

PATENTS FOR SEVENTEEN YEARS.



The new Patent Laws enacted by Congress on the 2d of March, 1861, 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. Other changes in the fees are also made as follows:—

Table listing various patent-related fees: On filing each caveat \$10, On filing each application for a Patent, except for a design \$15, On issuing each original Patent \$20, On appeal to Commissioner of Patents \$20, On application for Re-issue \$30, On application for Extension of Patent \$50, On granting the Extension \$50, On filing Disclaimers \$10, On filing application for Design, three and a half years \$10, On filing application for Design, seven years \$15, On filing application for Design, fourteen years \$30.

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

During the last sixteen 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 more than FIFTEEN THOUSAND Inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of Inventors and Patentees at home and abroad. Thousands of Inventors for whom we have taken out Patents have addressed to us most flattering testimonials for the services we have rendered them, and the wealth which has inured to the Inventors whose Patents were secured through this Office, and afterward illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! We would state that we never had a more efficient corps of Draughtsmen and Specification Writers than are employed at present in our extensive Offices, and we are prepared to attend to Patent business of all kinds in the quickest time and on the most liberal terms.

The Examination of Inventions.

Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit to us, with a full description, for advice. The points of novelty are carefully examined, and a reply written corresponding with the facts, free of charge. Address MUNN & CO., No. 37 Park-row, New York.

Preliminary Examinations at the Patent Office.

The advice we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if a 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. But for a fee of \$5, accompanied with a model or drawing and description, we have a special search made at the United States Patent Office, and a report setting forth the prospects of obtaining a Patent &c., made up and mailed to the Inventor, with a pamphlet, giving instructions for further proceedings. These preliminary examinations are made through our Branch Office, corner of F and Seventh-streets, Washington, by experienced and competent persons. More than 5,000 such examinations have been made through this office during the past three years. Address MUNN & CO., No. 37 Park-row, N. Y.

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. These should be securely packed, the inventor's name marked on them, and sent, with the government fees by express. The express charge should be prepaid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by draft on New York, payable to the order of Munn & Co. Persons who live in remote parts of the country can usually purchase drafts from their merchants on their New York correspondents; but, if not convenient to do so, there is but little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & Co. No. 37 Park-row, New York.

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. A pamphlet of advice regarding applications for Patents and Caveats, in English and German, furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

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 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.

Circulars of information concerning the proper course to be pursued in obtaining Patents in foreign countries through our Agency, the requirements of different Patent Offices, &c., may be had gratis upon application at our principal office, No. 37 Park-row, New York, or either of our Branch Offices.

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.

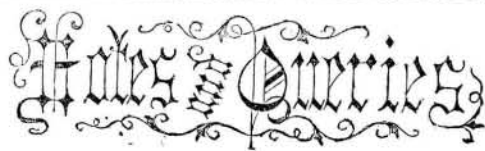
All persons having rejected cases which they desire to have prosecuted are invited to correspond with us on the subject, giving a brief history of the case, inclosing the official letters, &c.

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 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.



I. C. of N. Y., and S. J. B., of N. J.—A deed of transfer of a patent should be put on record within three months after its date. The purchaser should pay the recording fee unless there is an agreement to the contrary.

T. T., of N. Y.—We think you are on the right track. Submarine vessels must yet occupy an important place in the destruction of naval vessels. The subject is worthy of much attention, and other parties are at work trying to devise some effective vessels of this character.

A Miller, of Ohio.—Your reply to "A Young Miller, is received, but as the same ground has been taken before you, we do not publish it. We have already published enough on the subject.

C. B., of Conn.—We are impressed favorably with your projectile, and should think that a patent might be obtained for it.

M. F., of Ill.—Your shell filled with chloroform and cayenne pepper would be a very harmless affair.

W. H. S., of Mass.—There are projectiles in the service formed on your plan of cast iron with a steel face.

J. C. A., of Mass.—We have bushels of communications, and when one is examined and passed upon, it goes to the paper makers, and we can see it no more. A patent could probably be obtained for your composition.

C. E. W. S., of Wis.—It takes one-horse power to raise 3,000 lbs. one foot high per minute. A cubic foot of water weighs 62½ lbs., and the area of the cross section of a pipe 6-inches in diameter is 28.274 inches. We should want to know the velocity of your stream in order to answer your question; but from the above data you can make the calculation by the simple rules of arithmetic.

A. J. S., of Pa.—Magnetic electric machines produce a current of electricity which, passing through a helical wire, induces magnetism in a piece of soft iron in the core. No acid or other liquid is used, but power is required to turn the machine. See illustration of Beardslee's magneto-electric machine on page 353, Vol. V. SCIENTIFIC AMERICAN, or address G. W. Schramm, No. 44 Cliff-street, this city in relation to it.

C. M. B., of Me.—The substance that you send us is kaolin, and if you have a large bed of it of a quality equal to this sample it is valuable.

J. B., of Wis.—The idea of exhausting the air from the bore of a gun is a very old one and not patentable.

H. D. B., of N. Y.—The operating of a melodeon bellows by means of a weight instead of by the foot would not be patentable; neither would the use of a spring, from the fact that both plans are in use in other analogous pieces of mechanism.

E. H., of Mass.—Your thermometer appears to be new and useful, and we think a patent can be obtained on it. A model is necessary, and when you send it state as nearly as possible the proportion between the heat of the air in the air chamber and the actual heat of the metal.

L. W., of N. Y.—You will find the Founneyron and Jonval wheel described on page 212 present Vol. SCIENTIFIC AMERICAN. The Founneyron wheel, does not discharge on the underside, like the Jonval.

C. S., of N. Y.—It would require a considerable amount of power to wind up a spring to churn a large quantity of milk, but a small churn, we think, may be continually operated by a spring. You can easily make the experiment without incurring much expense.

W. F. R., of R. I.—You state that in your opinion plated wire of "sufficient thickness" would resist shot and shell. We have no doubt of it, but what do you require as a "sufficient thickness" for this purpose?

J. C. C., of Ill.—A bullet shot vertically will return to the muzzle of the musket with the same force with which it left it minus the loss of force sustained by the resistance of the atmosphere. The spaces passed through by falling bodies are proportional to the squares of the times, 16 feet the first second, 64 feet the second, and so on. A feather and a piece of metal will fall with the same velocity in a vacuum.

T. A. McD., of Mich.—The manufacturers of "oreide," an imitation of gold which does not readily tarnish, are Messrs. Holmes, Booth and Hayden, of Waterbury, Conn. They have a warehouse at No. 51 Chamber street, this city.

F. D. P., of Wis.—The largest importer of music boxes known to us is Marius J. Paillard, 21 Maiden Lane, this city. He has instruments which play from two to thirty-six tunes and the prices vary from \$2 to \$1,000 according to the number of tunes, and quality of the instrument.

H. M. D., of Ohio.—A series of paddles secured on an endless chain and passing over two grooved pulleys on the side of a steamboat, is an old mode of propulsion. You will find this system illustrated on page 152, Vol. V. (old series) SCIENTIFIC AMERICAN. You will also find Ramsey's mode of propelling, by ejecting a current of water from the stern of a boat illustrated on page 112 same volume.

B. & Co., of Mass.—Iron may be coated with copper by first covering it with a skin of tin. After being tinned, the iron dipped into a bath of molten copper, the surface of which should be covered with a layer of ground glass or sand.

L. P. B., of Ind.—A very dark blue may be dyed on wool with one ounce of the prussiate of potash, half an ounce of the sulphate of iron, one gill of the murate of tin, and the extract of two pounds of chip logwood to 5 lbs. of wool. Boil all together for three-quarters of an hour!

J. P. J., of Wis.—We have given our reasons in former volumes of the SCIENTIFIC AMERICAN, why hot-air engines are not adapted for locomotives and large motors. Small air engines are very convenient for some purposes.

SPECIAL NOTICE—FOREIGN PATENT.—The population of Great Britain, is 30,000,000; of France, 35,000,000; Belgium, 5,000,000, Austria, 40,000,000; Prussia, 20,000,000; and Russia, 60,000,000. Patents may be secured by American citizens in all of these countries. Now is the time, while business is dull at home, to take advantage of these immense foreign fields. Mechanical improvements of all kinds are always in demand in Europe. There will never be a better time than the present to take patents abroad. We have reliable business connections with the principal capitals of Europe. Nearly all of the patents secured in foreign countries by Americans are obtained through our agency. Address Munn & Co., 37 Park row, New York. Circulars about foreign patents furnished free.

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, May 14, 1862:—

- P. C. T., of N. Y., \$10; F. B. P., of N. Y., \$20; A. McG., of N. Y., \$20; O. H., of N. Y., \$22; P. L. K., of Ill., \$20; M. and S. S., of O., \$20; L. A. S., of N. Y., \$20; H. C. R., of Pa., \$50; C. F. W., of Pa., \$15; J. B. J., of O., \$15; J. C. P., of N. J., \$10; N. and J., of Pa., \$15; A. and S., of Pa., \$15; G. P., of Iowa, \$25; G. E. H., of N. Y., \$15; J. H. K., of Pa., \$25; H. W., of N. J., \$10; J. B. Z., of N. J., \$25; S. P. R., of Mass., \$25; J. L. S., of N. Y., \$25; J. B., of Ind., \$25; A. R., of N. Y., \$20; P. W. A., of N. Y., \$55; J. C., of Pa., \$20; E. R. McC., of Iowa, \$20; C. J., of N. Y., \$20; E. C., of Ky., \$10; H. B., of Wis., \$25; H. C. J., of Me., \$15; A. B. C., of Mich., \$25; M. R. S., of N. Y., \$45; A. C. F., of Iowa, \$25; H. M., of Mass., \$10; G. B. O., of N. Y., \$15; C. and C., of O., \$10; S. M., of Del., \$15; W. V. M., of Me., \$15; J. M. D., of N. Y., \$25; G. M. T., of N. Y., \$25; E. M., of Conn., \$25; L. H., of Hungary, \$43; B. T., of Ill., \$45; T. B. B., of N. Y., \$22; G. H., of N. Y., \$20; H. W. S., of England, \$40; W. C., of O., \$20; S. T. W. P., of N. Y., \$25; C. O. G., of Mich., \$25; A. and M., of Wis., \$352; G. P. B., of Pa., \$15; E. S., of Mich., \$20; J. K. B., of Ill., \$15; W. B. B., of Conn., \$45; T. and R., of Ind., \$20; J. N. B., of Iowa, \$25; P. D., of Mich., \$50; W. and F. K., of N. J., \$25.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from May 7 to Wednesday, May 14, 1862:—

- O. H., of N. Y.; T. R. B., of Iowa; A. C. F., of Iowa; J. M. D., of N. Y.; G. M. T., of N. Y.; A. and M., of Wis.; H. B., of Wis.; J. L. S., of N. Y.; F. and J., of England; T. B. B., of N. Y.; J. N. B., of Iowa; C. O. G., of Mich.; W. H. McN., of N. Y.; P. K., of Conn.; J. B., of Ind.; H. C. R., of Pa. (2 cases); W. and F. K., of N. J.; H. D. L., of France; J. C. P., of N. J.; J. H. K., of Pa.; S. P. R., of Mass.; A. B. C., of Iowa; M. F., of Conn.; S. T. W. P., of N. Y.; S. G. McM., N. Y.

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.

THE UNDERSIGNED WOULD LIKE TO OBTAIN A situation as Machine, Pattern and Model Maker. Has no objection to go to any part of the United States. Address J. DUNCAN, Northwest corner Seventy-ninth street, Yorkville, N. Y.

FOR SALE.—THE PATENT RIGHTS FOR THE STATES of New York, New Jersey and Connecticut for a new and very useful improvement in Grates and Open Grate Fireplaces, by which 75 per cent will be saved. Apply to C. G. BOONTRAEGER, No. 9 Gold street, New York City.

HOW TO DOUBLE THE QUANTITY OF BUTTER from a given amount of cream. Sent free to every address. JAMES H. DOUGHTY, Adamsville, Muskingum Co., Ohio.

THE INDUSTRIAL CHEMIST.—EDITED BY PROF. DUSSAUCE, late of the Imperial Laboratories of France. Published by JOHN HILLYER, No. 249 Pearl street, New York City. \$1 50 per annum.

GRINDSTONES OF ANY SIZE OR GRIT, FOR WET or dry grinding, can be furnished on receipt of a one-fourth ounce sample sent by mail to J. E. MITCHELL, No. 319 York avenue, Philadelphia, Pa. 12 cent 1/4

FOR FORGING GUN WORK, &c.—PECK'S PATENT Drop Press will give 60 blows in a minute; catches the rebound perfectly, not allowing the hammer to remain an instant on the work to cool it, which allows the striking of several blows at a heat on smaller work, and has been run for several years without the expense of one dollar for repairs. Send for circular and price list. MILLIPECK & CO., New Haven, Conn. 16 5

Back Numbers and Volumes of the Scientific American. VOLUMES I, II, III, IV, V. (NEW SERIES) COMPLETE (bound or unbound) may be had at this office and from all periodical dealers.

We are prepared to bind volumes in handsome covers, with illuminated sides, and to furnish covers for other binders. Price for binding, 50 cents.

SPECIAL NOTICE—PEACE OR WAR—HUNDREDS of Millions of Dollars' worth of Inventions, &c.—The undersigned challenges any man to produce inventions, plans and contrivances as useful, important, valuable and curious—some in relation to the peaceful arts, and some to that of war—

UNION MASTIC ROOFING COMPANY, LOCATED at Poughkeepsie, N. Y.—We manufacture and ship to all parts of the world this celebrated roofing, with full printed directions for applying it.

PICKERS.—RICHARD KITSON, HEAD OF WORTHEN street, Lowell, Mass.—Manufacturer of Kitson's Patent Cotton Mixer, Kitson's Patent Cotton Opener, Kitson's Patent Cotton Picker, Kitson's Patent Cotton Waste Machine and Rag Picker; also Build's English Scutchers (pickers), of the following celebrated patterns:—Walker & Hacking, Long & Brothers, Taylor, Lang & Co., Manufacturers Needle-Pointed and Clothing, for Carding, Hemp, Jute, Flax, &c.

COTTON.—THE UNDERSIGNED HAVING INVENTED, patented and successfully introduced a Machine for Feeding Cotton Gins, and having recently made important additional improvements on the same, is desirous of forming a connection with a party having sufficient capital to take out patents in England and France, and introduce the machines in all countries now engaged in raising cotton.

MILL STONE DRESSING DIAMONDS, SET IN PATENT Protector and Guide. For sale by JOHN DICKINSON, patentee and sole manufacturer, No. 64 Nassau street, New York City.

TO THE HARDWARE TRADE.—THE HARDWARE NEWS. \$2 per annum. Published by JOHN HILLYER, No. 9 Pearl street, New York City.

THE PATENT SOLAR MATCHES CONTAIN NO SULPHUR, and are the best burning match yet invented. They are as cheap as sulphur matches, without their offensive smell when burning.

NOTICE TO INVENTORS AND MANUFACTURERS.—We are the exclusive owners, under Goodyear's patent, of the rights to manufacture, use and sell Vulcanized India Rubber, so far as it may be used for rolls and coverings for rolls for washing, wringing and starching machines.

UNIVERSAL CLOTHES WRINGER.—WE BELIEVE this to be the most powerful, most durable, and most convenient wringer invented. Agents wanted to canvass towns and counties all over the United States.

BAG HOLDER AND CONVEYER, TO HOLD BAGS for filling, and wheel them away when full without handling, and for all other purposes for which hand trucks are used.

METALS.—THOS. J. POPE, NO. 92 JOHN STREET, New York City.—Charcoal and Anthracite Pig Iron, direct from furnaces, Bar Irons, to order, from mills, Ingot, Copper, Lake, Baltimore, &c., Old Copper, Lead, Tin, Antimony, Cut Nails, Rabbit Metal.

RUSSELLS'S SELF-RAKER FOR HARVESTERS HAS been thoroughly tested, and is found equal to the best. See illustration in SCIENTIFIC AMERICAN of May 17, 1862.

COMBINED SHINGLE AND HEADING SAW.—UNIQUELY adapted for simplicity and economy of power and timber. Illustrated in No. 20, present volume, SCIENTIFIC AMERICAN. Address TREVOR & CO., Lockport, N. Y.

IMPROVED MILLING MACHINES, WITH HAND AND power feed, furnished for \$300 per pair, by W. T. NICHOLSON, Providence, R. I.

PATENT FOR SALE.—IMPROVED CATCH BOLT FOR Door Locks and Latches, which greatly facilitates their operation, and does not increase the cost of manufacture.

EMPLOYMENT! AGENTS WANTED!! A NEW ENTERPRISE.—The Franklin Sewing Machine Company want agents, at a salary of \$40 per month and expenses paid.

SPRING TACKLE BLOCKS.—PATENT RIGHT FOR Sale, or license to manufacture granted on reasonable terms. See invention described in SCIENTIFIC AMERICAN for May 10, 1862.

BAIRD'S PATENT PREPARATION FOR THE PROTECTION of Steam Boilers from Incrustation.—It does not injure the metals; is a great saving of fuel; does not foam, and works equally well in salt and fresh water.

MACHINERY FOR SALE, AT VERY LOW PRICES.—6 slide lathes, 2 double-axle lathes, 2 iron planers, 2 belt cutters, 2 punching machines, 1 boring lathe, 3 upright drills, 1 gem-cutting engine, 1 wheel jack, 1 heavy slotting machine, 1 car-wheel boring machine, 1 Gray & Wood planer, 2 Daniels's planers, 1 Woodworth planer, 2 power-mortising machines, 2 sash-making machines, 2 cutting machines, 1 weatherboarding machine, 1 scroll saw, 1 portable forge, universal chucks, and a lot of foundry tools.

ANILINE COLORS.—FUCHSINE, BLUE DE LYON and VIOLET IMPERIAL, of the products of Messrs. RENARD, FRERES & FRANC, Lyons, France. Secured by Letters Patent of the United States, granted July 31, 1860, and July 30, 1861.

SUBSTITUTE FOR LEAD PIPE, VIZ., A SEMI-Elastic Pipe or Hose. C. McBurney's Patent.—It can be universally applied for the forcing, suction or conducting of water, hot or cold, in any and every place.

PORTABLE STEAM ENGINES.—COMBINING THE maximum of efficiency, durability and economy with the minimum of weight and price. They are widely and favorably known, more than 200 being in use.

TURBINE WATER WHEELS, CONSTRUCTED UPON the best principle for great economy in water.—For illustrated pamphlet address ALONZO WARREN, agent American Water Wheel Company, No. 31 Exchange street, Boston, Mass.

LARGE MANUFACTORY AND STEAM POWER FOR Sale or to Let Cheap.—For sale or to let, in Bridgeport, Conn., a Large Frame Manufactory, 133 feet long, 33 feet wide and four stories high; was built a few years since for a carriage manufactory, but is now supplied with a 40-horse power engine and boiler in complete order with shafting and steam-heating pipes throughout.

SOLID EMERY VULCANITE.—WE ARE NOW MANUFACTURING wheels of this remarkable substance for cutting, grinding and polishing metals, that will outwear hundreds of the kind commonly used, and will do a much greater amount of work in the same time, and more efficiently.

NEW YORK EMERY WHEEL COMPANY, MANUFACTURERS OF SOLID EMERY WHEELS, Patented Jan. 7, 1862.

These wheels are consolidated upon an entirely new and scientific principle. Composed of pure Turkish Emery, free from glue, rubber, vulcanite, and all other glutinous substances; they are the only legitimate Emery Wheels ever in the market.

MORGAN IRON WORKS, NEW YORK, Nov. 30, 1861. NEW YORK EMERY WHEEL CO.—Gentlemen: Having given the Patent Solid Emery Wheel manufactured by you a severe trial, I do, without hesitation, pronounce it the best wheel I have ever used, as it cuts quick, wears slow, and does not glaze or soften by friction.

LAUTH'S PATENT SHAFTING, PISTON RODS, MAN-drels, Plates, &c., of iron or steel. Address the subscribers (who are the only manufacturers under Mr. Lauth's patents in the United States, and who have the exclusive control of said patents), for circulars containing statements of the results of experiments made by William Fairbairn, of Manchester, England, and Major William Wade of U. S. A., also other valuable testimonials.

FULTON'S COMPOUND, FOR CLEANSING STEAM boilers of scale.—This article is powerful to remove scale, and will not injure the boiler. Western agents, WALWORTH, HUBBARD & CO., Chicago, Ill. Sole proprietor, E. H. ASHCROFT, No. 82 Sudbury street, Boston, Mass.

GUILD & GARRISON'S CELEBRATED STEAM Pumps.—Adapted to every variety of pumping. The principal styles are the Direct Action Excelsior Steam Pump, the improved Balance Wheel Pump, Duplex Vacuum and Steam Pumps, and the Water Propeller, an entirely new invention for pumping large quantities at a light lift.

SECOND-HAND PORTABLE AND STATIONARY EN-gines, Boilers, Machinists' Tools. For sale low, by C. GRAY, Box 1263, Boston, Mass.

WATER WHEEL—REYNOLDS'S PATENT.—CON- central Pressure Water Wheel. For information or circulars (free) concerning this remarkable wheel, address TALLCOT & UNDERHILL, Agents, Oswego, N. Y.

PORTABLE STEAM ENGINES.—6, 8 AND 10-HORSE at \$500, \$625 and \$750. For sale by S. C. HILLS, No. 12 Platt street, New York.

ONE 50-HORSE STEAM ENGINE, AS GOOD AS new, will be sold cheap on application to GUILD & GARRISON, Nos. 55 and 57 First street, Williamsburgh, or No. 74 Beaman street, New York City.

JACQUARD MACHINES, WITH APPURTENANCES, manufactured and put up. Leams for narrow goods, from silk ribbon to cotton tape, built to order on the most approved principles.

TERRYVILLE CLOCK SPRING COMPANY.—MANU- facturers of Polished Clock, Watch and Toy Springs, Terryville, Conn.

A PRACTICAL MACHINIST AND ENGINEER-SEEKS employment.—Would become an agent for the sale of some invention of real utility. The most satisfactory reference will be given. Only those willing to deal liberally with a thoroughly reliable man, may address CONDENSED, Box No. 131, Phelps, Ontario County, New York.

IMPORTANT TO INVENTORS.

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.



They also attend to various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Courts Interferences, Opinions relative to Infringements, &c. The long experience Messrs. MUNN & Co. have had in preparing Specifications and Drawings, extending over a period of sixteen 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.

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 established a BRANCH OFFICE in the CITY OF WASHINGTON, on the CORNER OF F AND SEVENTH STREETS, opposite the United States Patent 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. 66 Chancery Lane, London, 20 Boulevard, St. Martin, Paris, and 26 Rue des Eperonniers, Brussels.

A pamphlet of information concerning the proper course to be pursued in obtaining Patents through their 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 former Commissioners of Patents we commend to the perusal of all persons interested in obtaining Patents:—

MESSRS. MUNN & CO.—I take pleasure in stating that while I held the office of Commissioner of Patents more than ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE came through your hands. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the Office, a marked degree of promptness, skill, and fidelity to the interests of your employers.

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

MESSRS. MUNN & CO.—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents while I had the honor of holding the office of Commissioner. Your business was 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.

MUNN & CO., Publishers, No. 37 Park-row, New York.

PUMPS! PUMPS!! PUMPS!!!—CARY'S IMPROVED Rotary Force Pump, unrivaled for pumping hot or cold liquids. Manufactured and sold by CARY & BRAINERD, Brockport, N. Y. Also, sold by J. C. CARY, No. 2 Aster House, New York.

MACHINE BELTING, STEAM PACKING, ENGINE HOSE.—The superiority of these articles, manufactured of vulcanized rubber, is established. Every belt will be warranted superior to leather, at one-third less price. The Steam Packing is made in every variety, and warranted to stand 300 degs. of heat.

JOHN H. CHEEVER, Treasurer, Nos. 37 and 38 Park-row New York.

IRON PLANERS, LATHES, FOUR SPINDLE DRILLS Milling Machines, and other Machinists' Tools, of superior quality on hand and finishing, and for sale low. For description and prices address NEW HAVEN MANUFACTURING COMPANY, New Haven, Conn.

CENTRIFUGAL SUGAR MACHINES.—MESSRS. ASPINWALL & WOOLSEY'S patent.—George B. Hartson, No. 111 East Forty-second street, continues to execute orders, and gives his personal attention to the erection of the above machines, and will also furnish plans and estimates for complete sugar refineries, with all the latest improvements.

A MESSIEURS LES INVENTEURS—AVIS IMPOR- tant. Les Inventeurs non familiers avec la langue Anglaise et qui preferent leur langue communiquer leurs inventions en Français, peuvent nous adresser dans leur langue natale. Envoyez nous un dessin et une description concise pour notre examen. Toutes communications seront regues en confiance. MUNN & CO., SCIENTIFIC AMERICAN Office, No. 37 Park-row, New York.

Zur Beachtung für deutsche Erfinder. Die Unterzeichneten haben eine Anleihe, die Erfindern das Verfahren angibt, um sich ihre Patente zu sichern, herausgegeben, und verabfolgen solche gratis an dieselben. Erfinder, welche nicht mit der englischen Sprache bekannt sind, können ihre Mittheilungen in der deutschen Sprache machen. Skizzen von Erfindungen mit kurzen, deutlich geschriebenen Beschreibungen belieben man zu adressiren an Munn & Co., 37 Park Row, New-York.

Auf der Office wird deutsch gesprochen. Dasselbe ist zu haben:

Die Patent-Geetze der Vereinigten Staaten, nebst den Regeln und der Geschäftsortung der Patent-Office und Anleitungen für den Erfinder, um sich Patente zu sichern, in den Ver. St. sowohl als in Europa. Ferner Auszüge aus den Patent-Geetzen fremder Länder und darauf bezügliche Rathschläge; ebenfalls nützliche Winke für Erfinder und solche, welche patentiren wollen. Preis 20 Cts., per Doff 25 Cts.

Improved Ventilator for Houses.

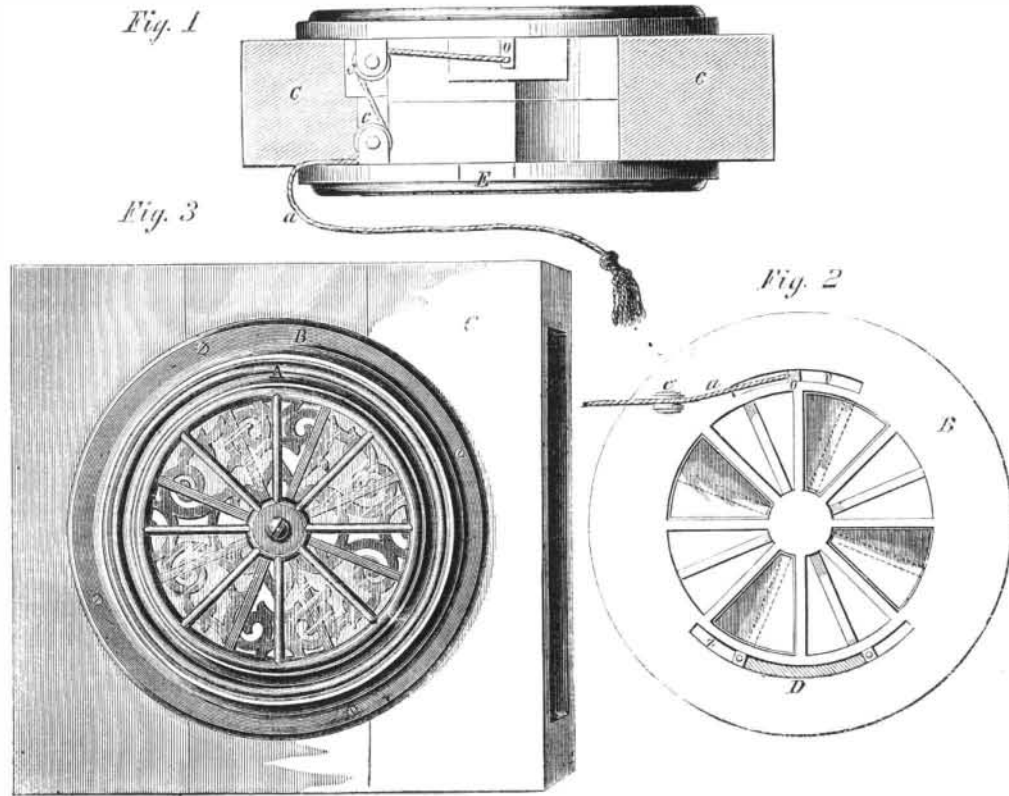
The annexed engravings represent a device for ventilating houses, which, from its simplicity, is very little liable to become disarranged, while it is operated with great facility.

Fig. 1, shows the ventilator turned down in a horizontal position, Fig. 2, is a back view in its normal position, and Fig. 3, is a perspective. A circular opening is cut through the wall, and is covered by the wheel, B, which is fixed rigidly in place. The central portion of this wheel is crossed by radial arms, and half of the segments between these arms

silvering looking glasses. Lead and mercury unite readily in various proportions. An amalgam of 3 parts mercury, 1 of lead, and 1 of bismuth, is remarkable for its fluidity, and it may be squeezed through leather without separation of the elements. It is employed for silvering the interior of hollow glass spheres, previously made clean and warm. All amalgams may be decomposed at a moderate heat. Advantage is taken of this property in what is called water gilding, or gilding metallic articles, such as brass buttons. A small portion of gold is dissolved in a large quantity of mercury, the brass articles to

A good amalgam for the use of the electrical machine is formed of 4 parts mercury, 2 parts zinc and 1 part tin. The zinc should be melted in an iron ladle, the tin added, and afterward the mercury, previously heated in another iron ladle, stirring the mixture with an iron rod. The amalgam should be poured, just before it solidifies, into a wooden or iron box, and be constantly agitated, by shaking until cold. It should then be triturated in an iron mortar, and sifted through a small muslin sieve, so as to obtain an extremely fine powder: this being rubbed up with a little lard, is to be spread on the rubber of the electrical machine with a pallet knife.

WHEN a sheet of white paper is moistened with benzole it becomes temporarily transparent, and any lines may be traced through it. In a few hours the benzole evaporates, and the paper becomes opaque, as before.



WILLIAMS'S VENTILATOR FOR HOUSES.

are filled with plates of window glass; each alternate segment being glazed and the others left open.

Through the axis of the wheel, B, a spindle is passed, and upon the outer end of this spindle a second wheel, A, is hung in immediate contact with the wheel, B. This outer wheel has its alternate segments glazed in the same manner as its fellow, and it will be seen that when the wheel, B, is turned so that its open segments are opposite the open segments in the wheel, A, the air may pass freely through both wheels; but when it is so turned that its glazed segments are opposite the open segments of the wheel, A, then no air can pass.

The wheel, B, is usually kept in position to close the ventilator by a weight, D, fastened upon one side, and swinging in a recess or slot made for the purpose in wheel, A.

To facilitate the opening of the ventilator, a cord, c, is attached to a projection, e, on the wheel, B, and passed around pulleys, c, c, into the room. By pulling this cord, the wheel, B, is turned upon its axis; and a stop is provided to arrest the turning at such point as will cause the open segments of the two wheels exactly to coincide. The cord may be wound around a pin or otherwise secured to hold the ventilator open.

This ventilator works very freely and smoothly, and it is not likely to get out of order.

The patent for this invention was granted September 17, 1861, and further information in relation to it may be obtained by addressing the inventor, Samuel W. Williams, at Centreville, N. Y.

Amalgam Applications.

Mercury possesses the quality of uniting with a number of metals, forming a class of metallic compounds called amalgams, some of which are brittle, others soft. Under ordinary circumstances, iron and mercury do not unite, therefore the fluid metal is transported, and kept stored in iron flasks. An amalgam of tin is easily formed by triturating the two metals together in a suitable mortar, or by fusion at a gentle heat. This is the amalgam which is used for

be gilt, being made perfectly clean, are anointed with the amalgam, and then placed in a furnace and heated. The heat drives off the mercury, leaving the gold adhering to the brass in a thin, frosty film. The luster is developed by burnishing. Brass articles may be silvered in the same manner. Cast iron, wrought iron, steel, copper or brass may be tinned with a soft amalgam of tin and mercury. The articles are scoured bright with acid, sand or emery. No oxide, or grease must be on the surface of the article to be tinned. The amalgam is then rubbed on with a piece of coarse cotton cloth, moistened with dilute hydrochloric (muriatic) acid. All the parts of the brass, or whatever other metal it may be, thus treated become thoroughly coated with the amalgam.

Iron may be coated with zinc by a peculiar amalgam process, patented several years since, in England, by Mr. Mallett. It was invented for the purpose of being applied to iron ships, to prevent their corrosion. The iron is first immersed in a cleansing bath, formed of equal parts sulphuric acid or hydrochloric acid and water, used warm. The metal is then hammered and scrubbed with emery and sand, to detach the scales of oxide, and to produce a thoroughly clean surface. The metal is next immersed in a preparing bath, consisting of a saturated solution of hydrochlorate of zinc and sulphate of ammonia; and, lastly, it is transferred to a metallic bath, composed of 202 parts mercury and 1,292 parts zinc, both by weight. To every tun weight of this alloy is added 1 lb. of potassium or of sodium, the latter being preferred. As soon as the cleaned iron has attained the point of fusion of this triple alloy, viz., 680°, it is removed, and is found to be thoroughly coated with zinc. The affinity of this alloy for iron is so intense that at the fusing heat of 680° it will dissolve a plate of wrought iron one-eighth of an inch thick in a few seconds. When the articles to be covered are small, or the parts minute, as for example, wire, nails or small chains, it is necessary before immersing them to permit the triple alloy to dissolve, or combine with some wrought iron, in order that its great affinity for the articles may be partially diminished.



OF THE
SCIENTIFIC AMERICAN.
THE BEST MECHANICAL PAPER IN THE WORLD.
EIGHTEENTH YEAR.
VOLUME VI.—NEW SERIES.

A new volume of this widely circulated paper commenced on the 5th of January. Every number contains sixteen pages of useful information, and from five to ten original engravings of new inventions and discoveries, all of which are prepared expressly for its columns.

The SCIENTIFIC AMERICAN is devoted to the interests of Popular Science, the Mechanic Arts, Manufactures, Inventions, Agriculture, Commerce, and the Industrial pursuits generally, and is valuable and instructive not only in the Workshop and Manufactory, but also in the Household, the Library and the Reading Room.

The SCIENTIFIC AMERICAN has the reputation, at home and abroad, of being the best weekly journal devoted to mechanical and industrial pursuits now published, and the proprietors are determined to keep up the reputation they have earned during these seventeen years they have been connected with its publication.

Chemists, Architects, Millwrights and Farmers!

The SCIENTIFIC AMERICAN will be found a most useful journal to them. All the new discoveries in the science of chemistry are given in its columns, and the interests of the architect and carpenter are not overlooked; all the new inventions and discoveries appertaining to these pursuits being published from week to week. Useful and practical information pertaining to the interests of millwrights and mill-owners will be found published in the SCIENTIFIC AMERICAN, which information they cannot possibly obtain from any other source. Subjects in which planters and farmers are interested will be found discussed in the SCIENTIFIC AMERICAN; most of the improvements in agricultural implements being illustrated in its columns.

To the Inventor!

The SCIENTIFIC AMERICAN is indispensable to every inventor, as it not only contains illustrated descriptions of nearly all the best inventions as they come, but each number contains an Official List of the Claims of all the Patents issued from the United States Patent Office during the week previous; thus giving a correct history of the progress of inventions in this country. We are also receiving, every week the best scientific journals of Great Britain, France and Germany; thus placing in our possession all that is transpiring in mechanical science and art in these old countries. We shall continue to transfer to our columns copious extracts from these journals of whatever we may deem of interest to our readers.

To the Mechanic and Manufacturer!

No person engaged in any of the mechanical pursuits should think of doing without the SCIENTIFIC AMERICAN. It costs but four cents per week; every number contains from six to ten engravings of new machines and inventions which cannot be found in any other publication. It is an established rule of the publishers to insert none but original engravings, and those of the first-class in the art, drawn and engraved by experienced artists under their own supervision.

TERMS.

To mail subscribers:—Two Dollars a Year, or One Dollar for six months. One Dollar pays for one complete volume of 416 pages; two volumes comprise one year. The volumes commence on the first of JANUARY and JULY.

CLUB RATES.

Five Copies, for Six Months.....	\$4
Ten Copies, for Six Months.....	8
Ten Copies, for Twelve Months.....	15
Fifteen Copies, for Twelve Months.....	22
Twenty Copies, for Twelve Months.....	28

For all clubs of Twenty and over, the yearly subscription is only \$1.40. Names can be sent in at different times and from different Post-offices. Specimen copies will be sent gratis to any part of the country. Western and Canadian money, or Post-office stamps, taken at par for subscriptions. Canadian subscribers will please to remit 25 cents extra on each year's subscription to pre-pay postage.

MUNN & CO., Publishers,
No. 37, Park-row, New York.

FROM THE STEAM PRESS OF JOHN A. GRAY.