

IMPORTANT TO INVENTORS.

PATENTS FOR SEVENTEEN YEARS.

MESSRS. MUNN & CO., PROPRIETORS OF THE SCIENTIFIC AMERICAN, continue to solicit patents in the United States and all foreign countries, on the most reasonable terms.



Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice.

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THE EXAMINATION OF INVENTIONS.

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PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if like invention has been presented there, but is an opinion based upon what knowledge we may acquire of a similar invention from the records in our Home Office.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office.

The revised Patent Law, enacted by Congress on the 2d of March, 1881, are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

The duration of patents granted under the new act is prolonged to seventeen years, and the Government fee required on filing an application for a patent is reduced from \$30 down to \$15.

Magazines and other Publications Received.

Table listing various publications and their prices, including 'The Atlantic Monthly', 'Sorgo', and 'Annette'.

The law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners except the Canadians, to enjoy all the privileges of our patent system.

During the last seventeen years, the business of procuring Patents for new inventions in the United States and all foreign countries has been conducted by Messrs. MUNN & CO., in connection with the publication of the SCIENTIFIC AMERICAN; and as an evidence of the confidence reposed in our Agency by the inventors throughout the country, we would state that we have acted as agents for at least TWENTY THOUSAND inventors!

CAVEATS.

Persons desiring to file a caveat can have the papers prepared in the shortest time by sending a sketch and description of the invention. The Government fee for a caveat, under the new law, is \$10.

ASSIGNMENTS OF PATENTS.

Assignments of patents, and agreements between patentees and manufacturers are carefully prepared and placed up on the records at

mits vertical and angular movements to the roll or rubber, for the purpose of adaptation to curved or irregular surfaces or outlines.

I claim controlling the clamping or holding of the matter to be operated through the medium of the treadle, j, and its spring, o. The ratchet, p, pawl, m, and its spring, n, and stop, q, or their equivalents.

I claim combining with the ways, a, a', over which the rubber or roll is reciprocated, the transverse or rocking levers, b', and lever, f', operating together for the purpose as above set forth.

38,258.—Grain-cleaner.—George Clark, Sandusky, Ohio, assignor to himself and Robert Dunbar, Buffalo, N. Y.:

I claim, first, The cylinders or shells, A, A', arranged with a suction air space, B, between them, in combination with the adjustable valve, T, for the purposes and substantially as described.

Second, The cone distributor, C, and automatic cone apex, c', in combination with the cylinders or shells, A, A', and central grain supply tube, F, for the purposes and substantially as set forth.

38,259.—Paper Card for Hooks and Eyes.—De Grasse Fowler, Jr. (assignor to himself and Merwin Fowler), Northford, Conn.:

I claim the attachment of hooks and eyes, by the means of tongues or strips, partially separated and projecting from the card, substantially as hereinbefore set forth.

38,260.—Steam Plow.—A. W. Hall, St. Louis, Mo., assignor to himself and B. W. Robinson, South Reading, Mass.:

I claim the employment of a steam engine or its equivalent motive power, in combination with a series of two or more traction pulleys, P, P', to be used in connection with a rope extended across and properly secured at each end of the field, all being constructed and arranged to operate in such manner that the said motive power may be made to draw itself and the gang of plows attached across the field, substantially as herein described and represented.

38,261.—Cultivator.—Chas. W. S. Heaton (assignor to Jabez J. Piggott & Henry Reutcher), Belleville, Ill.:

I claim, first, The truss-frame, A, constructed in the manner described, in combination with short axes and vertical outside hangers, i, i, and for the purpose set forth.

Second, The guard-brace, E, arranged and operating substantially as described.

Third, The combination of the long tongues or poles, K, K', neck yoke, M, reach, L, and brace, N, substantially as and for the purposes set forth.

Fourth, The combination of the adjustable seat, O, reach, L, long tongues, K, K', neck yoke, M, and brace, N, substantially in the manner described.

Fifth, A shovel beam formed of two parts, B, B', which make an angle, in combination with a slotted standard, s, which is adjustable, substantially as and for the purposes set forth.

Sixth, The combination of the jury-brace, t, which is adjustable, with the double beam, B, B', and slotted standard, s, substantially as and for the purpose set forth.

Seventh, The arrangement of the foot levers, n, curved bars, p, p, notched cross piece, q, roller, m, and cords or chains, o, substantially as and for the purpose set forth.

Eighth, The arrangement of the slotted adjusting pieces, c, pendent share beams, and draft device, i, with single swingletrees and frame, A, and outside hangers, i, i, in the manner and for the purpose described.

Ninth, The combination of the slotted pieces, C, brace rod, E, frame, A, and pendent share-beams, substantially as and for the purpose set forth.

38,262.—Spectacles.—John Jennings, Birmingham, England, assignor to S. & J. Myers, Boston, Mass.:

I claim the spring harp-shaped bow, b, when united to the lens frames, a, a, as shown to make them self-supporting, and when so united as to admit of being spread without much deviation from the center of vision, as herein represented.

38,263.—Coal Oil Lamp.—Anson Judson, Brooklyn, N. Y., assignor to himself, Lemuel Beers, Newtown, Conn., and Fred. W. Beers, Brooklyn, N. Y.:

I claim the construction of the cone of a flat-wick kerosene, petroleum, or coal oil lamp partly of transparent or translucent material and partly of metal; the two being combined together as hereinbefore set forth or in manner substantially equivalent.

38,264.—Drag Saw.—William A. Purves, Madrid, N. Y., assignor to David W. Baldwin, Watertown, N. Y.:

I claim, first, The combination of a saw frame with a transverse log-supporting frame and a mechanism for drawing up the log, so constructed and arranged in relation to the saw-driving mechanism that the latter may be caused to operate the former at pleasure, substantially as set forth.

Second, The combination of the log-supporting frame with a sliding and adjustable yoke constructed as herein described to firmly grasp logs of any dimensions and immovably to hold the same to the action of the saw substantially as set forth.

Third, The combination of the saw-driving mechanism with the yoke mounted upon the transverse log frame and an adjustable friction or other gear so constructed and arranged and operating that the said yoke may be slid along the said frame and the log drawn up to the action of the saw the requisite distances at the will of the operator substantially as set forth.

Fourth, Connecting the one end of the shaft of the adjustable friction or other gear with a spring lever pivoted to the frame, while its other end is placed in fixed bearings in the frame, substantially as set forth.

Fifth, The combination with the saw-driving mechanism of a swinging guide frame and the saw guide block, so that the saw in its reciprocating play may be properly guided, at the same time allowing it to descend during the progress of the work, substantially as set forth.

Sixth, The employment in combination with a reciprocating saw blade of converging side braces, whereby the flexible saw is during part of its operation laterally stiffened, substantially as set forth.

38,265.—Loom.—O. C. Smith, Salem, Mass., assignor to A. N. Clark, Boston, Mass.:

I claim, first, The weaving frame, j, arranged and operating substantially as hereinabove described, and for the purpose of taking up the slack in the warp threads.

Second, The elastic and non-elastic nipping and feeding rollers operating together and upon the elastic threads passing between them, substantially as hereinabove described.

Third, The peculiar arrangement of devices herein described for operating the shuttles of the loom, the same consisting of the racks, bars, u, v, pinions, t, &c., and vertical lever, b', connected together and receiving motion from the driving shaft of the loom, substantially as set forth.

38,266.—Mounting and operating Ordnance.—John Taggart, Roxbury, Mass., assignor to himself & Liveras Hull, Charlestown, Mass.:

I claim either one or two cannons and a rotary chassis or slide frame, arranged and combined in manner and so as to operate together substantially as specified.

I also claim a pivot carriage or traversing platform, one or two cannons, and a rotary chassis or frame combined and arranged in manner and so as to operate substantially as above specified.

38,267.—Liquid Composition for tanning Skins and Hides.—Rudolph Wager (assignor to himself & Gustavus Groezinger), Lancaster, Pa.:

I claim the water substantially as set forth, in the formation of the bate, in the manner substantially as set forth, in the process of treating skins or hides for the purpose specified.

38,268.—Water Elevator.—Samuel S. Williams (assignor to Henry J. Bailey), Pittsburgh, Pa.:

I claim the partial covering to the top of a tilting well-bucket with an opening on each side of the bale, substantially as described.

Also the yielding trip for tilting the buckets, constructed and arranged substantially as described, that is to say, having its center of motion below the point at which it first comes in contact with the top of the buckets and hence descending in the line of an arc of a circle as it is carried over the trough.

Also, in combination with the yielding trip, the hooks or other equivalent device to engage the trip, when placed back of the mouth or opening in the buckets for the discharge of the water, so that the water, as it is discharged from the bucket, shall not run over the hook and trip, substantially as described.

38,269.—Self-balancing and Self-closing Faucets.—Enoch Osgood, Boston, Mass.:

I claim, first, A valve and a diaphragm connected together and arranged as herein described to hold and resist any pressure of fluids

that may come between them to pass out through the valve for use, the diaphragm to be any degree larger than the valve requisite to give it any closing power wanted, the valve closing against the current of water, when relieved of the action of the lever, K, or its equivalent.

Second, In combination with the foregoing, an adjustable graduating pressure, attached to resist the closing of the valve as desired for water closets, and other purposes, substantially as and for the purpose herein described.

38,270.—Filter.—J. A. Thompson, Geneva, N. Y. Antedated Nov. 29, 1861:

I claim a filter and cooler for water and other liquids constructed and arranged and operated substantially as described.

RE-ISSUES.

1,455.—Packing Cartridges.—Christian Sharps, Philadelphia, Pa. Patented July 10, 1860:

I claim packing the detonate in the collar of metallic cartridge cases by means of a wad, d, which serves the two-fold purpose of retaining the detonate within the collar and of a rigid medium for resisting the blow of the hammer.

1,456.—Setting Teeth in Saws and Saw Plates.—N. W. Spaulding, San Francisco (formerly of Sacramento), Cal. Patented Sept. 10, 1861:

I claim, first, Forming the recesses or sockets in saws or saw plates, for detachable or removable teeth, on circular lines, substantially as and for the purpose herein set forth.

Second, In combination with sockets or recesses formed in saws or saw-plates, as herein recited, I claim teeth having their base or bottom parts formed on circular lines as described.

1,457.—Shingle Machine.—Oren Stoddard, Busti, N. Y. Patented Dec. 20, 1859:

I claim, first, The relative arrangement of the knife frame, E, and connecting rod, D, by which the pull of the latter is made to act lengthwise of the former as hereinbefore described.

Second, The combination of the jointing planes, q, with the fly-wheel, F, connecting rod, D, and shaft, E, as described when all the parts are arranged in relation to each other as set forth.

Third, The combination of the fluted rollers, H, H', provided with ratchet wheels and operated by pawls as represented with the cutting knife, F, as set forth.

Fourth, The combination with the cutting knife, F, of the adjustable guides, G, G, by which the cut of the knife can be varied as herein set forth.

1,458.—Machine for making Horse-shoes.—Thomas R. Taylor, Brooklyn, N. Y. (formerly of Cleveland, Ohio.) Patented April 30, 1860:

I claim, first, Cutting off from a heated bar of iron, a blank piece, then bending, swaging, pressing, and creating the same, thus forming a shoe by the conjoint and continuous operation of the described mandrel head, N, jaws, R, R, and female dies, p, p, and male die, O, substantially as herein set forth.

Second, I claim the reciprocating male die, O, and mandrel head, N, conjointly with the female dies, p, p, contained within mutually reciprocating jaws, R, R, arranged and operating as and for the purpose specified.

Third, I claim the recessed reciprocating and vertically swinging jaws, R, R, together with the closing of the same, by their descent into an opening in the toe-plate, a, and for the purpose described.

Fourth, I claim the projectors, 10, 10, on the mandrel head, N, and the recesses, 11, 11, on the male die, O, for forming the heel caulk of the shoe, in the manner specified.

Fifth, I claim the recesses, r, r, in the female dies and the recess, f, in the male die, for forming the toe caulk as set forth.

Sixth, I claim operating the cutter, U, by the movement of the mandrel, K, lever, V, slider, U', and rod, v', as and for the purpose specified.

1,459.—Guard Finger for Harvesters.—Walter A. Wood, Hoosick Falls, N. Y. Patented July 1, 1856:

I claim the particular form and construction of the finger or guard as herein represented, viz: with the forked cap, E, recess or depression, A, raised edges, a, a, and neck, c, behind them, by means of which the cutting is facilitated in the manner set forth.

1,460.—Guard Finger for Harvesters.—Walter A. Wood, Hoosick Falls, N. Y. Patented July 1, 1856:

I claim first, A finger or guard recessed or dropped-off so as to be fastened to the under side of the finger-beam which has a bevel or inclined form, or is similarly dropped-off while its shear or cutting edge is raised up near the top of said bar, or to a line passing over the bar, for the purpose of allowing the cut grass to readily pass over the finger bar, substantially as described.

Second, I also claim as a means of making the elevation of the shear edge above the base or heel of the finger or guard, and of affording a bearing for the finger bar and for the sickle or cutters, the four planes, 1, 2, 3, 4 substantially as described and represented.

DESIGNS.

1,747.—Medallion Pen.—Albert Granger, New York City. Antedated April 15, 1863.

1,748.—Goblet.—Frederick McKee, Pittsburgh, Pa.

The Atlantic Monthly. Published by Ticknor & Fields, Boston, Mass.

Cultivated readers of periodical literature look as eagerly for the appearance of this magazine as for the daily paper, for both are, in their way, a necessity. The leading article, "Charles Lamb's Uncollected Writings," is a general account of some of the hitherto unpublished writings of "Elia" which will be appreciated by his admirers.

SORGO; OR, THE NORTHERN SUGAR PLANT. By Isaac A. Hedges. Published by Applegate & Co., Cincinnati, Ohio.

This is a small volume containing a history of the introduction of the Chinese sugar cane, the imphee, &c., into our country, with instructions respecting the selection of seed, planting, cultivation, cutting, the arrangement of sugar-works and the manufacture of sirup and sugar. It is a very opportune and practical illustrated treatise upon a most important subject to our Western people.

ANNETTE; OR, THE LADY OF THE PEARLS. By Alexander Dumas, the younger. Translated from the French by Mrs. Wm. R. A. Johnson, of Philadelphia.

This work is published and for sale by T. B. Peterson & Brothers, No. 306 Chestnut street, Philadelphia, Pa.

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 which inventors or patentees 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.

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings documents, &c. Our success in the prosecution of rejected cases has been very great. The principal portion of our charge is generally left dependent upon the final result.

All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief story of the case, inclosing the official letters, &c.

FOREIGN PATENTS.

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 can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through the Scientific American Patent Agency, No. 37 Park Row, New York.

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.

Circulars of information concerning the proper course to be pursued in obtaining patents in foreign countries through our Agency, the requirements of different Government Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park Row, New York, or any of our branch offices.



T. R. V., of Conn.—The use of bismuth in an alloy is to make it melt at a very low temperature.

"Old Subscriber."—You are right in one of your surmises about lightning rods. Paint is a non-conductor, but does not detract from the value of the rod as a protection. All non-conductors of electricity are insulators and confine the fluid in its passage to the earth to the rod itself. The lightning will not leave the rod and enter the building. The rod is painted to preserve it from oxidizing. Rust is a non-conductor also, but it wastes the iron, and is, therefore undesirable. If the conductor is of sufficient size and as direct as possible in its passage your building is safe enough. The paint will not injure it.

F. R., of Mass.—Your letter must have been missed, as we have not received it. We are obliged to you for your gratuitous advice as to the best manner of conducting our business. Gutta-percha cement is made by dissolving that substance in turpentine or naphtha. We cannot inform you how pipe stems are made from it.

J. F., of N. Y.—You had better call at our office and show us a sample of your proposed method of using rubber for protecting walls of rooms. We cannot understand its peculiarity from the statement you have made respecting it.

B. W. K., of Wis.—The hollow wrought-iron cylinders, 6 feet long, 36 inches bore, with sides 8 inches thick, can be made at our iron-works. They can also be fitted with threads internally of any desired pitch, but unless you have a gold mine in your own right, you had better defer the construction of one at present, as it would involve the production of special machinery to make such a cylinder, at a vast outlay. We are obliged for your compliments respecting the SCIENTIFIC AMERICAN.

W. S. D., of Pa.—There is no sense in your question as you state it. "If the piston of a steam engine of 60 horse-power, traveling at the rate of 3 feet per second, with a weight of two tons tacked to the piston, what would be the weight of the blow it would strike?" As you left out all the essential points—the distance passed over before the blow is struck, whether vertical or horizontal and the pressure of steam—"60 horse-power" conveys no meaning whatever.

J. W. P., of Maine.—Address Reynolds, Pratt & Devoe, 106 Fulton street, New York, for the kind of varnish you require for tool handles.

J. D., Jr., of Del.—Blanchard's eccentric lathe for turning irregular forms is capable of turning an ox-yoke from a pattern, but we cannot refer you to any one who manufactures them for sale.

A. M., of Ohio.—The packages of earth which you have sent us appear to be mostly silicious sand mixed with a little lime colored with iron. It is impossible to tell you its exact composition without analyzing it.

J. G. P., of Pa.—You state that the spindle of your 3-foot saw becomes heated, and that you have not been able to remedy the evil by any lubricant which you have tried. Perhaps it is a little out of line, but as you run it at the rate of 850 revolutions per minute, this great speed may be the cause. A high circumferential velocity in a saw generates a great amount of friction in the journal boxes.

N. C. D., of D. C.—We are obliged for your continued attention to us. We receive many suggestions every week from disinterested persons which we are unable to give attention to. You and others interested are referred to Bernoulli's essay on the

spinning of tops, for all phenomena connected with the matter. The subject is quite ancient, as the book referred to is itself at least a century and a half old. In Dr. Thompson's "History of Science" you will doubtless find a condensation of the subject.

J. M. Jr., of Ill.—We think there is no air in the feed water of marine engines which use surface condensers. You state that no locomotive has ever exploded while running. This is not so—several have exploded. In February, 1849, the boiler of a locomotive exploded on the Boston and Providence Railroad, while running with its train; and two explosions of locomotive boilers have occurred on the New York Central Railroad under similar circumstances.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, April 22, to Wednesday, April 29, 1863:—

- W. L. F., of N. J., \$31; T. J. P., of Ill., \$50; W. J. S., of N. J., \$45; J. C., of Mich., \$20; J. P., of N. Y., \$16; B. W. S., of Mass., \$20; P. M. R., of Cal., \$12; J. W. G., of Mass., \$22; R. P. P., of N. Y., \$41; W. F., of Mo., \$15; R. T. H., of Ill., \$25; C. M. J., of Ill., \$15; McD. & R., of N. Y., \$16; J. D., of Ill., \$10; L. & H., of Pa., \$25; D. C. W., of Ill., \$26; J. H., of Iowa, \$25; S. R. J., of Conn., \$15; W. J., of N. H., \$15; G. T. L., of Pa., \$20; N. S., of Mich., \$20; N. & D., of N. Y., \$16; W. C. O., of N. Y., \$20; T. S. D., of N. J., \$15; H. & B., of Conn., \$20; E. D., of Mich., \$45; C. F. H., of N. Y., \$10; T. B. V., of N. Y., \$20; J. C., of U. S. A., \$16; J. M., of Mass., \$25; J. W. P., of Minn., \$30; C. H. M., of N. Y., \$450; J. D., of N. J., \$33; L. D. G., of N. Y., \$16; W. D., of Ohio, \$25; J. V. D., of N. J., \$20; E. H. J., of Ill., \$15; A. C. T., of N. Y., \$16; H. B. M., of N. Y., \$25; G. E. S., of Iowa, \$25; F. A. De M., of N. Y., \$16; M. H., of N. T., \$15; S. & P., of N. Y., \$20; A. A., of N. Y., \$16; A. B., of N. Y., \$40; F. R. B., of Ill., \$20; B. T., of Mass., \$25; J. H. H., of N. Y., \$32; L. B., of N. Y., \$15; F. M. R., of Pa., \$30; J. S., of Mich., \$26; S. L. F., of Mich., \$31; J. C. W., of N. Y., \$15; S. F. G., of N. Y., \$16; A. M. B., of Mich., \$26; J. B. E., & Co., of Iowa, \$25; J. A. A., of Conn., \$16; S. S., of Pa., \$26; A. J. H., of Pa., \$15; C. C., of Cal., \$15; A. H., of Ohio, \$15; J. E. D., of Mass., \$26; T. W., of Ill., \$30; B. & B., of N. Y., \$56; J. H., of Ill., \$20; H. & D., of N. Y., \$20; E. F. C., of Kansas, \$16; J. S. K., of Ill., \$30; P. L., of Cal., \$15; A. & F., of Wis., \$16; J. C., of Mass., \$25; N. D. L., of Ill., \$30; D. C. G., of Pa., \$20; W. G. P., of Del., \$23; L. B., of N. Y., \$25; W. S. of Pa., \$31; B. & B., of Mo., \$15; T. S., of Ill., \$15; W. W., of N. H., \$15; L. & B., of Ohio, \$16; J. N. P., of N. Y., \$16; E. K. B., of Conn., \$20; H. W., of N. J., \$41; E. M., of N. Y., \$20; S. D. B., of Pa., \$30.

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, and inform us 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 22, to Wednesday, April 29, 1863:—

- W. L. F., of N. J.; C. M. J., of Ill.; R. S. H., of Ill.; J. W. P., of Mich.; D. C. W., of Ill.; M. H., of N. T.; J. M., of Mass.; S. L., of Mass.; A. M. B., of Mich.; W. D., of Ohio; Y. & T., of N. Y.; J. D., of N. J.; J. S., of Mich.; L. & H., of Pa.; J. V. D., of N. J.; H. W., of N. J.; W. G. P., of Del.; N. D. L., of Ill.; J. B. E., & Co., of Iowa; S. S., of Pa.; H. D. L., of Mass.; B. & B., of N. Y.; J. C., of Mass.; R. H., of N. Y.; C. F. T., of N. Y.; L. B., of N. Y.; T. W., of Ill.; J. H., of Iowa; J. E. D., of Mass.

TO OUR READERS.

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 their remittance.

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.

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 inclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1863, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York

NEW PAMPHLETS IN GERMAN.—We have just issued a revised edition of our pamphlet of Instructions to Inventors, containing a digest of the fees required under the new Patent Law, &c., printed in the German language, which persons can have gratis upon application at this office. Address MUNN & CO., No. 37 Park-row, New York.

Back Numbers and Volumes of the Scientific American VOLUMES I., II., III., IV., V. AND VII. (NEW SERIES) complete (bound or unbound) may be had at this office and from periodical dealers. Price, bound, \$225 per volume, by mail, \$3—which include postage. Price, in sheets, \$1 50. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding. Nearly all the numbers of VOL. VI. are out of print and cannot be supplied.

RATES OF ADVERTISING.

Twenty-five Cents per line for each and every insertion, payable in advance. To enable all to understand how to compute the amount they must send in when they wish advertisements inserted, 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.

MECHANICS WANTED.—GUN-MAKERS, MACHINISTS, Tool-smiths and Moulders may find constant employment, by applying to or addressing A. RHULMAN, Armorer, Trenton Arms Co., Trenton, N. J.

READER, IF YOU WANT EMPLOYMENT, OR WANT the best (two-threaded) Sewing Machine ever manufactured, send to ISAAC HALE, JR., & CO., Newburyport, Mass., for a descriptive circular of terms, &c. They pay a liberal salary, or allow commission, as the agent may choose. 19 6*

WANTED—A PARTNER, WITH A SMALL CAPITAL, to assist in manufacturing a new patent article of Printers' Ink Roller. For further particulars address the patentee (with stamp enclosed), G. LITTLETON, Cleveland, Ohio. Rights for sale. 1*

JACQUARD MACHINES, WITH APPURTENANCES manufactured and put up. Looms for narrow goods, from silk ribbon in cotton tape, built to order on the most approved principles. Wm. LITTLETON, No. 1, 621 North Second street, Philadelphia, Pa. 19 4*

MANUFACTURERS OF THE SPRINGFIELD MUSKET (1855) can obtain a few thousand each of Bands, Rear Leaf Sights and Side Screw Washers. Warranted to pass Government inspection. Apply to W. T. NICHOLSON & CO., Providence, R. I. 19 4*

\$10—FOR A COUNTY—WILL BUY THE RIGHT of a very useful invention for domestic use—extensively used—Pennsylvania, New York, Illinois and Missouri already sold—something new and good—send for a circular and judge for yourself. Enclose stamp to Post-office Box 169, Easton, Pa. 1*

PATENT OFFICE MODELS MADE OF WOOD OR Metal in the most skillful manner. Machinery made to order. Apply at No. 107 East 22d street, New York. 1*

THE CELEBRATED CRAIG MICROSCOPE WILL BE mailed, prepaid, for \$2 25; with 6 beautiful mounted objects for \$3; with 24 objects for \$5, by HENRY CRAIG, 180 Center street (3d floor), New York. Liberal discount to dealers. The Craig Microscopes are just what they claim to be, and those who wish for such an article will not be disappointed if they should obtain one of these.—N. Y. Methodist. 19 13*

BUREAU OF ORDNANCE.

NAVY DEPARTMENT. Washington City, April 1, 1863. This Bureau is desirous of ascertaining whether rifled cannon can be made of wrought iron of sufficient and uniform endurance and economy to warrant their being preferred to guns of cast iron only, or of cast iron strengthened with wrought iron. Proposals will therefore be received from any manufacturers of forged iron, to furnish a finished gun, or a block of metal from which the same may be finished. The said gun, when finished, to weigh about 10,000 pounds, to be made into a gun throwing a projectile of 100 pounds, as used in cast iron rifled cannon of like weight, to be fired 1,000 times with service charge of the same weight and kind of powder as used in the Parrott 100-pounder, viz: 10 pounds of No. 7, without bursting or wearing in such a manner as to cause apprehensions of bursting. The quality of metal, price, and other terms, are to be stated clearly in the proposals forwarded. The Bureau reserves the right to itself of accepting or rejecting any of the proposals. The time for receiving the proposals is limited to sixty days from date; and proposals will only be received from persons actually engaged in the fabrication of wrought iron. JOHN A. DAHLGREN, Chief of Bureau. 15 8

PROPOSALS FOR RIFLE CANNON.

ORDNANCE OFFICE, WAR DEPARTMENT. Washington, April 16, 1863. PROPOSALS will be received at this office until 4 o'clock P. M., on the 2d day of MAY next, for the manufacture and delivery of thirty CAST-IRON SIEGE RIFLE CANNON of the caliber of four and a half inches for the service when finished, about 3,570 pounds. They are to be made in strict conformity to the drawing which will be furnished, and which may be seen at any United States Arsenal. They are to be cast hollow and cooled from the interior. They are to be subject to the regular United States inspection and proof, and none are to be received or paid for, but such as are accepted by the Inspector, whose decision as to the reception or rejection of any of them is to be final and conclusive. Bidders will state the time they propose to deliver the first cannon, and the number they will deliver, weekly, thereafter. They will also state where they propose to manufacture them, and the price, per pound, for the finished cannon, delivered at the place of shipment nearest to the foundry where cast. No bid will be entertained except from regular foundries, evidence of which, and of their ability to fulfill a contract, if awarded to them, must accompany the bids, unless the bidder is known to this office. Any bidder obtaining a contract will be required to enter into bonds with no less than two sureties, in the penal sum of \$5,000 for the faithful fulfillment of his contract in all respects. The right is reserved to reject any or all bids if the prices are deemed too high, or if, for any cause, it is not thought for the public interest to accept them. Proposals will be sealed and addressed to "Brig-Gen. J. W. Ripley, Chief of Ordnance, Washington, D. C.," and will be indorsed "Proposals for 4 1/2-inch Rifle Cannon." JAMES W. RIPLEY, Brig-Gen. and Chief of Ordnance. 16 2

PAYE'S PATENT FORGE HAMMER.

This hammer is adapted to both heavy and light forgings; is the force of the blow being entirely at the will of the operator, and for all forgings under six inches, both round or square, is the best hammer now in use, and requires but one-half the power used by every other hammer to do the same work. For an engraving and description of this hammer see page 17, Vol. V. (new series) of the SCIENTIFIC AMERICAN; some valuable improvements have, however, been since made. All communications should be addressed to H. M. AMES, Box 422, New York, or Ames Iron Works, Oswego, N. Y. These hammers may be seen in operation at the Allaire, Neptune, Secor, Delamater, Fletcher & Harrison, Duncan & Crampton, Anderson & McLaren, Duhurst & Emerson, Charles T. Porter, Hudson River Road Car Shop, all in New York city; Joseph Colwell, Jersey City; Wm. White, Newark, N. J.; Providence (R. I.) Tool Co.; Whiting & Wicou, Kaighn's Point, Phila.; Mallory & Cottrell, Mystic, Conn.; J. Dillhoe, Rondout; James Horner & Co., Sing Sing; Henry Esler & Co., Brooklyn; James B. Eads, St. Louis, Mo.; Franklin Iron Works, Central Railroad Shop, Albany; Burlington, Quincy & Chicago Railroad Shop, Ames Iron Works, Oswego; C. P. & A. Railroad Shop, Cleveland, Ohio. 1*

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GILLESPIE'S GOVERNOR AND REGULATOR.—THE attention of mill-owners and others is respectfully invited to this valuable improvement for regulating the speed of water wheels, for which purpose it has never been equaled. Unlike other regulators of water wheels, it is quick and very sensitive, while it works upon an entirely new principle. It is the most simple and durable governor ever used, and is therefore the cheapest. We warrant every machine to give satisfaction, or no sale. J. E. GILLESPIE & CO., Trenton, N. J. 18 4*