

C. A., of Pa.—In all cases of interference at the Patent Office, each party is called upon to furnish testimony as to the time when he first made his invention; and, before proceeding to take testimony, each party must serve a notice on the other of the time and place where the said testimony is to be taken. You had better, by all means, employ a competent attorney to attend to your case. It is important that it should be well prepared.

C. R., of N. Y.—We are not acquainted with any work on hydraulics that contains information, such as you want, for plumbers.

E. B. DAVIS, of Lawrenceburg, Tenn., wishes to purchase machines for making bobbins and quills. Who can furnish him? Write to him, as above.

O. H. P. P., of Pa.—We give an illustration of Stevenson's champion wheel in this week's issue of our journal. We are obliged to you for the information concerning the trials of wheels at Philadelphia. The substance of it will appear at an early date in our columns.

J. W. C., of N. Y.—The reason why we prefer a boiler with vertical tubes, is owing to the favorable results which have been obtained with such a boiler on board the United States frigate "San Jacinto," in comparison with one having the old-fashioned tubes. We do not mean one that has the fire returned through the tubes; but water tubes, as explained in Isherwood's "Engineering Precedents."

J. H., of Ind.—To make black varnish for iron-work, take 24 lbs. of asphaltum, fuse it in an iron vessel, and add 5 gallons of boiled linseed oil, 7 lbs. of litharge, and 1 1/2 lbs. of sulphate of zinc. The two latter must be added slowly, and the whole thoroughly stirred, or the oil will foam over. After boiling for two hours, add 4 lbs. of fused gum arabic, and boil two hours longer; then withdraw the fire, and cool down. Now add turpentine, and thin the varnish to a working consistency with it. This varnish is chiefly employed for the iron-work of carriages; it is beautiful and very durable.

O. C. S., of Ohio.—The plan of propelling vessels by means of a windmill on the ship to drive a propeller in the water has been frequently suggested. We have no idea that such a rig would be as good as the present one.

W. B., Jr., of N. Y.—The photographic process described on page 136, Vol. VII., SCIENTIFIC AMERICAN, is practical; but it has been superseded by improved processes. The time required for exposure to the light would depend on the light, and would be about three times as long as required for the daguerreotype.

B. F. H., of Mo.—The power developed by two 5-horse-power engines will, in no case, be more than 10-horse power—no matter how the engines are geared-up or down. The weight which your two engines will "haul" depends upon the resistance of the driving-wheels in the ground. If the driving-wheels do not slip, your two engines are enabled to lift 330,000 lbs. in one minute to a height of one foot. We do not know the power required to draw a 12-inch plow through the ground. The heating-tubes, where exposed to the flame on one, and to the steam on the other, side are liable to burn.

T. & W., of Va.—There is considerable difference of opinion about the proper velocity for running water wheels; but our largest manufacturers generally now consider about 6 feet per second of the periphery. This would give about 6 1/2 revolutions per minute for a wheel 14 feet in diameter. The velocity of water under a head of 2 feet, is 11.34 feet per second—680.64 feet per minute—and the discharge from an opening with an area of 90 inches would be 425.4 cubic feet per minute—26,527 lbs. This, falling 14 feet, would produce 11 1/2 horse-powers. But, as an ordinary overshot wheel will not probably yield over 60 or 70 per cent of the power of the water, there would be 7 or 8 horse-powers yielded by your wheel and stream. We have no doubt that circular saws have been run with a smaller expenditure of power, in proportion to the work, than is required by the best upright saws.

G. H., of Miss.—Your article is received; it is able, but too long.

O. C., of N. Y.—We suppose that the muscular power of a man would be sufficient to move a balloon of sufficient size to support his weight, only a few inches out of its course, while it is going a mile with an ordinary wind; hence, the impracticability of guiding balloons.

W. C. I., of N. C.—A portable steam engine would be the best you could use for most of the operations on a plantation. We advise you to examine one of the "cow-milkers," and obtain an ocular demonstration of its qualities for your own satisfaction.

H. W., of Pa.—The crude oil obtained from the natural springs of Pennsylvania requires to be purified for burning. It is, therefore, first distilled in a retort in the usual way; afterwards placed in a vessel, where it is agitated for three hours with about 5 per cent of sulphuric acid; then allowed to settle until all the sediment falls to the bottom. After this, it is again agitated with about 5 per cent of caustic soda, and distilled a second time when it is fit for burning, if the operations have been performed properly. We have seen very beautiful samples of oil taken direct from some wells. Dr. Antisell's work on the manufacture of coal oil—published by D. Appleton & Co., of this city—is a work you ought to have.

J. F. DANCE & BROS., of Columbia, Texas, employ stones weighing about 1,000 pounds in their grist mills, and run them at the rate of 400 revolutions per minute. They employ spindles of cast steel, the lower ends of which are about 1 1/2 inch in diameter, which they find almost impossible to keep from heating. Can any one of our readers communicate to them a remedy for this evil, without extending the area of the bearing surface?

T. H. M., of Md.—Blackberry cordial is made by boiling, for half an hour, one gallon of the juice of the berry with a like quantity of water, half a pound of cinnamon, two ounces of ginger and four pounds of sugar; then cool down, allow it to settle, decant off the clear, add one gallon of good spirits and bottle up. Blackberry wine is made by fermenting the diluted juice of the berry with one pound of white sugar to the pint of pure juice. Care must be exercised, so as to check the fermentation before it proceeds to the acetous stage.

MONEY RECEIVED

At the Scientific American Office on account of Patent

Office business, for the week ending Saturday, Sept. 1, 1860:—L. C. W., of Conn., \$25; S. L. B., of S. C., \$30; S. J. G., of N. Y., \$25; F. P. P., of La., \$15; J. C., of S. C., \$35; J. K. G., of Pa., \$25; S. H. & M. C. W., of Mass., \$25; A. C. C., of R. I., \$10; J. W., of Ohio, \$30; J. H. P., of Mo., \$30; E. R. S., of Pa., \$25; J. H. B., of N. Y., \$32; L. & K., of Ill., \$25; J. M. B., of Maine, \$55; C. A. R., of Ala., \$55; J. M. S., of Pa., \$10; W. H. O., of N. Y., \$45; J. M. S., of Ill., \$30; C. J. F., of N. J., \$25; G. S., Jr., of Maine, \$32; F. & C., of Iowa, \$25; B. & B., of Ind., \$25; J. V. H. S., of N. Y., \$30; W. C. W., of Ill., \$25; J. W. R., of Ga., \$30; K. & T. C., of N. Y., \$45; J. H. H., of N. C., \$25; D. L., of Pa., \$30; R. & W., of N. Y., \$30; F. & J., of N. Y., \$30; A. R., of N. Y., \$60; T. A. M., of Mass., \$25; J. A. B., of N. Y., \$60; W. T. D., of N. Y., \$25; I. P. Jr., of N. Y., \$25; W. P. K., of Ill., \$14; J. D. H., of Ala., \$25; R. W. H., of N. Y., \$30; D. P., of Ill., \$25; C. J. S., of N. Y., \$55; R. S., of N. J., \$30; A. B. C., of Ga., \$35; J. H. & E. H. A., of Md., \$30; S. W., of Vt., \$185; G. H., of Mass., \$25; P. H., of Mo., \$30; O. S., of Mo., \$30; C. G., of Ohio, \$25; C. & E., of Ohio, \$25; F. H. K., of Ky., \$25; A. K., of N. Y., \$30; J. P., of N. Y., \$25; G. C. G., of N. Y., \$25; D. A. B., of Ind., \$10; D. H., of N. Y., \$30; F. S., of Ill., \$30; A. T. B., of N. Y., \$30; C. R. O., of N. Y., \$25; G. W. & J. J. K., of Pa., \$15; J. H. G., of N. H., \$30; C. C., of N. Y., \$30; H. B. T., of Wis., \$30; J. A. G., of Conn., \$30; F. & S., of N. Y., \$30; T. T. S., of Pa., \$15; J. S. B., of N. Y., \$30; J. H. B., of Mass., \$30; M. W. W., of N. Y., \$25; J. H., of Ind., \$30.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, Sept. 1, 1860:—

T. A. M., of Wis.; W. T. D., of N. Y.; J. P., of N. Y., F. & C., of Iowa; J. W. H., of N. Y.; W. F., of Mass.; T. T. S., of Pa.; P. C., of N. Y.; N. M., of Ill.; L. C. W., of Conn.; M. W. W., of N. Y.; J. A. B., of N. Y.; A. B. C., of Ga.; G. H., of Mass.; E. R. S., of Pa.; C. G., of Ohio; I. P., Jr., of N. Y.; C. J. F., of N. J.; J. K. G., of Pa.; B. & R., of Ind.; F. & B., of N. Y.; I. P., of N. Y.; C. J. S., of N. Y.; F. H. K., of Ky.; G. C. G., of N. Y.; J. D. H., of N. J.; W. M. C., of Ill.; C. R. O., of N. Y.; W. H. O., of N. Y.; G. W. & J. J. K., of Pa.; L. & K., of Ill.; J. H. A., of Cal. (two cases).

USEFUL HINTS TO OUR READERS.

BOUND VOLUMES.—Persons desiring the first volume of the New Series of the SCIENTIFIC AMERICAN can be supplied at the office of publication, and by all the periodical dealers; price, \$1.50; by mail, \$2, which includes postage. The volume, in sheets, complete, can be furnished by mail; price \$1. Vol. II. is now bound and ready for delivery. The price for this volume is the same as that charged for Vol. I.

SUBSCRIBERS TO THE SCIENTIFIC AMERICAN who fail to get their papers regularly will oblige the publishers by stating their complaints in writing. Those who may have missed certain numbers can have them supplied by addressing a note to the office of publication.

IMPORTANT TO INVENTORS.

THE GREAT AMERICAN AND FOREIGN PATENT AGENCY.—Messrs. MUNN & CO., Proprietors of the SCIENTIFIC AMERICAN, are happy to announce the engagement of Hon. CHARLES MASON, formerly Commissioner of Patents, as associate counsel with them in the prosecution of their extensive patent business. This connection renders their facilities still more ample than they have ever previously been for procuring Letters Patent, and attending to the various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Court, Interferences, Opinions relative to Infringements, &c., &c. The long experience Messrs. Munn & Co. have had in preparing Specifications and Drawings, extending over a period of fifteen years, has rendered them perfectly conversant with the mode of doing business at the United States Patent Office, and with the greater part 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, No. 37 PARK ROW, New York. We have also 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 their office.

They are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business they have Offices at Nos. 68 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.

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

A pamphlet of information concerning the proper course to be pursued in obtaining patents through the Agency, the requirements of the Patent Office, &c., may be had gratis upon application at the Principal Office or either of the Branches. They also furnish a Circular of Information about Foreign Patents.

The annexed letters, from the last three Commissioners of Patents, we commend to the perusal of all persons interested in obtaining Patents:—

Messrs. MUNN & Co.—It takes 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.

Immediately after the appointment of Mr. Holt to the office of Postmaster-General of the United States, he addressed to us the subjoined very gratifying testimonial:—

Messrs. MUNN & Co.—It affords me much pleasure to bear testimony to the able and efficient manner in which you have discharged your duties of Solicitors of Patents while I had the honor of holding the office of Commissioner. Your business is very large, and you sustained (and, I doubt not, justly deserved) the reputation of energy, marked ability and uncompromising fidelity in performing your professional engagements. Very respectfully,

Your obedient servant, J. HOLT.

Messrs. MUNN & Co.—Gentlemen: It gives me much pleasure to say that, during the time of my holding the office of Commissioner of Patents, a very large proportion of the business of inventors before the Patent Office was transacted through your agency, and that I have ever found you faithful and devoted to the interests of your clients, as well as eminently qualified to perform the duties of Patent Attorneys with skill and accuracy. Very respectfully,

Your obedient servant, W. M. D. BISHOP.

Communications and remittances should be addressed to MUNN & CO., Publishers, No. 37 Park-row, New York.

STEINWAY & SONS' GOLD MEDAL PATENT

Overstrung Grand and Square Pianos are now considered the best Pianos manufactured. These instruments have taken 16 First Premiums (gold and silver medals) within the last four years, in competition with Pianos of the best makers of New York, Boston, Philadelphia and Baltimore. Among the judges were Gottschalk, Wm. Mason, H. A. Wollenhaupt, and other musical celebrities. Steinway & Sons do not refer to artists who were in this country many years ago, or to certificates and testimonials given a long time since, as it is a well-known fact that such important improvements have been made in Pianos quite recently that many makers whose instruments were justly considered to rank among the best years ago cannot, by any means, claim the same position at the present time. We subjoin the following certificate, given within the last six months, by nearly all the leading and most prominent artists and musicians now residing in this country:—"The undersigned, having personally examined and practically tested the improvements in Grand Pianos invented by H. STEINWAY, in which the covered strings are overstrung above those remaining, do hereby certify:—1. That, as the result of the said improvement, the voice of the Piano is greatly improved in quality, quantity and power. 2. The sound, by Steinway's improvement, is much more even, less harsh, stronger and much better prolonged than that realized in any other Piano with which we are acquainted. 3. The undersigned regard the improvement of Mr. Steinway as most ingenious and important. No Piano, of similar construction, has ever been known or used, so far as the undersigned know or believe. Gustav Satter, S. B. Mills, Wm. Sarr, U. C. Hill, Wm. A. King, Geo. F. Bristow, Wm. Mason, John N. Pattison, Robert Goldbeck, Geo. W. Morgan, Carl Bergmann, Henry C. Timm, and many others." Each instrument warranted for the term of five years. Warerooms—Nos. 62 and 64 Walker-street, near Broadway, New York.

THE GRAEFENBERG THEORY AND PRACTICE OF MEDICINE.

On the 1st day of May, 1860, the Graefenberg Company's Sales-rooms, Consulting Offices and Medical Institute were removed from No. 34 Park-row to—No. 2 Bond-street, New York, (first door from Broadway,) in order to afford greater facilities and a more central location, demanded by the rapid increase of confidence in the Graefenberg Theory and Practice. The Graefenberg Theory and Practice, and the use of their medicines, together with complete symptoms of all diseases incident to this country and climate, the best method for their prevention and cure, will be found in the "Graefenberg Manual of Health."

This valuable family medical work, containing 300 pages, has been revised and improved, and elegantly illustrated with beautifully colored engravings of the human system. Sent by mail to any part of the country, on receipt of 25 cents. It is a complete guide to all diseases and their cure.

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One of the leading journals says of the Graefenberg Manual of Health:—"This is the only medical book for family and general use ever published. It is written in plain language, free from scientific terms, and condenses more practical medical information than can be obtained anywhere else, unless a regular medical course of education is undergone. The popularity of this admirable and compact work is well shown by this being the twenty-fourth edition. It contains a number of colored anatomical plates, and is a complete family physician. It is at once simple, popular, plain and explicit; and the mother, with such an adviser, is prepared at once to apply the proper remedies in case of sudden sickness in the family. In the country, a copy of the 'Manual of Health' is indispensable, and every family should possess one. It will save a hundred times its cost in doctors' bills, and, what is far better, will be the means of preserving many valuable lives to their families and relatives."

E. G. KELLEY, SOLE AGENT FOR THE CITY

of New York for the sale of the Oils manufactured by the Patent Paraffine Lubricating Oil Company, whose oils are manufactured by his newly-discovered process, which gives them the properties of pure SPERM OIL. E. G. Kelley's Patent Triple-refined Paraffine Lubricating Oil, for cotton spindles and all kinds of fine machinery (No. 1), \$1 per gallon; do., for heavy machinery (No. 2), 75 cents. E. G. Kelley's White Chemical Oil for engines (No. 1), 65 cents per gallon; do., for heavy machinery (No. 2), 45 cents. E. G. Kelley's Patent Triple-refined Illuminating Oil, superior to any in the market (No. 1), 75 cents per gallon; do., common Illuminating Oil (No. 2), 65 cents. Sperm, Lard, Whale and Fish Oil, of tested and warranted quality, furnished at from 5c. to 10c. per gallon below the usual market price. Office for the sale of the Oil, No. 116 John-street, New York. Agents wanted for towns and cities.

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THE THIRTEENTH ANNUAL EXHIBITION OF the works of American Industry, by the Maryland Institute, will be opened in the city of Baltimore on Tuesday evening, October 9, 1890.

INVENTORS' DEPOT AND SALESROOMS FOR Patent Rights, No. 30 Broadway, New York.—Patents possessing positive merits—and such only—have, in this depot, their headquarters, where they can be properly introduced to public notice and find purchasers.

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STUMP-EXTRACTOR WANTED.—PARTIES having such machines for sale will please address JOHN B. ROBERTSON, Centerville, La., stating price, &c., with description of machine. 9 3*

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BURNHAM'S IMPROVED JOUVAL TURBINE water wheel (patented Feb. 22, 1859) and mill gearing of the latest improved patterns. Manufactured by N. F. BURNHAM, Variety Iron-works, York, Pa. 1 13*

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READY THIS DAY.—NEW EDITION, REVISED and Enlarged.—"Wells' Every Man his Own Lawyer and United States Form Book." A complete and reliable guide to all matters of business negotiations for every State in the Union, containing simple instructions to enable all classes to transact their business in a legal way without legal assistance. Also, containing the laws of the various States and Territories concerning the Collection of Debts, Property Exempt from Execution, Lien Laws, Laws of Limitation, Laws of Contract, Legal Rates of Interest, License to Sell Goods, Qualifications of Voters, &c., &c. No man or business woman should be without this work; it will save many times its cost, much perplexity and loss of time. 12mo., 498 pages, law binding; price \$1. Sent postpaid. Agents wanted for this and other popular publications. Address JOHN G. WELLS, Publisher, corner of Park-row and Beekman-streets, New York. 25 13*

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PORTABLE STEAM ENGINES, COMBINING the maximum of efficiency, durability and economy with the minimum of weight and price. They received the large gold medal of the American Institute, at their late fair, as "the best Portable Steam Engine." Descriptive circulars sent on application. Address J. C. HOADLEY, Lawrence, Mass. 1 22*

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