



Persons who write to us, expecting replies through this column, and those who may desire to make contributions to it of brief interesting facts, must always observe the strict rule, viz. to furnish their names, otherwise we cannot place confidence in their communications.

W. K., of Ill.—You will find a similar theory to that set forth in your communication on page 163, Vol. VIII., SCIENTIFIC AMERICAN. It may be called "the electric theory."

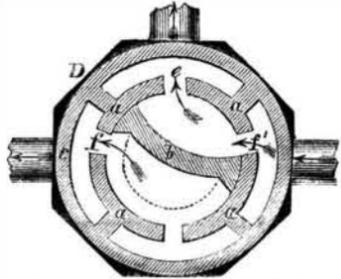
R. C., of Ohio.—We would not advise you to use gun cotton for pistol or rifle shooting. We have never seen explosive sawdust, but no doubt it can be manufactured as easily as gun cotton or paper. Gun cotton is made by saturating clean cotton in equal quantities of nitric and sulphuric acids; the former of 1.50 specific gravity, the latter 1.80. Squeeze out the acid when the cotton is saturated; wash in clean soft water until the acid taste is removed, then dry it for use.

J. J., of N. Y.—The law by which the length of pendulums is regulated to obtain a certain number of beats per second is as follows:—"The times of vibration of different pendulums are in the same proportions as the square roots of their centers of oscillation from the axes of their suspension." A pendulum 39.1393 inches vibrates seconds in a vacuum at the level of the sea in London. There is no rule for the weight or "bob" of pendulums; they are made of such a size as is deemed best for overcoming resistance.

S. L., of Pa.—You will find in "Appleton's New American Encyclopedia" some information upon the subject of aluminium. Your lamp seems to be new.

GULF STREAM.—Our readers will remember an interesting article on this subject in No. 2 of this volume, which is credited to G. W. F. "Mullen." The author objects to this cognomen, and wishes to be known by his true name which is Mellen. We should object to being called "Mullen" ourselves, for we have it upon the authority of an able lexicographer that it is a plant of the genus *Verbascum*, growing in neglected fields.

COMBINATION STEAM VALVE.—In our illustration of this valve in No. 10 of the present volume of the *Sci. Am.*, Fig. 2 was incorrectly drawn, being taken from the patent papers instead of the model. The accompanying figure is the correct section, in which it will



be seen that the concave side of the valve, *b*, is upward instead of downward, as before represented. Robt Stewart or J. L. Gibson, of Elmira, N. Y., will both furnish any information concerning this useful and economic valve.

S. H. W., of Maine.—You may safely trust Webster's Dictionary for a correct definition of "sound."

SOLUBLE GLASS.—Many persons are writing to us to know where this article can be obtained. If they will refer to the advertising columns in the same number of the paper which contained the communication, the question will be answered.

J. W. S., of Cincinnati.—When you bring in your model we can tell you the exact cost of an engraving. We are pleased to know that you are well satisfied with our agency in securing your patent. Our facilities in this business cannot be excelled.

COAL OIL.—There is an unusual interest manifested on the subject of coal oil just now. We were informed a few days ago, by one of the most extensive oil-dealers in this city, that he could sell thousands of gallons more than he was able to supply, so great is the demand. Several articles have appeared in our paper recently referring to engaging in the business, and we are now able to refer them to a reliable party who can give all the details, both of machinery and the processes. We refer to Mr. J. E. Holmes, whose advertisement appears in another column. He is well known to the readers of this journal, and has contributed from time to time much useful information to its columns.

E. C., of N. Y.—A locomotive has been employed on some of the canals in England for hauling, in place of horses on the tow-path.

S. A., of Mich.—We are glad you can speak so highly of the *Sci. Am.*, and that you will send us all the subscriptions possible. You can get sewing machine needles made to order by A. Piernot, 113 Elm st., this city. In reference to the Grover & Baker stitch, we would state that it is not patented, but their claim is for the means of producing it.

C. M. D., of Cal.—Bourne's Catechism of the Steam Engine, and Hughes' American Miller will be useful works for you, although not so thorough and complete as you seem to require. You cannot get exactly what you want. Send your order to Henry C. Baird, of Philadelphia.

O. S., of Ohio.—We have sent you one of our circulars of advice. Please send us a sketch and description of your device to be employed in connection with circular saw mills, for examination.

F. G., of Cincinnati.—It makes no difference to us whether you write your letters in English, French, or German; it is all the same. Write plain.

Money received at the Scientific American Office on account of Patent Office business, for the week ending Saturday, November 27, 1858:—

B. I., of Ill., \$35; F. M. D., of Wis., \$30; C. B. P., of Ill., \$25; M. C. C., of N. Y., \$30; D. G., of N. Y., \$30; S. & W., of Ill., \$30; J. B. S., of Ky., \$30; J. M. McD., of —, \$30; C. B. R., of Conn., \$25; T. & S., of N. Y., \$25; S. R. C., of Wis., \$30; T. W. B., of N. Y., \$20; G. D. H., of Mass., \$25; D. W., of Mass., \$30; J. B. W., of N. J., \$30; J. G. W., of N. Y., \$30; H. A. D., of Pa., \$30; J. A., of Ill., \$30; H. T. C., of N. C., \$25; J. B. S., of Texas, \$10; T. & W., of N. Y., \$30; J. O'H., of Pa., \$24; N. P., of Ind., \$15; W. M. B., of Ind., \$25; L. T., of Vt., \$25; L. R. S., of Mich., \$15; J. H. B., of Ohio, \$30; J. D., of Mass., \$25; P. B., of N. Y., \$30; S. B. & I. M. F., of Ill., \$30; S. O. V., of Ill., \$25; F. D., of N. Y., \$30.

Specifications and drawings belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Nov. 27, 1858:—

S. R. C., of Wis.; L. R. S., of Mich.; N. P., of Mo.; H. T. C., of N. C.; L. T., of Vt.; J. O'H., of Pa.; W. M. B., of Ind.; J. W. R., of N. Y.; W. S., of N. J.; G. D. H., of Mass.; J. F., of Ky.; A. H., of N. Y.; E. S., of Texas; H. G. D., of N. Y.; T. & S., of N. Y.; B. J., of Ill.; C. B. R., of Conn.; G. W. F., of Mass.; O. S., of N. Y., (two cases); T. T., of Ohio; D. W., of Mass.; G. S., of Ill.; C. A. B., of N. Y.; N. D., of N. J.; J. L. W., of N. Y.; J. S., of Pa.; R. G., of Md.

A WORD TO OUR PATRONS.

WILL OUR FRIENDS FAVOR US?—Any of our readers who do not preserve files of our paper for binding (we hope there are but few such), and who have Nos. 4 and 5 of the present volume which they are willing to spare, will oblige the publishers by sending said numbers to this office. Ten cents for each copy will be paid.

BACK NUMBERS of the present volume of the SCIENTIFIC AMERICAN will be supplied to new subscribers when desired, with the exception of Nos. 4 and 5.

Literary Notices.

THE ATLANTIC MONTHLY. Boston: Phillips, Sampson & Co. The "Autocrat" gives a farewell breakfast this month, and introduces his friend the Professor, who is to stop into his lively shoes next month. There is also an entertaining article on "Punch"—not the compound—but the periodical, highly flattering to his obese majesty. The magazine is rapidly improving, with one slight exception, and that is, too many continued stories are being introduced.

THE DEMOCRATIC AGE. Edited by C. Edwards Lester. New York: No. 41 Park Row. The second number of this magazine has just come to hand, and we find it full of lively, sparkling articles, and manly, vigorous thought. The biographical sketches are well written and correct. It seems to be making a position for itself very fast.

THE PRINTER. New York: Henry & Huntington, 1 Spruce street.—This splendid specimen of typography has attained its seventh number, and it gradually increases in the interest of its contents. Every printer should be on the subscription list, the price being only one dollar a year.

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 thirteen 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 a 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 established over a year ago, a Branch Office in the City of Washington, on the corner of F and Seventh streets, 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. Inventors and others who may visit Washington, having business at the Patent Office, are cordially invited to call at our office.

Inventors will do well to bear in mind that the English law does not admit the issue of patents to inventors. Any one can take out a patent there.

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; 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.

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. Communications and remittances should be addressed to MUNN & COMPANY, No. 128 Fulton street, New York.

Sur Beachtung für Erfinder.

Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Erfindungen in der deutschen Sprache machen. Es ist den Erfindern nicht zu verzeihen, wenn sie die deutschen Bedingungen nicht zu verstehen an Munn & Co., 128 Fulton St., New York. Auf der Office wird deutsch gesprochen.

A MESSIEURS LES INVENTEURS.—Les inventeurs non familiarisés avec la langue Anglaise, et qui préféreraient nous communiquer leurs inventions en Français, peuvent nous adresser dans leur langue natale. Envoyez nous un dessin et une description concise pour notre examen. Toutes communications seront reçues en confiance. MUNN & CO. Scientific American Office, 128 Fulton Street, New York.

STEAM ENGINE FOR SALE AT A LOW PRICE.—20-inch cylinder, 4 feet stroke. In good order, and now running; built by the Novelty Works Can be seen by applying to JOHN JEWETT & SONS, No. 183 Front st., New York. 1*

THE RIDGING PRAIRIE PLOW, FOUR feet wide, plows and plants new or old cleared land at less than half the usual cost. Rights for sale, or licenses granted by LUTHER ROBINSON, Boston, Mass. 13 2*

HOWE'S WEIGHING SCALES.—STRONG & ROSS' PATENT. Having received first-class premiums from the Vermont State Fair, New York State Fair, Virginia State Fair, United States Fair, Virginia State Fair, and Franklin Institute Fair, within sixty days, we have now only to invite the public to examine our large stock of scales of every variety, and also to test the principle of a six-tun scale, set up on the floor of our store, as well as to examine certificates of their superiority from many of our leading houses. FRANK E. HOWE, No. 43rd Broome st., first door from Broadway, New York. JOHN HOWE, JR., Brandon, Vt. 13 13*

THE COMMONWEALTH MANUFACTURING CO., No. 110 Broadway, New York, are manufacturing the only Portable Mercurial Barometer in the world, the price and construction of which places them within the reach of every farmer, and with very little effort they may be placed in the hands of every agriculturist; also in the hands of the merchant, mechanic, scientific and professional man. And to accomplish this end, they are establishing agencies for the sale of this instrument in every part of the United States, Canada and Europe. You will find, by an investigation of our business, that an exclusive agency for the sale of the Barometer in your town will furnish a lucrative and an agreeable interest. Agencies can be obtained by writing, also a sample can be obtained by enclosing \$10. A liberal discount will be made to agents. Address, COMMONWEALTH MANUFACTURING CO., No. 110 Broadway, New York. 1

INGOT COPPER, SPLICER, BANCA TIN, Lead, Antimony, Babbit Metal, Mount Hoop (cut Nails, Ames' Shovels and Spades, for sale by JOHN W. QUINCY & CO., No. 98 William st., New York. 13 65w tf

COAL OIL AND RETORTS.—THE UNDERSIGNED offers his services as an Engineer and Expert relating to machinery and processes in the above business. Terms moderate. JOSEPH E. HOLMES, Newark, Ohio. 13 10*

FOR SALE.—STATE RIGHTS OF ROBINSON'S recently patented improved Springs, which supersede the wire springs used by upholsterers in chairs, sofas, carriage and railroad car seats, &c. Apply or address D. H. SOUTHWICK, 61 Chambers st., New York office, New York. 1*

\$500. WANTED.—AN ENTERPRISING young man to purchase half of a valuable Patent Winch for hoisting sails and cargo; adapted to every class of vessels. Address Box 87, Brooklyn, N. Y. 13 2*

WANTED.—A SITUATION BY A PRACTICAL Draughtsman. Having for the last number of years been engaged in this capacity in one of the largest locomotive establishments, he would like to have a similar situation, with the intention of joining in partnership and investing capital in a similar way. Best references given. Address I. K. KNOW, Draughtsman, Box 3,024, New York. 1*

SOLUBLE GLASS.—TO BUILDERS, ROOFERS, Masons, and Railroad Contractors.—Soluble Glass secures against sparks, bridges, shingle roofs and machine shops; hardens plastered walls; produces good cement with fluor spar; best fireproof patent with oxyd manganese, at fifty cents per gallon in barrels for sale by No. 145 Maiden Lane, New York. N. B.—Karo metals and chemicals, platinum, cadmium, aluminum, bismuth, &c., &c. 13 5*

SECOND-HAND SLIDE LATHES, IRON Planers, Steam Engines, Upright Drills, Boring Mills, Woodworth Planing Machines, Sash, Tenoning and Mortising Machines, for sale by CHARLES G. WILCOX, 135 North 3d st., Philadelphia, Pa. 13 4*

ENGINE LATHES, PLANERS, DRILLS, Woodworth Planing Machines, and all large assortment of tools for working in iron and wood, at greatly reduced prices, at the Machinery Depot, 135 North 3d st., Philadelphia, Pa. CHAS. H. SMITH. 13 4*

The best thing of its size and price.—Sent by first mail.

THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1859.—Containing practical information for the farmer and horticulturist. Embellished with 144 engravings, including Houses, Farm Buildings, Implements, Domestic Animals, Fruits, Flowers, &c. Price, 25 cents. Address LUTHER TUCKER & SON, Albany, N. Y.

* Agents wanted in all parts of the country, to whom twelve copies will be sent postpaid for \$2, and larger quantities by express on still more favorable terms. 12 8*

WANTED TO PURCHASE.—A SMALL Machine Shop, with or without a foundry. Address W. H. S., Box 313, Birmingham, Conn. 12 2*

WANTED.—A SITUATION BY A MECHANICAL Engineer and Draughtsman, who has had twenty years' practical experience. Good references can be given. Address W. W., Box 304, Salem, Mass. 12 3*

SPECIAL NOTICE.—OUR CLIENT, JAMES YOUNG, of Glasgow, having transferred to a Company in the United States the exclusive right to use in the United States his patent for making oil from coal, which patent was issued by the government of the United States on the 23d day of March, 1852, and Mr. Young having guaranteed to such company that he will sustain and defend the said patent against all persons infringing the same. Notice is hereby given to all persons engaging in the business of making oil from coal, that legal measures will be immediately adopted against all persons infringing said patent. Date 10th November, 1858.

BENEDICT & BOARDMAN, Solicitors for said Young, No. 128 Broadway, New York. 12 3*

PORTABLE STEAM ENGINES.—S. C. HILLS, 13 Platt street, New York, offers for sale these Engines, with Boilers, Pumps, Heaters, &c., all complete, suitable for printers, carpenters, farmers, planters, &c. A 2^{1/2} horse can be seen in store; it occupies a space 5 by 3 feet; weight, 1,500 lbs.; price, \$250. Other sizes in proportion. 2 63w

BARREL MACHINERY.—THE UNDERSIGNED, being sole proprietor of Crozier's Patent Barrel Machinery (universally acknowledged to be superior in every particular, to any ever before offered to the public), is prepared to fill orders for the same at sight. The above machinery is adapted for all sizes and varieties of work. The above machinery is in successful operation in Oswego and Rochester, N. Y., Detroit, Mich., Chicago, Ill., Milwaukee, Wis., St. Louis, Mo., Camden, N. J., Philadelphia, Pa., Augusta, Ga., and different parts of Canada. For machines and rights, address PETER WELCH, Oswego, N. Y. 11 4*

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. 1 13

"They are without a rival."—Scientific American.

WHEELER & WILSON'S SEWING MACHINES.—New Style, price \$50. Office, No. 343 Broadway, New York. Diagram of the Lock Stitch

made by this Machine. This is the only stitch that cannot be raveled, and that presents the same appearance upon each side of the seam. It is made with two threads, one upon each side of the fabric, and interlocked in the center of it. 8 and for a circular. 6 tf

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. 1 26

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. 1 26

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MACHINE BELTING, STEAM PACKING, ENGINE HOSE.—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. GHEEVER, Treasurer, Nos. 37 and 38 Park Row, New York. 1 13

SECOND-HAND MACHINISTS' TOOLS.—Viz., Engine and Hand Lathes, Iron Planers, Drills, Chuck Lathes, Gear Cutters and Vices, 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. 1 13

CARY'S CELEBRATED DIRECT ACTING Self-Adjusting Rotary Force Pump, unequalled in the world for the purpose of raising and forcing water, or any other fluid. Manufactured and sold by CARY & BRAINARD, Brockport, N. Y. Also for sale by J. C. CARY, 240 Broadway, New York City. 12 tf

PECK'S PATENT DROP PRESS.—ALL sizes, used for stamping copper or tin wire, silver ware ornaments, spoons, &c., and for forging iron work, lock work, carriage clips, &c. Also power and foot punching presses, and oval die chucks. Manufactured by MILO PECK & CO., 3 Whitney avenue, New York. 1 14*

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EVERY MILLWRIGHT, ALL MILL-OWNERS, 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 87 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. 2 13*

FOR ONE STAMP.—SEVENTEEN ANATOMICAL engravings, illustrating and explaining how to cure diseases of the throat, lungs, muscles, joints, skin, blood, and digestive organs. This pamphlet will be sent free on receipt of one stamp, by J. R. STAFFORD, Practical Chemist, 315 Broadway, New York. 12 4*

FOR SALE.—A FIRST-RATE FIFTEEN-HORSE power engine, and a twenty-horse power boiler, with force pump, heater, and connection pipes, all in good order, by TWEEDY, WHITE & CO., Danbury, Conn. 12 5*

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FOR SALE.—SECOND-HAND MACHINISTS' TOOLS.—One large boring mill for car wheels, weight, 4,000 lbs.; cost \$800.—Price, \$250. One large boring mill (English) for car wheels, weight, 2,000 lbs.; cost \$400.—price, \$100. One screw lathe, 8 feet bed, 20 inch swing, weight, \$1,500 lbs.; cost \$350.—price, \$150. Also one 10 ft. planer; cost \$850.—price, \$550. Apply to GEO. S. LINCOLN & CO., Hartfort, Conn. 10 tf

AMERICAN MILLER AND MILLWRIGHT'S ASSISTANT.—By Wm. C. Hughes, with forty illustrations. A new edition revised, with much additional matter. Price, one dollar by mail free of postage. HENRY CAREY BAIRD, Publisher, Philadelphia, Pa. 12 3

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 catalogues, full description and prices, address "New Haven Manufacturing Co., New Haven, Conn." 1 13

WOODWORTH PLANERS.—IRON FRAMES to plane 18 to 24 inches wide.—at \$90 to \$110. For sale by S. C. HILLS, 12 Platt street New York. 1 26

WARTH'S SELF-ACTING WOODTURNING LATHES.—The best and most practical now in use. They will accomplish the work of four men. State and County rights for sale. Address W. WARTH, care W. H. Berlin, 23 Chambers st., New York, or the manufacturers, who have machines of all sizes on hand. Also a general assortment of machinists tools. Circulars sent. Address CARPENTER & PLASS, 475 First ave., New York. 2 13*