

and running in conjunction with each other, substantially as described and set forth.

I also claim the forming of continuous jaws or lips of railroad chairs by rolling into the solid iron of the flange, on the blank bar of which the said lips are composed, and which flange for said jaw or lips is raised upon the blank bar, as aforesaid, by means of said rollers, described and set forth, or by means of any rollers substantially the same.

DESIGNS.

- 1,600.—A. C. Barstow, of Providence, R. I., for Design for a Parlor Stove.
- 1,601.—T. G. Bering, of Philadelphia, Pa., for Design for a Fence.
- 1,602.—J. G. Folsom and B. D. Whitney, of Winchendon, Mass., assignors to J. G. Folsom aforesaid, for Design for a Sewing Machine Frame.
- 1,603.—P. H. Jackson, of New York City, for Design for a Fire-place Frame.

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:—

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 Disclaimer.....	\$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 charges 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 En-

glish 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.



H. K., of Wis.—Your application for a patent is now pending before the Patent Office. We cannot, therefore, introduce into the paper any such additional matter as you describe. If the additional improvement is important, you had better make a new case of it; in fact, you can proceed in no other way.

J. G. S., of Conn.—Whether a third party could patent, or use a combination composed of elements existing in two prior patents, depends altogether on the nature of the patented claims.

S. M., of Del.—The changing of one fluid for another in a chamber, for keeping cool the tube of a kerosene lamp wick, would not be patented. For a description of Adams see page 340 of this volume.

W. A. C., of Mass.—We can supply the back numbers of the SCIENTIFIC AMERICAN to January last. We shall be happy to enrol your friend's name amongst our list of subscribers. It is not new to provide a cannon with a central twisted or rifled rod, and construct projectiles for the same with twisted or rifled central openings to fit the same rod, for the purpose of obtaining rotary motion.

W. S., of Ill.—You do not require any ingredient in boiling water to soften the timber that may be boiled therein, such as plow handles, for the purpose of bending them. Steaming timber will answer just as well as boiling it.

R. H., of Pa.—Cement to stop the seams of a boiler from leaking, should always be applied inside. In a locomotive carrying the usual high pressure steam, the best cement is of little avail.

O. O., of N. Y.—Water may be admitted into the Stevens floating battery by pumping or by a valve in the bottom. It is discharged by a pump. Water ballasting is employed in some of the coal carrying vessels in England.

J. W., of N. J.—Gem salt must be a local term. If it is used for petrifying substances, as you have stated, it is probably the fluoride of lime.

J. I. H., of Minn.—There is not any metallic alloy that will expand and contract, as packing in a cylinder, in the same ratio as the cast iron of the cylinder. One square foot of grate surface, and nine square feet of effective heating surface, are allowed for the horse power of a boiler. Only one half the flue or the tube surface is considered effective heating surface.

J. H. G., of Iowa.—So far as we have been able to ascertain, American sweet potatoes have not yet become an article of export to Europe. If packed in dry saw dust and kept dry, we think they would keep on a voyage across the Atlantic.

H. R., of N. Y.—There is no published work extant which contains illustrations and descriptions of the improved apparatus lately introduced for heating buildings with dry fire heat, hot water and steam. You can only obtain a practical knowledge of these by examining them in buildings where they have been put up. We thought you wished to get a work like Griscam's or Reid's, chiefly devoted to ventilation.

T. E. M., of Phil.—Plaster of Paris figures may be bronzed by giving them a few coats of size, allowing each to dry, then applying the bronze as a varnish. Bronze powders of all colors can be purchased at almost every store where artists' materials are sold. You may mix these powders with glue, or with lac varnish, and apply them to the figures with a brush. The bronze may also be dusted on when the size is damp. Melted pitch is about the best cement known to us for an aquarium. Cocoa nut oil is obtained by grinding the kernel of the nuts and submitting this to pressure in bags. It is said to be inferior to olive oil for the hair

J. I. B., of Minn.—We cannot recommend you to a better source for obtaining information respecting governors of steam engines than the published volumes of the SCIENTIFIC AMERICAN. These contain illustrations of most of the improved governors. The gyroscopic governor is illustrated on page 193, Vol. III. (new series). We do not know where A. Judson, the inventor of the Judson Valve resides at present.

W. P., of Md.—The law is silent as to the time when the \$20 additional fee should be paid on the issue of Letters Patent. If you have no good reasons for delay, we advise you to forward the fee at once and have your patent issue, as you are less likely to encounter an interfering application.

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, 29,000,000; 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, June 11, 1862:—

- J. E. T., of N. Y., \$15; J. B. W., of N. J., \$10; H. B. S., of Ill., \$15; A. D., of Pa., \$15; J. H. & G. W. S., of N. Y., \$25; M. W., of Ky., \$15; W. H. G., of N. Y., \$80; C. & C., of Pa., \$10; F. & A., of N. Y., \$22; C. F. B., of R. I., \$40; J. D., of Mich., \$35; E. W., of Mass., \$25; S. S. B., of O., \$15; T. M. C., of Me., \$25; J. E. K., of N. Y., \$20; J. K. B., of Ind., \$25; S. M., of Del., \$25; K. & H., of Wis., \$30; C. M., of N. B., \$20; A. S. B., of Conn., \$25; T. & M., of Conn., \$25; R. K., of Mass., \$15; J. C. & Co., of Mich., \$15; G. W. H., of Ill., \$10; D. H., of Ill., \$15; B. S., of N. J., \$15; H. H., of N. Y., \$10; L. & P. K. D., of N. Y., \$15; B. R., of Mass., \$40; K. & M., of Ill., \$25; D. & R., of Iowa, \$25; J. A. R., of N. Y., \$15; J. S. R., of N. Y., \$15; J. T., of N. Y., \$30; E. G. H., of Mass., \$40; C. G. M., of N. Y., \$15; J. C. R., of N. Y., \$15; W. H. C., of N. Y., \$15; S. S. H., of Wis., \$30; S. B. E., of Conn., \$25; R. F., of Mass., \$25; W. S. H., of O., \$25; J. G. Y., Jr., of Me., \$25; C. S. I., of Ind., \$25; H. B. B., of Mass., \$25; W. H. W., of N. Y., \$25; H. T. P., of Mass., \$25; J. H. H., of N. H., \$25; G. P. P., of Conn., \$10; G. B. H., of N. Y., \$25; L. L., of N. Y., \$25; G. W., of N. Y., \$20; J. H. K., of Pa., \$20; J. C. M., of Ill., \$20; R. D. D., of Iowa, \$20; P. & P., of Ill., \$20; E. M. C., of N. Y., \$20; J. F., of N. Y., \$20; D. C., of N. Y., \$10; P. W., of N. J., \$20; H. W. O., of Conn., \$20; A. & M., of Wis., \$50; B. & E. H., of Ill., \$20; W. H. W., of N. Y., \$20; W. B., of N. Y., \$20; J. S. B., of Ind., \$20; A. B. C., of Iowa, \$20; H. K., of Wis., \$20; S. & A., of Mass., \$45; M. H., of Iowa, \$20; J. D. S., of Ill., \$20; W. F., of Germany, \$20; C. & G. M. W., of N. Y., \$40; R. A. T., of N. Y., \$20; N. McG., of N. Y., \$15; M. R. S., of N. Y., \$30.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from June 4th to Wednesday, June 11, 1862:—

- R. A. T., of N. Y.; C. & G. M. W., of N. Y.; A. I. A., of Wis.; L. L., of N. Y.; G. B. H., of N. Y.; J. G. W., of N. Y.; M. R. S., of N. Y.; J. K. B., of Ill.; J. D., of Mich.; E. W., of Mass.; C. & C. of Ill.; T. M. C., of Me.; S. S. B., of O.; J. H. & G. W. S., of N. Y.; S. M., of Del.; A. S. B., of Conn.; T. & M., of Conn.; W. S. H., of O.; H. T. P., of Miss.; W. H. W., of N. Y.; J. G. Y., Jr., of Me.; J. H. H., of N. H.; R. F., Jr., of Mass.; M. & K., of Ill.; W. T., of N. Y.; J. T., of N. Y., (2 cases); C. A. M., of Pa.; S. B. E., of Conn.; W. H. G., of N. Y.; (2 cases); H. I. S., of N. Y.; J. K., of N. Y.

TO OUR READERS.

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

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 including \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

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 our reception of their funds.

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.

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.

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VOLUMES I, II, III, IV, V. (NEW SERIES) COMPLETE (bound or unbound) may be had at this office and from all periodical dealers. Price, bound, \$1 50 per volume, by mail, \$2—which include postage. Price, in sheets, \$1. 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.

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INVENTORS AND CONSTRUCTORS OF NEW AND USEFUL CONTRIVANCES OR MACHINES, of whatever kind, can have their inventions illustrated and described in the columns of the SCIENTIFIC AMERICAN on payment of a reasonable charge for the engraving.

No charge is made for the publication, and the cuts are furnished to the party for whom they are executed as soon as they have been used.

For further particulars, address— MUNN & CO., Publishers SCIENTIFIC AMERICAN, New York City.

THE CRAIG MICROSCOPE.—PATENTED FEBRUARY 18, 1862, magnifying 100 diameters, or 10,000 times, yet so simple that a child can use it.

WILDESTONE BRASSING DIAMONDS, AND GLAZIERS' Diamonds. J. E. KARELSON, Manufacturer, No. 69 Nassau street, corner John street, New York City.

THE INDUSTRIAL CHEMIST.—EDITED BY PROFESSOR DUSSAUGE, late of the Imperial Laboratories of France. Published by JOHN HILLYER, No. 249 Pearl street, New York City.

TO PREVENT LAMP CHIMNEYS FROM BREAKING.—The patent rights of Colburn's Protector Reflector and Glass Hand-lamp Chimney have been allowed, and are for sale on very reasonable terms.

MODELS FOR THE PATENT OFFICE, MADE WITH EXCELLENCE AT V. BEAUMON'S PATENT SHOP, 177 Hester street, corner of Market street, also spinning and press work.

WINANS'S ANTI-INCORUSTATION POWDER, (FIVE years successful operation.) Effectually removes and prevents the scale in steam boilers, without injury or foaming.

BYRN AND CLARK'S PATENT FRUIT GATH.—A new and improved method for gathering or exchanging for merchandise, a great improvement on the system of Mr. L. BYRN, N. D., No. 66 Nassau street, corner H. N. street.

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TO MANUFACTURERS OF THERMOMETERS.—THE undersigned having made an improvement on a thermometer for regulating the heat of metals used in tempering, would like to dispose of the invention.

ASSAYING ORES AND METALS, THE UNDER-SIGNED HAS THE ADVANTAGE OF ALL THE BEST METHODS, AND A LARGE STOCK OF REAGENTS, &c. L. C. BROWN, 15 1/2 Broadway, New York.

NOTICE TO INVENTORS.—THE AMOUNT REQUIRED for obtaining patents on a limited number of good inventions will be paid by the subscriber for an equal interest therein.

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 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 Card Clothing, for Carding Hemp, Jute, Flax, &c. Parties in want of second-hand pickers can be referred to where to procure them.

MILLSTONE DRESSING DIAMONDS, SET IN PATENT Protector and Guide. For sale by JOHN DICKINSON, patentee and sole manufacturer, No. 64 Nassau street, New York City. Also manufacturer of Glazier's Diamonds. Old Diamonds re-set.

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

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 Beekman street, New York City.

ALCOTT'S CONCENTRIC LATHES.—FOR BROOM Hoe and Rake Handles, Chair ROUNDS, &c.—Price, \$25; and all other kinds of Wood-working Machinery, for sale by S. C. HILLS, No. 12 Platt-street, New York.

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

TO PETROLEUM REFINERS, FOR THE SUPPLY OF LIGHTERS AND HOUSES WITH KEROSENE OIL, &c. &c. The undersigned has the honor to announce that he has recently discovered a process by which kerosene oil can be refined to a purity such that it will burn without smoking, and will be found to be of a more agreeable odor than any other kerosene oil now in use. The undersigned also has the honor to announce that he has recently discovered a process by which kerosene oil can be refined to a purity such that it will burn without smoking, and will be found to be of a more agreeable odor than any other kerosene oil now in use.

NOTICE TO INVENTORS AND MANUFACTURERS.—We are the publishers of the Scientific American, and we have the honor to announce that we have recently discovered a process by which kerosene oil can be refined to a purity such that it will burn without smoking, and will be found to be of a more agreeable odor than any other kerosene oil now in use.

UNIVERSAL CLOTHES WRINGER.—WE BELIEVE this to be the most powerful, most durable, and most convenient wringer yet invented. Agents wanted to canvass towns and counties all over the United States. Address METROPOLITAN WASHING MACHINE COMPANY, Middlefield, Conn.

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

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

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 wear out hundreds of the kind commonly used, and will do a much greater amount of work in the same time, and more cleanly. All interested in any degree in our business, our warehouse, or circulars describing them will be furnished by mail.

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LAUTH'S PATENT SHAFTEE, PISTON RODS, MANDRILLS, PLATES, &c., of Iron or Steel. Address the subscribers (who are the only manufacturers under 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. JONES & LAUGHLIN, Pittsburgh, Pa.

PATENT FOR SALE.—IMPROVED CATCH BOLT FOR Door Locks and Latches, which greatly facilitates the application, and does not increase the cost of manufacture. Address W. W. SALSBURY, Wheeling, Va.

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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. Address Mrs. EUNICE B. HUSSEY, Baltimore, Md.

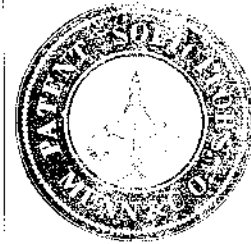
BAIRD'S PATENT PREPARATION FOR THE PROTECTION OF STEAM BOILERS FROM INCORUSTATION.—It does not injure the metals; is a great saving of fuel; does not foam, and works equally well in any size of boiler. For sale by JAMES F. LEVIN, No. 23 Central Wharf, Boston, Mass. New York depot, COLLES & CO., No. 91 West street.

FULTON'S COMPOUND, FOR CLEANSING STEAM BOILERS OF SCALE.—This article is powerful, and does not injure the boiler. Western agents, WALWORTH, WEBB & CO., Chicago, Ill. Sole proprietor, E. H. ASHCOFT, No. 82 Sndbury street, Boston, Mass.

GUILD & GARRISON'S CELEBRATED STEAM Pumps.—Wanted to every variety of pumping. The principal styles are the 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. Also one 50-horse steam engine, good as new, will be sold cheap. For sale at Nos. 55 and 57 First street, Williamsburgh, and No. 74 Beekman street, New York.

IMPORTANT TO INVENTORS.

MUNN, MUNN & CO. PROPRIETORS OF THE SCIENTIFIC AMERICAN, 37 PARK ROW, NEW YORK.



It is the duty of every inventor to secure a patent for his invention in 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.

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, 29 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.

The annexed letters from former Commissioners of Patents we commend to the perusal of all persons interested in obtaining Patents:— Messrs. MUNN & CO., 37 PARK ROW, NEW YORK.

While I held the office of Commissioner of Patents, I have had much pleasure in hearing testimony from you in relation to the invention which you have secured a patent for.

It gives me much pleasure to hear testimony from you in relation to the invention which you have secured a patent for. I have the honor to acknowledge the receipt of your letter of the 10th inst.

It gives me much pleasure to hear testimony from you in relation to the invention which you have secured a patent for. I have the honor to acknowledge the receipt of your letter of the 10th inst.

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MESSIEURS LES INVENTEURS.—AVIS IMPORTANT.—Les Inventeurs non familiers avec la langue Anglaise peuvent adresser dans leur langue natale.

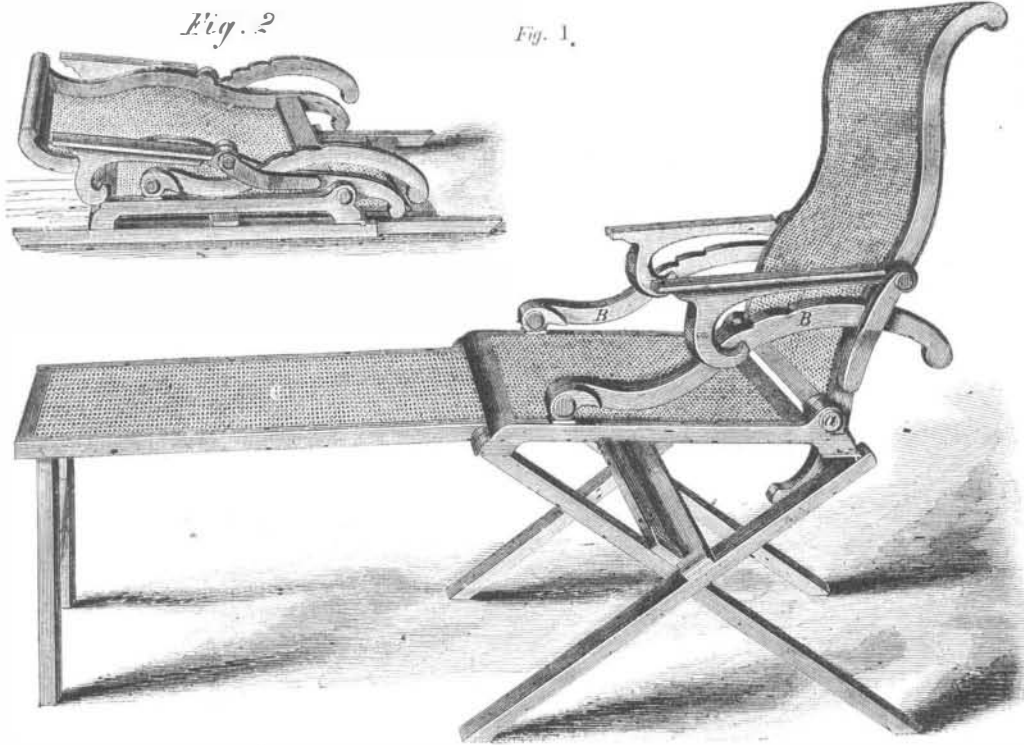
Zur Beachtung für deutsche Erfinder. Die Erfindungen sollen im Interesse der Erfindern mit Beschleunigung den Patentämtern in England, Frankreich, etc., und überall hin gebracht werden. Die Erfindungen sollen im Interesse der Erfindern mit Beschleunigung den Patentämtern in England, Frankreich, etc., und überall hin gebracht werden.

Improved Folding Army Chair.

The accompanying engravings represent a folding chair designed especially for camp use, though it will be found remarkably comfortable and convenient in any house.

It is constructed with hinge joints so that it may be arranged as shown in Fig. 1, or folded in the compact form represented in Fig. 2. The frame is made of hard tough wood, and the back and seat are covered with cane or may be upholstered. The back is joined to the seat by a hinge at *a*, so that it may be folded flat down upon the seat, or inclined at any angle desired. In order to hold it at such an angle as to make a comfortable seat, the arms are attached to the back by hinged joints, and their forward ends

one hundred and eighty miles, parts of its surface being below our boundary line in Sonora. Its area is some nine thousand square miles; and excepting the Colorado, which cuts across its lower end, is without river or lake. It stretches off to the horizon on all sides without one glimpse of vegetation or life. Its surface is ashy and parched; its frame of mountains rise in rugged pinnacles of brown rock, bare even of soil. Words are unequal to the task of describing its apparent expanses, the purity of its air, the silence of its night, the brilliancy of the stars that overhang it, the tints of the mountains at daybreak, the looming up of those beyond the horizon, the glare of the midday sun, the violence of its local storms of dust and sand.

**HARDY'S FOLDING ARMY CHAIR.**

are forked to receive the curved links, B B, which have notches upon them to catch and hold the arms. By making several of these notches the inclination of the back may be varied at will, and yet held firmly in the position to which it is adjusted. The legs are joined together in two pairs and one pair is hinged to the front edge of the seat and the other to the back edge. The pair which is attached to the front edge is made sufficiently narrow to swing between the other pair, and when in the position shown in Fig. 1, the cross bar of the inner pair rests upon the cross bar of the outer pair, and retains the legs in position.

To support the legs and feet of the occupant, the frame, C, is attached by hinges to the front edge of the seat; the forward end of this frame being supported by legs.

The several joints and hinges described enable the chair to be folded into the small compass represented in Fig. 2.

The American patent for this invention was granted August 20, 1861. It has also been patented in France and Belgium. Further information in relation to it may be obtained by addressing the inventor, Peter J. Hardy, at 150 and 152 Prince street, New York, or at 367 Washington street, Boston.

The Great American Desert—A Novel Enterprise.

In the acquisition of Territory from Mexico we acquired not only good, bad and indifferent lands, but we got a desert, and so large in its dimensions, so formidable in its withering desolations, that we are as much at a loss to know what to do with it as was the party who drew the elephant. Professor Blake, who, from his position of geologist, accompanying the exploring and surveying expedition of Capt. Williamson, of the Atlantic and Pacific Railroad Survey, acquired a personal and familiar knowledge of this *jornado del muerte* (desert of death), in a recent lecture in San Francisco, in speaking of the Colorado Desert, pronounced it as fine a specimen of the desert as that of Lybia or Sahara. It extends from the base of San Bernardino southwesterly

Parts are entirely destitute even of sand, being smooth, compact, sun-baked clay; other parts are covered with heaps of sand, disposed like snow-drifts in waves of fifty and eighty feet in height. Near the mountains along the Colorado there is a terrace as flat as the floor, and paved with pebbles of nearly uniform size, of porphyry, jasper, quartz, cornelian, and agate, all rounded by the action of the water, and polished till they glisten, by the driving sand. In this respect, again, the porch of our Great Desert is like that which outlines the Lybian Desert. Doubtless the northern part of the desert is the dry bed of an ancient lake of fresh water, whose beach lines are strongly marked. Probably, at a comparatively recent period, the water of the California Gulf covered all the clay surface of the desert. It lies below their level now, and if a channel were cut through the natural embankment of the Colorado, it would be doubtless covered again with water. It is very probable that the Colorado Desert region was uplifted within historic times. Earthquakes occasionally agitate its surface, and in 1852 there were eruptions of mud and hot water in the central parts of the valley.

The *National Intelligencer* says that an enterprise is on foot for converting this formidable desert into a fruitful field by introducing water from the Colorado river on and over it, thus causing verdure to replace sterility, "causing the desert to bloom as the rose."

The propagator of this enterprise having devoted several years in the preliminary work, and having fully determined the practicability of the measure by actual instrumental surveys, now awaits the action of Congress to make a cession of this Sahara to the State of California, in compliance with the expressed wish of her Legislature. It cannot be doubted that Congress will at once comply with the application made by California, and allow the parties to go on with this novel work, which promises to be of so much benefit to the government and mankind.

GREAT PUMPING ENGINES.—The quantity of water pumped up daily for the city of London is 150,000,000 of gallons. Of this enormous quantity 79,000,000 of gallons are pumped by single acting steam engines. One of these engines when working at full power throws 9,000 gallons per minute to a height of 140 feet. The water thus raised is conveyed into London by cast iron pipes 36-inches in diameter. The cylinder of this engine is 112-inches in diameter, and weighs 36 tons.

STEAM ON CANALS.—The Schenectady Locomotive works are constructing some engines for canal boats, which are much on the locomotive principle. Machinists on the line of the canal believe that the exertions which have been made to substitute steam for horses on canals, will result in permanent success. A considerable number of steamers, supposed to be nearly a hundred, have been at work, many of them with decided advantage.



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