., of N. Y.—We think your model illustrates a new invention, as far as the securing the spokes to the hub is concerned, but the application of the invention to railroad purposes, or the using of double axles upon railroad trucks, is impracticable as you have them arranged.

H. S. W., of Miss.—It is quite true, as you say, respecting the pressure of the atmosphere on the cannon or musket; this amounts to 15 lbs. on the square inch, and acts upon the gun by crushing force in proportion to the size of the cannon and the smallness of aperture behind the shot; cannons and fire-arms are made strong to resist the whole expansive and contractive forces. It would never do to lose time on a field of battle, to extract the air by a pump; the time required is a great deal. We have known of a fowling piece made with a large vacuum chamber attached, for still shooting, in order to prevent noise by the discharge.

G. C., Jr., of Mass.—You can obtain a pamphlet of Geo. Carvill, 86 Cedar st., edited by Sereno Newton, which will instruct you in regard to setting out gear. Price, we think, is 50 cents.

J. M. M., of Mich.—A locomotive, with its tender loaded, all weighing no more than 20 tons, can be built to work up to 60 horse power. Ask the locomotive machinist of any railroad and he will tell you this can be done. You know that steam plows have been used; and you are no doubt able to judge of its economy; if it would be profitable to you we advise you to go on.

D. B. C., of N. Y.—We have not seen such an instrument exactly, although there is a vertical plummet, with an index and pointer, illustrated in Vol. 1, Sci. Am. The spirit level is not attached. You have not fully explained its use, application, and the necessity for the sector teeth.

L. & S., of Va.—We inform you, on the authority of Lieut. Maury, that the Trade Winds cannot be accounted for by the earth's rotation. Without the earth's rotation we assuredly would not have trade winds; and without it we would not have dew on the grass, but the dew is not caused by the earth's rotation.

P. O., of Me.—You are mistaken in regard to the cause of the pain experienced by persons who ascend in balloons. The air of the upper regions is more rarefied than that on the earth; and the air inside their bodies (seeking to become of the same rarity) bursts through their eyes and ears, producing intense pain.

C. R., of Pa.—Oxygen gas supports combustion. Blowing lighted tinder carries oxygen to it and quickens it, in the same way as a pair of bellows quickens a dull fire.

H. A., of Mass.—Your inquiries concerning Ray's Prizes are fully answered on another page.

D. C. T., of N. Y.—The specification and one drawing of your Alarm were sent you on the 8th inst.

W. F., of Tenn.—We shall give your order immediate attention. \$500 received.

A. R., of Miss.—We have carefully examined the sketches of your Lathe and find nothing new. Lathes are made in this city embracing all of your improvements.

L. A. H., of Va.—Ericsson's Caloric Engines are not as yet fully tested, and it will be several months before a satisfactory answer can be given to your inquiries. Like all other untried inventions, it is uncertain what its practical value may be.

J. N. F., of Va.—The engine recently advertised by us has been disposed of.

S. T., of N. Y.—We cannot give you a decision in regard to the point of infringement; we are not in the habit of giving opinions in this respect.

S. F. W., of Miss.—The first steamboat that was ever used, was launched on the Hudson in 1807.

R. M. B., of Ga.—The number of miles of railroad in the United States is over 12,000, costing \$300,000,000.

C. T., of Me.—We have never seen the description of the machine you mention.

A. Y. N., of S. C.—Lord Rosse's Telescope is fixed in a building, on his estate in Ireland, but it is not the largest, being excelled by Mr. Craig's, near London.

W. N., of Ala.—The best plate glass is imported from France.

A. V. N., of Mass.—Chipping is always done by hand; we are aware that there is a machine for chipping off roughly, used at a factory on the East River, but for fine work it is inapplicable.

A. W., of Texas—Mercury is found in several parts of the globe.

Money received on account of Patent Office business for the week ending Saturday, Nov. 6:—

J. E., of R. I., \$15; O. L. R., of N. H., \$51; C. F. B., of R. I., \$30; A. A. D., of Geo., \$40; A. J. W., of N. Y., \$50; J. E. A., of Ct., \$30; H. & B., of O., \$20; M. H. C., of Pa., \$20; S. & B., of L. I., \$55; W. D. W., of N. C., \$30; G. S., of L. I., \$62.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Nov. 6:

J. E., of R. I.; O. L. R., of N. H.; R. S., of N. Y.; H. & B., of O.; A. J. W., of N. Y.; G. S., of L. I.; M. C., of Pa.

A Chapter of Suggestions, &c.

CHEAP POSTAGE.—The postage on the Scientific American, to subscribers residing within the State of New York, will be but 13 cts. per annum henceforth, instead of 13 cents per quarter as formerly, and will be delivered at the most remote parts of the United States for 26 cts. per annum, whereas the postage formerly demanded at distant offices was \$1.20 per annum. The saving produced by the reduction of newspaper postage under the new statute, is no inconsiderable item, and many who could not afford to subscribe for the Scientific American, under the old law, can now withstand the expense.

PRIZES.—Our subscribers will please to consider the great inducement offered to clubs, and to keep in mind the valuable prizes offered for the four largest lists of mail subscribers.

BACK NUMBERS AND VOLUMES.—In reply to many interrogatories as to what back numbers and volumes of the Scientific American can be furnished, we make the following statement:—Of Volumes 1, 2 and 3—none. Of Volume 4, about 20 Nos., price 50 cts. Of Volume 5, all but four numbers, price, in sheets, \$1. Of Volume 6, all; price in sheets, \$2; bound, \$2.75. Of Vol. 7, all; price in sheets, \$2; bound, \$2.75.

PATENT CLAIMS.—Persons desiring the claims 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 enclosing one dollar as fee for copying.

PATENT LAWS, AND GUIDE TO INVENTORS.—We publish, and have for sale, the Patent Laws of the United States. The pamphlet contains not only the laws but all information touching the rules and regulation of the Patent Office. Price 121-2 cts. per copy.

FOREIGN SUBSCRIBERS.—Our Canada and Nova Scotia patrons are solicited to compete with our citizens for the valuable prizes offered on the present Volume. [It is important that all who reside out of the States should remember to send fifty cents additional to the published rates for each yearly subscriber; that amount we are obliged to pre-pay on postage.]

BINDING.—We would suggest to those who desire to have their volumes bound, that they had better send their numbers to this office, and have them executed in a uniform style with their previous volumes. Price of binding 75 cents.

MISSING NUMBERS.—Subscribers who fail to receive some of the numbers, can have them supplied by stating what numbers are missing.

INFALLIBLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired, and the publishers will not deviate from that standing rule in any instance.

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 the funds.

GIVE INTELLIGIBLE DIRECTIONS.—We often receive letters with money enclosed, requesting the paper sent for the amount of the enclosure, but no name of State given, and often with the name of the post office also omitted. Persons should be careful to write their names plainly when they address publishers, and to name the post office at which they wish to receive their paper, and the State in which the post office is located.

TO CORRESPONDENTS.—Condense your ideas into as brief space as possible, and write them out legibly, always remembering to add your name to the communication. Anonymous letters receive no attention at this office. If you have questions to ask, do it in as few words as possible, and if you have some invention to describe, come right to the business at the commencement of your letter, and do not fill up the best part of your sheet in making apologies for having the presumption to address us. We are always willing to impart information if we have the kind solicited.

PATENTEES.—Remember we are always willing to execute and publish engravings of your inventions, provided they are on interesting subjects, and have never appeared in any other publication. No engravings are inserted in our columns that have appeared in any other journal in this country, and we must be permitted to have the engraving executed to suit our own columns in size and style. Barely the expense of the engraving is charged by us, and the wood-cuts may be claimed by the inventor, and subsequently used to advantage in other journals.

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Advertisements exceeding 16 lines cannot be admitted; neither can engravings be inserted in the advertising columns at any price.

All advertisements must be paid for before inserting.

A. B. ELY, Counsellor at Law, 46 Washington st., Boston, will give particular attention to Patent Cases. Refers to Munn & Co., Scientific American.

American and Foreign Patent Agency

IMPORTANT TO INVENTORS.—The undersigned having for several years been extensively engaged in procuring Letters Patent for new mechanical and chemical inventions, offer their services to inventors upon the most reasonable terms. All business entrusted to their charge is strictly confidential. Private consultations are held with inventors at their office from 9 A. M., until 4 P. M. Inventors, however, need not incur the expense of attending in person, as the preliminaries can all be arranged by letter. Models can be sent with safety by express or any other convenient medium. They should not be over 1 foot square in size, if possible. Having Agents located in the chief cities of Europe, our facilities for obtaining Foreign Patents are unequalled. This branch of our business receives the special attention of one of the members of the firm, who is prepared to advise with inventors and manufacturers at all times, relating to Foreign Patents. MUNN & CO., Scientific American Office, 128 Fulton street, New York.

MACHINISTS' & MANUFACTURERS' TOOLS. O. SNOW & CO., Union Works, Meriden, Ct. Having increased their facilities for manufacturing Lathes, Planers, &c., have now on hand, finished and finishing off, Slide Lathes, a variety of sizes and lengths, at prices varying from \$125 to \$800, according to size and finish; also Hand and Power Planers for iron, 2, 3, 1-2, 6, and 10 feet beds; also Milling Machines, Hand Lathes with or without iron beds, comprising six different sizes, all of the most approved construction and warranted of the best quality of work.

PALMETTO IRON WORKS FOR SALE.—The proprietors being desirous to close their business, offer for sale their Establishment, with the entire stock of Tools, Patterns, and Materials. A fine opportunity is now offered to capitalists and others interested, to secure an admirable business stand. Apply at the Iron Works, Pinckney street, or by letter to W. S. HENEREY, Charleston, S. C.

SHINGLES, SHINGLES, SHINGLES.—WOOD'S latest improvement in Shingle Machines is becoming more generally used than any other ever invented, and is unquestionably the best machine now in use; it produces shingles from all kinds of timber in a very perfect and rapid manner. Machines and rights for sale. Apply to JAMES D. JOHNSON, Bridgeport, Ct.

C. B. HUTCHINSON'S PATENT STAVE Cutting Machines, the best in use, and applicable alike to thick or thin staves; also his Head Cutting and Turning, and Stave Jointing Machines. For machines or territorial rights, apply to C. B. HUTCHINSON & CO., Syracuse, N. Y.

EXHIBITION OF WORKS OF AMERICAN Industry at Washington City.—The first exhibition of the Metropolitan Mechanics' Institute will be opened on Thursday, the 24th of February, 1853, in the new and splendid hall of the east wing of the Patent Office, one of the largest and most magnificent rooms in the United States, being 275 feet long by 70 feet wide. To this exhibition the manufacturers, mechanics, artists, and inventors, from all portions of the Union, are cordially invited to contribute. The hall will be opened for the reception of goods on Monday, the 14th of February, and the exhibition will positively close on or before Thursday night, March 17. Circulars, containing detailed instructions, will be forwarded and any further information given, on application (post-paid) to the Corresponding Secretary, Charles F. Stansbury, to whom all communications on the business of the Institute should be addressed.

WILLMER & ROGERS, 42 Nassau street, New York, are agents for America for the following London Periodicals:—London Mechanics' Magazine; Builder; Practical Mechanics' Journal; Artizan; London Architect and Civil Engineer; Philosophical Magazine; London Repository of Inventions; Newton's Journal of Arts; London Mining Journal; Magazine of Science, &c. &c. Orders for any Newspaper, Periodical, or Book, published in Europe, promptly executed on the lowest terms. All letters answered by return mail. WILLMER & ROGERS.

IMPORTANT TO IRON FOUNDRIES.—The Galvanic Alloy Manufacturing Co., Nos. 401, 403, and 405 Cherry st., N. Y., will furnish the Aerostatic Fan Blower at \$55, and with patent fitting at \$65, that produce sufficient blast for the largest cupola, melting 3 and 4 tons of iron per hour; taking less than one half the power of those now in use, that cost from \$80 to \$100. The wings, being only about an inch in width (planned upon entirely new and mathematical principles), produce double the blast with half the power of other blowers. Warranted in all cases, or they may be returned and the money refunded.

1852 TO 1856.—WOODWORTH'S Patent Planing, Tonguing, Grooving, Rabbeting, and Moulding Machines.—Ninety-nine hundredths of all the planed lumber used in our large cities and towns continues to be dressed with Woodworth's Patent Machines. Price from \$150 to \$760. For rights in the unoccupied towns and counties of New York and Northern Pennsylvania, apply to JOHN GIBSON, Planing Mills, Albany, N. Y. lamtr

WANTED.—A situation as Superintendent or draughtsman in a locomotive manufactory, by a capable man of 18 years' experience in building and repairing Locomotive Engines. Address "B. J. W." box 250, Portland, Me.

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SLAUGHTER & PERRY'S IMPROVED COR-DAGE MACHINE.—The Patent Right to this valuable machine, for New York, the New England and Southern States, are for sale. Machines in operation can be seen at Todd, MacLay & Co.'s, Paterson, N. J.; Clark's Mills, Oneida Co., N. Y.; W. A. Richardson's, Louisville, Ky., and at the subscribers in Fredericksburg, Va. Address F. & J. W. SLAUGHTER.

POSTAGE STAMPS.—Post Office Stamps, of the denomination of 1, 3, or 12 cents, may be had at par by addressing MUNN & CO., Scientific American Office.

BAILEY'S SELF-CENTERING LATHE.—The best in America for Chair Stuff, Wagon Thills, Rake, Fork, Hoe, and Broom Handles. Persons wishing this Lathe, warranted to do twice the work of any other lathe, by applying to L. A. SPALDING, Lockport, N. Y., can be supplied. The following certificate of Birge & Brother, extensive chair manufacturers, at Troy, N. Y., is to the point:— "After making a perfect and thorough trial of Bailey's Self-Centering and Self-Adjusting Lathe, we can cheerfully recommend it as in every way calculated to perform its work in the best manner—as it is the best Lathe we have ever used in our manufactory; and having used many different kinds, we feel safe in asserting that it is probably the best machine of the kind in use. BIRGE & BROTHER, Francis Miller, Lucius Foot, Turners for B. & B." 33m

BALLOONS.—Of any size made to order, warranted; also Wise's complete work on Aeronautics; price \$2, sent postage free to any part of the United States. A 25 feet Balloon on hand. Orders punctually attended to. Address JOHN WISE, Aeronaut, Lancaster, Pa. 6\*

BEARDSLEE'S PATENT PLANING MACHINE, for Planing, Tonguing and Grooving Boards and Plank.—This recently patented machine is now in successful operation at the Machine shop and Foundry of Messrs. F. & T. Townsend, Albany, N. Y.; where it can be seen. It produces work superior to any mode of planing before known. The number of plank or boards fed into it is the only limit to the amount it will plane. For rights to this machine apply to the patentee at the abovesaid foundry—or at his residence No. 764 Broadway, Albany. GEO. W. BEARDSLEE.

MACHINERY.—S. C. HILLS, No. 12 Platt-st. N. Y. dealer in Steam Engines, Boilers, Iron Planers, Lathes, Universal Chucks, Drills; Kase's, Von Schmidt's and other Pumps; Johnson's Shingle Machines; Woodworth's, Daniel's and Law's Planing machines; Dick's Presses, Punches and Shears; Morticing and Tenoning machines; Belting; machinery oil, Beal's patent Cob and Corn mills; Burr mill and Grindstones; Lead and Iron Pipe &c. Letters to be noticed must be post-paid.

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PAINTS, &c. &c.—American Atomic Drier Graining Colors, Anti-friction Paste, Gold Size, Zinc Drier, and Stove Polish. QUARTERMAN & SON, 114 John st., Painters and Chemists.

LATHES FOR BROOM HANDLES, &c.—We continue to sell Alcott's Concentric Lathe, which is adapted to turning Windsor Chair Legs, Pillars, Rods and Rounds; Hoe Handles, Fork Handles and Broom Handles. This Lathe is capable of turning under two inches diameter, with only the trouble of changing the dies and pattern to the size required. It will turn smooth over swells or depressions of 3-4 to the inch and work as smoothly as on a straight line—and does excellent work. Sold without frames for the low price of \$25—boxed and shipped with directions for setting up. Address (post-paid) MUNN & CO. At this Office.

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IMPORTANT TO SOAP MAKERS.—Letter Patent of the United States having been issued to Wm. McCord on the 27th of July, for a valuable improvement in Soap, all manufacturers, vendors, and users are hereby cautioned against the use of Kaolin, or other equivalent aluminous minerals combined with ammonia, as they will, by so doing, infringe this patent, and subject themselves to prosecution. All the necessary fixtures for making 2000 lbs. per day, will cost not to exceed \$75; two persons only required to attend the manufacture. Rights to manufacture this the most valuable soap, are offered for sale on reasonable terms. Apply to WM. McCORD, 141 Sullivan st., N. Y. 47t

LOGAN VAIL & CO., No. 9 Gold street, New York, agents for George Vail & Co., Speedwell Iron Works, have constantly on hand Saw Mill and Grist Mill Irons, Press Screws, Bogardus' Horse-Powers, and will take orders of Machinery of any kind, of iron and brass; Portable Saw-mills and Steam Engines, Saw Gummers of approved and cheap kind, &c. Gearing, Shafting, large and small, cast or wrought iron.

NEW HAVEN MANUFACTURING COMPANY, Tool Builders, New Haven, Conn., (successors to Scranton & Parshley) have now on hand \$25,000 worth of Machinist's Tools, consisting of power planers, to plane from 5 to 12 feet; slide lathes from 6 to 18 feet long; 3 size hand lathes, with or without shears; counter shafts, to fit all sizes and kinds of universal chuck gear cutting engines; drill presses, index plates, bolt cutters, and 3 size slide rests. The Co are also manufacturing steam engines. All of the above tools are of the best quality, and are for sale at 25 per cent. less than any other tools in the market. Cuts and list of prices can be had by addressings above, post-paid. Warehouse No. 17 Platt st., New York, S. C. HILLS, Agent N. H. Man'g Co.