SEARCHES OF THE RECORDS

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

MUNN & CO. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances; but that they dovote 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 compotent 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 inventionand being informed of the points on which an opin licited. Forfurther particulars address MUNN & CO., No. 37 Park

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.

It would require many columns to detail all the ways in whi 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 cheerfuly

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



- D. A. W., of Pa.—If you will read "stables" instead of 'tables," you will have a correct solution to your inquiry ab Hercules
- N. W., of Ohio.—The simplest plan that we know of for determining the quantity of carbonic acid in any specimen of air is to pass the air through lime-water, when the carbonic acid enters into combination with the lime, and is precipitated in the form of carbonate of lime. Whether a simple plan can be devised remains
- J. O. B., of Mo .- Your suggestion to run the Atlantic telegraph through the higher latitudes so as to have shorter sea stretches has been very fully considered. Some of our best electricians are of opinion that the resistance of 3,000 miles of wire will be too great for any insulating coating which it is proposed to use, and that consequently the cable will not last long.
- L. M., of Mass.—Perhaps our readers have had enough e metrical system for the pres
- H. B., of N. Y.—You will find illustrations of spectro scopes on pages 20 and 229, of Vol. V., new series, SCIENTIFIC AMERICAN. We are not aware that the facts of this new science have yet been collected in any book.
- A. E. of Mich.—We know of no paper exclusively for telegraphers. The SCIENTIFIC AMERICAN aims to publish every thing new in the progress of this thaumaturgic art.
- F. G., of N. Y.-A water-tight cement is made by mixing equal parts of red and white lead with sufficient boiled linseed
- W. H. N., of Pa.—The best article on inks that we know of is in "Ure's Dictionary of Atts and Sciences," For receipts see Vol. IX., new series, Scientific American,

Money Received.

At the Scientific American Office, on account of Patent Office business, from Wednesday, April 27, 1864, to Wednesday, May 4, 1864:—
D. H., of N. Y. \$25; A. S., of N. Y., \$20; P. B., of N. Y., \$20; R. S.

C., of N. Y., \$41; J. A. K., of Mo., \$20; T. O., of Mass., \$20; R. & Y., of N. Y., \$69; I. C. C., of Ohio, \$20; J. M., of N. Y., \$20; W. C. S., of of N. Y., \$69; I. C. C., [cf Ohio, \$20; J. M., of N. Y., \$20; W. C. S., of N. Y., \$20; G. E. H., of Maine, \$20; G. R. H., of M., \$20; E. C. A., of N. Y., \$10; D. M., of N. Y., \$45; W. C. E., of N. J., \$16; S. L. K., of N. Y., \$16; J. A. II., of Wis., \$22; J. L. & Co., of Iowa, \$432; D. & D., of Ohio, \$25; E. H. M., of N. Y., \$25; S. S. J., of Ohio, \$16; A. R., of III., \$30; F. & M. of Mich., \$16; T. J. B., of Tenn., \$20; J. B. K., of III., \$25; E. B. C., of R. I., \$25; J. McC., of Ohio, \$15; E. S. A., of III., \$25; C. A., of C. A., of N. Y., \$16; A. Ill., \$25; E. B. C., of R. I., \$25; J. McC., of Ohio, \$15; E. S. A., of the same of the sa

\$25; G. H. M., of Ohio, \$26; E. S., of N. Y., \$16; W. W. L., of Ill., \$16; J. J. R., of Ohio, \$11; W. J. W., of Ohio, \$16; E. T., of Pa., \$16; J. B. W., of N. J., \$11; A. S., of N. Y., \$16; S. J. M., of N. Y., \$26; A. R., of N. Y., \$44; Z. S. S., of N. Y., \$25; H. W. K., of N. Y., \$20; A. R., of N. Y., \$44; Z. S. S., of N. Y., \$25; H. W. K., of N. Y., \$20; J. T., of N. Y., \$16; J. G., of N. Y., \$20; C. H. B., of N. Y., \$41; E. M., of (Conn., \$20; M. G., of N. J., \$16; F. J. B. H., of N. Y., \$16; P. S. B., of N. Y., \$20; H. P., of V. Y., \$20; E. R. C., of N. J., \$20; C. B., of N. Y., \$20; H. P., of V. \$20; E. R. C., of N. J., \$20; C. B., of N. Y., \$20; P. E., of N. Y., \$20; W. F., of Conn., \$20; J. A. D., of N. Y., \$45; H. W., of N. Y., \$25; J. L. W., of N. Y., \$25; B. F. M., of Wis., \$26; W. S. N., of Mass., \$25; G. D., of Conn., \$16; I. N. S., of Ill., \$25; S. £. T., of Ohio, \$21; C. A. M., of Ill., \$15; B. F. C. of Mich. \$16; A. R., of Iowa, \$25; T. C. L., of Mass., \$28; W. H. S., of Conn., \$25; D. K., of Pa., \$21; H. B. W., of Iowa, \$16; S. S. H., of Maine, \$25; D. K., of N. J., \$41; S. G., of N. J., \$16; D. K., of Pa., \$15; J. W., of N. Y., \$33; A. W. T., of Ill., \$20; C. M., of N. Y., \$25; E. L. W., of Pa., \$15; C. S. B., of Mass., \$16; J. T. L., of N. Y., \$16; E. C. A., of N. Y., \$12; J. S., of N. Y., \$474; C. G. H., of Kansas, \$28; D. F. W., of Mo., \$16; H. & B., of Conn., \$25; B. M. B., of N. Y., \$25; A. B., of N. J., \$25. B., of N. J., \$25.

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, April 27, 1864, to Wednesday, May 4,

D. H., of N. Y.; D. R. M., of N. Y.; Z. S. S., of N. Y.; J. A. M., of N. Y.; G. DeM., of N. Y.; H. & F. J. L. B., of Ohio (2 cases); C. W. B., of Conn.: W. M., of Mass.; P. C. C., of Cal.; B. F. C., of Mich.; G. H. M., of Ohio; H. L., of Mich.: H. W., of N. Y.; F. G. F., of Ill.; G. H. M., of Ohio; H. L., of Mich.: H. W., of N. Y.; F. G. F., of Ill.; J. B. K., of Ill.; I. N. S., of Ill.; W. G. N., of Mo.; J. L. W., of N. Y.; J. R., of Iowa; C. H. S., of Mass.; S. & T., of Ohio; J. J. R., of Ohio; J. G., of Pa.; D. & D., of Ohio; T. C. L., of Conn.; T. B. McC., of Del.; L. H., of Cal.; E. H. M., of Cal.; B. F. M., of Ill.; C. T. F., of N. Y.; D. K., of Pa.; E. G. A., of Ill.; E. B. C., of R. I.; J. H. B., of N. Y.; D. K., of N. Y.; R. R., of N. Y.; C. H. B., of N. Y.; J. S., of N. Y. (7 cases); J. W., of N. Y.; R. S. C., of N. Y.; C. N., of N. Y.; C. G. H., of Kansas; S. Z. H., of N. J.; H. & B., of Conn.; D. C. & L. G. R., of Nebraska; C. M., of N. Y.; W. & B., of Conn.; B. M. B., of N. Y.; A. B., of N. J.; E. C. A., of N. Y. Y.; A. B., of N. J.; E. C. A., of N. Y.

RATES OF ADVERTISING.

TWENTY-FIVE CENTS per line for each and every insertion, pay able in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published. we will explein 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.

ORDNANCE OFFICE.

WAR DEPARTMENT, WASHINGTON, May 1, 1864.

SEALED PROPOSALS will be received at this office until Monday the 23d day of May, 1864, for the delivery at the following arsenals Cavalry Accountements, United States Cavalry pattern, as herein after specified.

At the New York Arsenal, 25,000 sets.

At the St. Louis Arsenal, 5,000 sets.

At the New York Arsenal, 25,000 sets.
At the St. Louis Arsenal, 10,000 sets.
At the Frankfort Arsenal, 10,000 sets.
At the Alleghany Arsenal, 10,000 sets.
At the Alleghany Arsenal, 10,000 sets.
These Accoutrements are to be made in strict conformity with the regulation pattern, which can be seen at the above named places. Each set is to consist of one Sabre-belt and plate complete; one Carbine-Sing with swivel complete; one Sabre-holt; one Carbine-Sing with swivel complete; one Sabre-holt, one Belt-holster for Army size revolver, and one Cap-pouch with cone pick. All of which are to be made of the best materials and workmanship. The Sabre-belt, Sabre-knot, and Carbine-sling are tobe of Buit Leather Blacked, and the Cartridge-boxes, Belt-holster, and Cap-pouch of Pure Oak ranned Leather.
It is to be distinctly understood that this Department is to have the privilege of inspecting the work done under any contract it may award, in all stagesof its progress; especially, to examine the stock before cutting. They are to be subject to the final inspection at the Arsenal, where delivered, before being received by the Government. None are to be accepted or paid for but such as are approved upon inspections.

None are to be accepted to paid for our such as all approved appropriate inspection.

Deliveries must be made in lots of not less than one-tenth (1-10th) per week of the whole number contracted for; the first delivery to be made out the 20th day of June.

Failure to make deliveries at a specified time will subject the contractor to a forfeiture of the number he may fail to deliver at that time.

be made on the zith day of such Failure to make deliveries at a specified time will subject the contractor to a forfeiture of the number he may fail to deliver at that time.

The Accourrements must be boxed in the usual manner; the boxes to be charged cost, to be determined by the inspector.

Bidders will state explicitly the Arsenal, •rArsenals, where they propose to deliver, and the number of sets they propose to deliver at each place, if for more than one.

No bids will be considered from parties other than regular manufacturers, and such as are known to this Department to be fully competent to execute in their, dayn shops the work proposed for Should any party obtaining a contract •effer Accourrements other than those made in his own shops, they will be rejected, and the contract rendered null and void.

Bidders will enclose with their bids the written acknowledgments of their sureties over their own signatures.

Each party obtaining a contract will be obliged to enter into bond with approved sureties for its faithful execution.

Upon the award being made, succossful bidders will be notified, and furnished with forms of contract and bonds.

The Department reserves the right to reject any or all bids if not deemed satisfactory.

Proposals will be addressed to "Brigadier-General George D. Ramsay, Chief of Ordnance, Washington, D. C.," endorsed "Proposals for Cavalry Accourrements."

Brigadier-General, Chief of Ordnance.

SCALY BOILERS.

WINANS' ANTI-INCRUSTATION POWDER effectually cleanses dirty Boilers without injury or loss of time. A thousand references. Send for circular to H. N. WINANS', 11 Wall street, New York. 20 4*

THE COLD-IRON BAR CUTTERS ARE INVALU-ABLE in Machine Shops. They will cut off four inch, round or square bars. For circulars or machines address CRESSON & HUB-BARD, 1,509 Pennsylvania avenue, Phuadciphia.

POR GRAY & WOOD'S, WOODWORTH, AND DANIEL Planers, address J. A. FAY & CO., Worcester, Mass.

WANTED.—TO PHRCHASE TWO SECOND-HAND LATHES, One to swing from 30 to 35, bod 16 to 22 feet; the other swing 12 to 16; 4 to 6 feet bed; withor without screw-cutting gear. Address LOCKWOOD BROOKS, Tathara's Lead Works, & Beekman street. New York.

PATENT COMMISSION HOUSE, SNYDER & WAL-TER, 229 Broadway, New York. Valuable Patent Rights sold for cash on commission. Consignments respectfully solicited. Add dress SNYDER & WALTER, 229 Broadway, New York Refer to H. D. Smith. Chemical Bank, New York: Sheppard Seward & Co., 214 Pearl street, New York. End John McKewan, Importer, 55 Maiden Lane, New York.

BAIRD'S PRACTICAL AND SCIENTIFIC BOOKS.

THE PRACTICAL METAL-WORKER'S ASSISTANT; comprising Metallurgic Chemistry, and the Arts of Working all Metals and Alloys; Forging of Iron and Seel, Hardening and Tempering, Melting and Mixing, Casting and Founding, Works in Sheet Metal, the Processes dependent on the Ductility of the Metals; Soldering and the most Improved Processes, and Tools employed by Metal Workers, with the Application of the Art of Electro-Metallurgy to Manufacturing Processes. By Oliver Byrne. A new revised and Improved edition, with additions by John Seeffern, William Clay, William Fairbairn, and James Napier. With five hundred and ninety-two engravings. 682 pages, 8vo. Price SIX DOLLARS.

THE PRACTICAL DRAUGHTSMAN'S BOOK OF INDUSTRIAL DESIGN, and Machinist's and Engineer's Drawing Companion; forming a complete course of Mechanical Engineering and Architectural Drawing. From the French of M. Armengaud the elder, Professor of Design in the Conservatoire of Arts and Industry, Paris, and MM. Armengaud the younger, and Amounux, Civil Engineers, Re-written and arranged, with additional matter and plates, selections from, and examples of, the most useful and generally employed mechanism of the day. By William Johnson, Assoc. Inst. C. E. Editor of "The Practical Mechanic's Journal." Illustrated by 50 folio and 5 quarto steel plates and 50 wood-cuts. A new edition, quarto. Price SEVEN DOLLARS AND FIFTY CENTS.

A PRACTICAL TREATISE ON MECHANICAL ENGINEERING; compositive Metallurger, Moulding Costing, Tools Workshop.

and 5 quarto steel plates and 50 wood-cuts. A new edition, quarto. Price SEVEN DOLLARS AND FIFTY CENTS.

A PRACTICAL TREATISE ON MECHANICAL ENGINEERING; comprising Metal'urgy, Moulding, Casting, Porging, Tools, Workshop Machinery, Mechanical Manipulation, Manufacture of Stean Engine &c., &c. With an Appendix on the Analysis of Iron and Iron Ores By Francis Champin, C.E., President of the Civil and Mechanical Engineers' Society, &c., &c. To which are added, Observations on the Construction of Steam Boilers and Remarks upon Furnaces used for Smoke Prevention: with a Chapter on Explosions. By Robert Armstrong, C.E. Revised, with Notes, by John Bourne. Rules for Calculating the Change Wheels for Serveys on a Turning Latthe, and for a Wheel-cutting Machine. By J. La Nicea. The Management of Steel, including Forging, Hardening, Tempering, Anneaing, Shrinking, and Expansion. And the Caseba dening of Iron. By George Ede. 8vo. Illustrated with 29 plates of Boilers Steam Engines, Workshop Machinery, Change Wheels for Serews, &c., &c., and 100 wood engravings. 8vo. Price SIX DOLLARS.

THE HAND-BOOK FOR THE ARTISAN, MECHANIC, AND EN-

wood engravings. 8vo. Price SIX DOLLARS.

THE HAND-BOOK FOR THE ARTISAN, MECHANIC, AND ENGINEER. By Oliver Byrne. Illustrated by Il. large plates and 185 wood engravings. 8vo. Price FIVE DOLLARS.
CONTENTS.—Grin-ding Cutting Tools on the Ordinary Grindstone; Sharpening Cutting Tools on the Olistone; Setting Razors; Sharpening Cutting Tools with Artificial Grinders; Production of Plane Surfaces by Abrasion; Production of Conical Surfaces by Abrasion; Production of Spherical Surfaces by Abrasion; Glass Cutting; Lapidary Work; Setting, Cutting, and Polishing Flat and Rounded Works; Cutting Paucets; Lapidary Apparatus for Amateurs; Gem and Glass Engraving; Seal and Gem Engraving; Cameo Cutting; Glass Engraving; Varnishing, and Lackering; General Remarks upon Abrasive Processes; Dictionar, vof Apparatus set Materials and Processes for Grinding and Polishing commonly employed in the Mechanical and Useful Arts.

BYRNE, THE PRACTICAL MODEL CALCULATOR for the Engraving of the Mechanical and Useful Arts.

Polishing commonly employed in the Mechanical and Useful Arts.

BYRNE, THE PRACTICAL MODEL CALCULATOR for the Engineer, Mechanic, Manufacturer of Engine Work, Naval Architect, Miner, and Millwright. By Giver Byrne. I vol. 8vo., nearly 800 pages. Price THREE DOLLARS AND FIFTY CENTS.

The principal objects of this work are: to establish model calculations to guide practical mue and students; to flustrate every practical rule and principle by numerical calculations, systematically arranged; to give information and data indispensable to those for whom it is intended, thus surpassing in value any other book of the character; to economize the labor of the practical man, and to render his every-day calculations, easy and comprehensive. It will be found to be one of the most complete and valuable practical books ever published.

RAILWAY PROPERTY A TREATURE OF THE PROPERTY A TREATU

RAILWAY PROPERTY. A TREATISE ON THE CONSTRUCTION AND MANAGEMENT OF RAILWAYS; designed to afford useful knowledge, in the popular style, to the helders of this class of property; as well as Railway Managers, Officers, and Agents. By John B. Jervis, late Chief Engineer of the Hudson River Railroad, Croton Aqueduct. &c. One vol. 12mo, cloth. Price ONE DOLLAR AVERTY CENTS.

A TREATISE ON SCREW PROPELLERS AND THEIR STEAM ENGINES. By J. W. Nystrom. Thustrated by 32 large drawings, 8vo, cloth. Price FOUR DOLLARS AND FIFTY CENTS.

cloth. Price FOUR DOLLARS AND FIFTY CENTS.

THE MANUFACTURE OF IRON in all its various branches. Including an Essay on the Manufacture of Steel. Illustrated by 150 on gravings. Third edition, 8vo, cloth. Price SIX DOLLARS.

QUESTIONS ON SUBJECTS CONNECTED WITH THE MARINE STEAM ENGINE, and Examination Papers; with 'llints for their Solution. By Thomas J. Main, Professor of Mathematics, Royal Naval College, and Thomas Brown, Chief Engineer, R.N. 12mo, cloth. Price ONE DOLLAR AND FIFTY CENTS.

Junion. By Thomas J. Main, Professor of Mathematics, Royal Naval College, and Thomas Brown, Chief Engineer, R.N. 12mo, cloth. Price ONE DOLLAR AND FIFTY CENTS.

PRACTICAL EXAMINATOR ON STEAM AND THE STEAM ENGINE. By Wm. Templeton. 12mo. Price ONE DOLLAR.

TREATISE ON A BOX OF INSTRUMENTS AND THE SLIDE RULE; being a Gulte to the Gager, Engineer, Seaman, and Student. By Thomas Kentish. Hiustrated by numerous engravings. 12mo, cloth. Price ONE DOLLAR.

TURNER'S (THE COMPANION; containing Instructions in Concentric, Elliptic, and Eccentric Turning. Hiustrated by steel plates, of various chucks. tools, instruments, and patterns. 12mo, cloth. Price ONE DOLLAR.

STRENGTH AND OTHER PROPERTIES OF METALS. Reports of Experiments on the Strength and other Properties of Metals for Cannon. With a Description of the Machines for Testing Metals, and the Classification of Cannon in service. By Officers of the Ordnance Department U. S. Army. By authority of the Secretary of War. Hinstrated by 25 large steel plates. In I vol. quarto. Price TEN UOLLARS.

The best treatise on cast-iron extant.

TABLES SHOWING THE WEIGHT OF ROUND, SQUARE, AND FILAT BAR IRON, STEEL, &c., by Measurement. Cloth. Price FIFTY CENTS.

STATISTICS OF COAL; including Mineral Bituminous Substanged milling and Commercial Distribution and amount of Production and Consumption on the American Continent. With Incidental Statistics of the Iron Manufacture. By R. C. Tayjor. Second edition, revised by S. Haldenan. Einstrated by five Maps and many Wood Engravings. Syo, cloth. Price SIX DOLLARS.

BOOKS. Sent by mail free of Postage. My New CATALOGUE, complete to April 12th, sent free of postage to any one who will favor me with his address.

HENRY CAREY BAIRD, Industrial Publisher, 406 Walnut street, Philadelphia.

ARMY SUPPLIES,

OFFICE OF ARMY CLOTHING AND EQUIPAGE,
602 BROADWAY, NEW YORK, April 29th, 1864.
SEALED PROPOSALS WILL BE RECEIVED AT
Othis Office until 12 o'clock, M., on Monday the 9th of May next, for
furnishing by contract, at the Depot of Army Clothing and Equipage
in this city,—

Cavalry Trousers.

Cavalry Trousers.

Veteran Reserve Corps Jackets, Sky Blue.
Knit Shirts.
Service Chevrons.
Mosquito Bars.
Haversacks.
Baversacks.
Samples or specifications for which can be seen at this office. Bidders will state the quantity they wish to furnish, and how soon they can complete the delivery of the quantity they bis for. They will submit, with their proposals, a sample of the article they propose to A proper guaranty must accommons.

furnish.

A proper guaranty must accompany all properals for the faithful performance of a contract,
The United States reserves the right to reject any part or the whole of the blus is may be deemed for the interest of the service.
Proposals should be endowed "Proposals for turnishing there insert the articles bld for") and addressed to

A GENTS WANTED.—TO SELL SEWING MACHINES and other useful articles. Machine has an established reputation, and is the cheapest and most practical one in the market. Forfull particulars address Franklin Sewing Machine Co., Boston, Mass 20 10*

PATENT IMPROVED SOLID EMERY WHEELS, FOR Cutting, Grinding, and Polishing. No Metal-worker should be without them. Orders promptly filled. Smyrna Emery by the Kec, warranted Pure. New York EMERY WHEEL COMPANY, 21 Beek. mpg, street, New York.