

may be had, gratis, upon application at the principal office, No. 37 Park Row, New York, or any of the branch offices.

SEARCHES OF THE RECORDS.

Having access to all the official records at Washington, pertaining to the sale and transfer of patents, MESSRS. MUNN & CO., are at all times ready to make examinations as to titles, ownership, or assignments of patents. Fees moderate.

INVITATION TO INVENTORS.

Inventors who come to New York should not fail to pay a visit to the extensive offices of MUNN & CO. They will find a large collection of models (several hundred) of various inventions, which will afford them much interest. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world.

MUNN & CO. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances; but that they devote their whole time and energies to the interests of their clients.

COPIES OF PATENT CLAIMS.

MESSRS. MUNN & CO., having access to all the patents granted since the rebuilding of the Patent Office, after the fire of 1836, can furnish the claims of any patent granted since that date, for \$1.

THE VALIDITY OF PATENTS.

Persons who are about purchasing patent property, or patentees who are about erecting extensive works for manufacturing under their patents, should have their claims examined carefully by competent attorneys, to see if they are not likely to infringe some existing patent, before making large investments. Written opinions on the validity of patents, after careful examination into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the invention and being informed of the points on which an opinion is so solicited. For further particulars address MUNN & CO., No. 37 Park Row New York.

EXTENSION OF PATENTS.

Many valuable patents are annually expiring which might readily be extended, and it extended, might prove the source of wealth to their fortunate possessors. Messrs. MUNN & CO. are persuaded that very many patents are suffered to expire without any effort at extension, owing to want of proper information on the part of the patentees, their relatives or assigns, as to the law and the mode of procedure in order to obtain a renewed grant. Some of the most valuable grants now existing are *extended patents*. Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should give ninety days' notice of their intention.

Patents may be extended and preliminary advice obtained, by consulting or writing to MUNN & CO., No. 37 Park Row, New York.

ASSIGNMENTS OF PATENTS.

The assignment of patents, and agreements between patentees and manufacturers, carefully prepared and placed upon the records at the Patent Office. Address MUNN & CO., at the Scientific American Patent Agency, No. 37 Park Row, New York.

UNCLAIMED MODELS.

Parties sending models to this office on which they decide not to apply for Letters Patent and which they wish preserved, will please to order them returned as early as possible. We cannot engage to retain models more than one year after their receipt, owing to their vast accumulation, and our lack of storage room. Parties, therefore, who wish to preserve their models should order them returned within one year after sending them to us, to insure their obtaining them. In case an application has been made for a patent the model is in deposit at the Patent Office, and cannot be withdrawn.

It would require many columns to detail all the ways in which the inventor or patentee may be served at our offices. We cordially invite all who have anything to do with patent property or inventions to call at our extensive offices, No. 37 Park Row, New York, where any questions regarding the rights of patentees, will be cheerfully answered.

Communications and remittances by mail, and models by express (prepaid) should be addressed to MUNN & CO. No. 37 Park Row, New York.



G. T. H., of Ohio.—To bronze cast-iron, clean it thoroughly and dip it into a solution of sulphate of copper. The sulphate of copper is dissolved in water. Your best course probably is to buy bronzing powder of the dealers in paint.

P. S., of N. Y.—Ice formed by rapid evaporation of water will melt with just the same rapidity as other ice. The length of time that it will last depends entirely upon the conditions in which it is placed.

C. P. of N. Y.—We know of no better way to destroy the luster of your shellac varnish than to rub it with coarse sandpaper, or else to paint it over.

T. M. D., of U. S. N.—You will find a description of the Hecker & Waterman engine in the last number of the SCIENTIFIC AMERICAN. We have published the relations of temperature to pressure as ascertained by Regnault, in a table arranged in the form of a thermometer scale, which showed the relations very plainly. We also gave a full history at the time they were made of the experiments of Fairbairn and Tate, with an illustration of the apparatus, and tables of the results. In regard to the books, we criticise all that are sent to us, giving our candid opinion whatever it may be. We should be pleased to hear from you again.

R. F., of Ind.—In a condensing engine, when the steam is condensed it is impossible to condense it all, hence the back pressure. As the pressure is removed from the water in the condenser, the water evaporates, and if the pressure could be entirely removed the water would all pass into vapor at any temperature; so say the highest authorities.

T. B. G., of S. C.—"King's Notes on the Steam Engine," is the book you require. Address D. Appleton & Co., New York.

W. G. B., of Mo.—You ask, "suppose I take two tubes, each 4 feet 6 inches high and one inch caliber at the lower end, and have one 6 inches in diameter at the upper end, and the other one inch; if filled with water will the water pass out of one with more force than out of the other?" There is more in this problem than might at first appear. The friction of the water against the sides of the tube would be greater in the smaller tube, but there might be a contraction of the vein in the larger tube that would more than counterbalance this. We should not be able to give an answer without trying the experiment. Rosin is obtained from the pitch of common pine by expelling the spirits of turpentine by heat.

A Farmer of Ind.—By a coincidence the article on another page in reference to the sugar beet was in type when your letter came to hand. We intend to publish a full description of the process of making sugar from the beet, sometime before you can raise a crop.

S. W., of Mass.—Benzine will remove paint and grease from clothing. Soap is made by boiling any kind of grease in a solution of any alkali.

R. G. H., of Cuba.—To find the contents of your cylinder multiply the area of the bore by the height of the cylinder the product is the solid contents.

J. W. L., of Minn.—Boxwood has the greatest cohesive strength of any known wood. According to the experiments of Messrs. Ronine, Barlow & Telford, it has a cohesive strength of 20,000 pounds avoirdupois per square inch; it is therefore stronger than cast-iron which has a cohesive strength of only 18,656 pounds per square inch.

P. W. McC., of R. I.—The size for drills to be used in holes that are to be tapped are obtained by a thin legged pair of calipers. Measure to the bottom of the thread and make the drill that size, it should not be a full thread in cast-iron, but three-fourths, for it is such a crystalline metal that the sharp edge breaks off when the thread is too full.

Waterville, Me.—The process of bread making you allude to requires ordinary yeast and water. Milk makes no difference in raising bread, but makes it of a better flavor.

P. W. A., of Ohio.—Very many ways are recommended for preserving eggs, such as varnishing the shell, greasing it, steeping in a weak solution of vinegar, etc., but we think that eggs in lime keep better than other plans. Slack the lime and put some in the bottom of a jar, then put the eggs in and strew lime over them; continue putting alternate layers of lime and eggs until the jar is full. Eggs put down this way will keep good until spring, but they will have a limed flavor towards the last.

H. P. G., of Pa.—"King's Notes on the Steam Engine," is a work that we can always recommend as being practical, sensible, and generally up to the latest styles. Mr. King or some other competent person who has time, might go to work and collect examples of modern valves and valve-gearing, engine connections, such as the front link, cross-head and slides of American beam engines, screw engines, etc., with good results.

C. M., of Wis.—The velocity your ball will acquire in falling can be found by multiplying the distance it falls in feet by 64.3, the square root of the product will be the velocity in feet per second.

C. M. F., of Conn.—Slide valve seats are not ground with emery as they were in old times, they are scraped. This takes more time but makes better work.

I. J., of N. H.—It is perfectly practicable for you to obtain a situation as an apprentice in the drawing room of a large workshop. We should think that your town would be a good place to commence. If, however, you know any one in the large cities New York, Boston, or Philadelphia, who can make interest for you you will find it an advantage.

W. A. C., of Wis.—Many queer questions are submitted to us. Here is one of the latest. "If two persons with constitutions equally healthful sleep in a room without ventilation, one near the ceiling and the other near the floor, which one would be affected by impure air first, and if they should remain until death ensued which would die first?" Carbonic acid gas, a deadly poison—much heavier than common air—is exhaled from the lungs, and in an apartment falls to the floor. In a small tight sleeping room an individual resting near the floor would be overcome with the poison sooner than if near the ceiling.

W. S., of Pa.—For the best work on dyeing address Henry Carey Baird, 506 Walnut street, Philadelphia.

J. B. B., of N. Y.—You can turn your grindstone best with a piece of an old square file. You cannot harden steel so that it will not wear in turning a grindstone. The file corner should be used, and when it is worn break the end off and try it again. Run the stone moderately fast.

Money Received.

At the Scientific American Office, on account of Patent Office business, from Wednesday, Aug. 3, 1864, to Wednesday, Aug. 10, 1864:—

S. W. P., of Ill.; \$25; J. A. M., of Conn.; \$25; J. N. B. J., of Mass.; \$25; D. W., of Pa.; \$25; C. H. S., of Pa.; \$25; J. F. B., of Ind.; \$25; W. W. P., of Ill.; \$25; G. H. S., of Pa.; \$50; J. H. G., of Iowa; \$36; H. B. S., of Wis.; \$30; S. C. R., of Maine; \$25; H. G. W., of Iowa; \$16; J. S., of Ohio; \$16; W. W. H., of Cal.; \$10; J. J. G., of Ohio; \$10; H. W. H., of Conn.; \$15; T. W., of Pa.; \$25; C. P. H., of Wis.; \$25; A. C., of Iowa; \$16; S. R., of Mo.; \$16; J. G. F., of Mass.; \$40; B. W. McC., of Iowa; \$16; J. F. C., of —; \$15; R. McC., of N. J.; \$10; W. A. G., of N. Y.; \$40; S. S. H., of Maine; \$20; C. C. S., of N. Y.; \$20; A. W., of N. J.; \$20; W. & J., of N. H.; \$45; I. L. H., of Mass.; \$20; A. D., of N. Y.; \$20; P. M., of N. Y.; \$35; T. R., of Mo.; \$20; J. L., of Iowa; \$20; C. G. B., of R. I.; \$56; T. R., of Chili; \$20; J. J., of N. Y.; \$15; J. H. P., of N. Y.; \$15; W. N. S., of Ill.; \$20; C. H. W., of N. Y.; \$20; J. O., of N. Y.; \$15; G. T. T., of N. Y.; \$45; C. M., of N. Y.; \$20; S. C. B., of N. Y.; \$20; H. E. P., of N. Y.; \$20; S. S. J., of Ohio; \$20; G. F. J. C., of N. J.; \$41; J. G. F., of Mass.; \$15; T. R. F., of Mich.; \$20; H. S., of N. Y.; \$16; A. J. A., of Ill.; \$20; A. O. D., of Conn.; \$40; R. A., of Maine; \$16; C. C. D., of Pa.; \$61; E. O. W., of N. Y.; \$41.

Persons having remitted money to this office will please to examine

the above list to see that their initials appear in it and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, stating the amount and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office, from Wednesday, Aug. 3, 1864, to Wednesday, Aug. 10, 1864:—R. W. & D. D., of N. Y.; J. F., Jr., of N. Y.; W. J., of N. Y.; H. M. S., of N. Y.; T. S., of N. Y.; C. S., of N. Y.; H. Z., of N. Y.; G. C. B., of Ill.; S. C. B., of N. Y.; C. G. B., of R. I.; C. C. B., of Iowa; J. F. B., of Ind.; C. P. H., of Wis.; D. W., of Pa.; T. & W., of Pa.; J. W., of Ohio; C. H. S., of Pa.; S. C. R., of Maine; W. W. P., of Ill.; N. T., of N. H.; S. W. P., of Ill.; J. A. M., of Conn.; J. W. M., of N. Y. (2 cases); J. N. B. J., of Mass.; J. C., of Ohio; J. H. W., of Ohio; C. C. B., of Iowa; E. C. G. (2 cases), British Colony; J. H. G., of Iowa; B. W. McC., of Iowa.

TO OUR READERS.

INVARIABLE 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.

MODELS are required to accompany applications for Patents under the new law, the same as formerly, except on design patents, when two good drawings are all that are required to accompany the petition, specification and oath, except the Government fee.

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* acknowledgement of our reception of their funds.

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and enclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

Binding the "Scientific American."

It is important that all works of reference should be well bound. The SCIENTIFIC AMERICAN being the only publication in the country which records the doings of the United States Patent Office, it is preserved by a large class of its patrons, lawyers and others, for reference. Some complaints have been made that our past mode of binding in cloth is not serviceable, and a wish has been expressed that we would adopt the style of binding used on the old series, i. e., heavy oarboard sides covered with marble paper, and morocco backs and corners.

Believing that the latter style of binding will better please a large portion of our readers, we commenced on the expiration of Volume VII, to bind the sheets sent to us for the purpose in heavy board sides, covered with marble paper and leather backs and corners.

The price of binding in the above style is 75 cents. We shall be unable hereafter to furnish covers to the trade, but will be happy to receive orders for binding at the publication office, No. 37 Park Row, New York.

RATES OF ADVERTISING.

TWENTY-FIVE CENTS per line for each and every insertion, payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published we will explain that ten words average one line. Engravings will not be admitted into our advertising columns, and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.

WANTED.—A MACHINE FOR CUTTING OR TURNING Oval Wood Mouldings (cutting on the face). Address, stating price, capacity for doing work, and other particulars, ORLANDO J. THOMPSON, 26 Bush street, New Bedford, Mass. 1*

FOR SALE.—IN ONE OF THE MOST DESIRABLE parts of Maryland, a Foundry and Machine Shop, now doing a large and increasing business. Address W. M. A. STEWART, 53 Fayette street, Baltimore, Md. 8 3*

FOR SALE.—ONE PAIR OF BLOWING CYLINDERS in complete working order; 4 feet diameter 4 feet stroke. Built at the Novelty Works, New York. One horizontal Engine, 16x36 inches in perfect order. Call or address DAVIS'S Machinery Yard, 17 and 19 Morris street, Jersey City. 8 3*

RACHET DRILLS.—CHARLES MERRILL & SONS, 556 Grand street, New York. Hardware Dealers and Manufacturers of a superior Ratchet Drill. Orders solicited and promptly filled. Send for circular, giving particulars and prices. 8 4*

\$5,000 TO \$7,000.—A PARTY, ABLE TO furnish the above amount, desires an interest in a Foundry, Machine Shop, or Manufactory, where his active services will be required. Address A. B., Box 4,090, New York City. 1*

READY FOR WORK.—THE SUBSCRIBERS HAVING a Machine Shop and Tools well calculated for turning out a large amount of light Machine Work, respectfully solicit the attention of those who are about to have such done. None save responsible parties need apply, as all work must be paid for when delivered. Something promising permanency preferred. Address S. A. & CO., Box 1,038, Springfield, Mass. 8 3*

PATENTS!—VALUABLE ENGLISH AND AMERICAN Patents introduced, manufactured, or sold for cash on commission. Communications respectfully solicited. Address SNYDER & WALTER, 229 Broadway, New York. Refer to Chemical Bank and Metropolitan Bank, New York City. 8 60ft

INVENTORS WHO DESIRE TO DISPOSE OF THEIR Patents will consult their interest by calling at our Office. We sell for cash. INVENTOR'S AGENCY, 119 Nassau street, New York. 1*

LOOM.—NEW PATENT.—THIS LOOM PRODUCES any width cloths with greater facility than any other loom can produce narrow cloths. A capitalist wanted to become interested in the American Patent. Inquire at the INVENTOR'S AGENCY, 119 Nassau street, New York. 1*

PLATINA FOR ALL PURPOSES.—ADDRESS H. M. RAYNOR, 748 Broadway, New York. 8 4*

FACTORY WANTED, WITH OR WITHOUT WATER Power. But must have a constant supply of pure water for bleaching. Address T. C. B., Box 2,674, Post-office, New York. 1*