

PATENTS

GRANTED
FOR SEVENTEEN YEARS.
MUNN & COMPANY,

In connection with the publication of the SCIENTIFIC AMERICAN, have acted as Solicitors and Attorneys for procuring "Letters Patent" for new inventions in the United States and in all foreign countries during the past seventeen years. Statistics show that nearly ONE-THIRD of all the applications made for patents in the United States are solicited through this office; while nearly THREE-FOURTHS of all the patents taken in foreign countries are procured through the same source. It is almost needless to add that, after seventeen years' experience in preparing specifications and drawings for the United States Patent Office, the proprietors of the SCIENTIFIC AMERICAN are perfectly conversant with the preparation of applications in the best manner, and the transaction of all business before the Patent Office; but they take pleasure in presenting the annexed testimonials from the three last ex-Commissioners of 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.
Yours very truly,

CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman Hon. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter.

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.

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows:

MESSRS. MUNN & CO.:—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.
Very respectfully, your obedient servant,
Wm. D. BISHOP.

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 it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent, free of charge. Address MUNN & CO., No. 37 Park Row, New York.

As an evidence of the confidence reposed in their Agency by inventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than TWENTY 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 they have taken out patents have addressed to them most flattering testimonials for the services rendered them; and the wealth which has inured to the individuals whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient corps of Draughtsmen and Specification Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service which Messrs. MUNN & CO. 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 they may acquire of a similar invention from the records in their Home Office. But for a fee of \$5, accompanied with a model, or drawing and description, they 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 the Branch Office of Messrs. MUNN & CO., corner of F and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue. Address MUNN & CO., No. 37 Park Row, New York.

THE VALIDITY OF PATENTS.

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

The Patent Laws, enacted by Congress on the 2d of March, 1851 are now in full force, and prove to be of great benefit to all parties who are concerned in new inventions.

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 (except in cases of designs) on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

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 is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

REJECTED APPLICATIONS.

Messrs. MUNN & CO. are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of their Washington Agency to the Patent Office affords them rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Their success in the prosecution of rejected cases has been very great. The principal portion of their 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 MUNN & CO., on the subject giving a brief history of the case, inclosing the official letters, &c.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention is 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 pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by a draft on New York, payable to the order of Messrs. 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 out little risk in sending bank bills by mail, having the letter registered by the postmaster. Address MUNN & CO., No. 37 Park Row, New York.

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

Patents are now granted for SEVENTEEN years, and the Government fee required on filing an application for a patent is \$15. Other charges in the fees are also made as follows:—

On filing each Caveat.....	\$10
On filing each application for Patent, except for a design.....	\$15
On issuing each original Patent.....	\$20
On appeal to Commissioner of Patents.....	\$20
On application for Re-issue.....	\$20
On application for Extension of Patent.....	\$50
On granting the Extension.....	\$50
On filing a 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 (ten years).....	\$20

SEARCHES OF THE RECORDS.

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

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.

FOREIGN PATENTS.

Messrs. MUNN & CO., 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. They thing they can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through their 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 MUNN & CO.'s Agency, the requirements of different Government Patent Offices, &c., may be had, gratis, upon application at the principal office, No. 37 Park Row, New York, or any of the branch offices.

INVITATION TO INVENTORS.

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

COPIES OF PATENT CLAIMS.

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

EXTENSION OF PATENTS.

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

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

UNCLAIMED MODELS.

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

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

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

How to Cure

D. P. K., of Ohio.—It may be that petroleum has been transported from one place to another in the form of vapor, after being evaporated by the internal heat of the earth, but that it was formed from oxygen, hydrogen and carbon vapors is improbable, from the fact that there is no oxygen in its composition. It is composed of hydrogen and carbon, but these two elements do not combine by simple contact, and it is in the highest degree probable that their combination in petroleum was first effected by animal or vegetable growth.

W. F. R., of Ind.—Augurs for boring port-holes are in common use. If you have any novelty in that line, doubtless a patent can be obtained.

R. H., of Pa.—The book you require is the "Practical Draughtsman." H. C. Baird, No. 406 Walnut street, Philadelphia, is the publisher.

E. M., of Mass.—The cheapest varnish in the present state of the market is copal—made by dissolving copal gum in linseed oil.

A. M. P., of Conn.—A good hydraulic ram will raise water to any height, but the greater the height the smaller the proportion of water which can be raised. This correspondent wishes the address of some manufacturer of hydraulic rams. Direct to A. M. Perkins, West Winsted, Conn.

J. B., of Ill.—Steel is hardened by heating it a bright cherry red, and plunging it in cold water; its temper is then drawn by warming it over a charcoal fire. Weights to balance each other on a lever must be in inverse proportion to their distance from the fulcrum.

P. Z. J., of Mich.—There are several patents for gumming machines; for the address of patentees see back numbers of the SCIENTIFIC AMERICAN.

N. H., of Ill.—You had better write to H. C. Baird, of Philadelphia, for a treatise on optics.

G. W. S., of Md.—Scotch whetstone is used in polishing scagliola. It is also polished with tripoli, charcoal and a piece of fine linen, afterwards with a piece of felt dipped in tripoli, and finished with pure oil laid on with cotton.

NOTICE TO SUBSCRIBERS.

The first five numbers of the present volume of the SCIENTIFIC AMERICAN being out of print, we shall commence the time of each new subscriber from the date of receipt of the order, unless the writer states specifically that he wishes such back numbers as can be furnished.

RATES OF ADVERTISING.

TWENTY-FIVE CENTS per line for each and every insertion, payable in advance. To enable all to understand how to calculate the amount they must send when they wish advertisements published we will explain that eight 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 MOST VALUABLE MACHINE for Builders and Carpenters, Furniture, Carriage, Agricultural Implement, Sash and Door, Waived and Straight, Molding and Piano Manufacturers, complete for all kinds of irregular and straight work in wood, hard or soft, superior to all others, having the capacity of twenty good mechanics, called the Varying Molding Machine. We own nine patents, covering the valuable inventions for machines with upright mandrels. Have them manufactured in one place only for the United States and Europe, viz: at Pass Iron Works No. 110 East Twenty-ninth street New York. We hear there are parties manufacturing machines infringing on some one or more of our patents. We caution the public from purchasing such infringements. Our patent is secure to us the machine with either iron or wooden table, through which are two upright mandrels, having cutters in each head held by a screw nut, also combination collars, saving 75 per cent in cutters, feed table to plain and cut. Irons outside the cutters, prevent wood from taking undue hold. Also guards acting as plain stock, making it safe for a boy to run.

Agents solicited. Please send for circular giving full description. Information or orders for machines must be addressed COMBINATION MOLDING AND PLANING MACHINE COMPANY, New York City.

WANTED—AS SUPERINTENDENT OF A MINING interest, by an experienced Mining Engineer, able and accustomed to direct and control employees; understands railroad, bookkeeping, paymaster's duties, and speaks English, French and German. Address Box 2, 176 P. O.

TALLMAN & MERCHANT, No. 71 Broadway, Room No. 55. Pay particular attention to securing drawback (Internal Revenue Tax) upon all exports of American manufacture.

MACHINISTS' TOOLS. Engine Lathes, Hand Lathes, Vertical Drills, Horizontal Drills, Boring and Reaming Lathes, Slide Rests, Chucks, Planers, Shaping Machines, Compound Planers, Bolt Cutters, Slotters, Gear-cutting Engines, Portable Engines, &c., &c. OF various sizes and numbers, manufactured by the LOWELL MACHINE SHOP, from new and improved patterns. For sale by STEVENSON & PIERSON, 206 Nassau Street, No. 48 Kilby street, corner Liberty square, Boston.

TWO ENGINEERS.—WANTED—A CONNECTION WITH an Engineering firm as First-class Bookkeeper. Has a valuable patent on steam machinery, an illustration of which will shortly appear in the SCIENTIFIC AMERICAN. Testimonials given. Address ENGINEER, Duff's Mercantile College, Pittsburgh, Pa.

FOR SALE.—A PATENT RIGHT FOR AN ARTICLE used in every family, and now in successful operation. Will be sold by States, or the whole, as desired. A fortune for a few thousand dollars. Address, inclosing postage stamp, or apply from 10 to 12 to H. BROWN, No. 121 Nassau street, N. Y.

TWIST DRILLS—A FULL ASSORTMENT OF ALL Sizes, Stubbs Wire and Machinists' Drills, on hand for sale by LEACH BROTHERS, No. 36 Liberty street, New York.

A SAFE STEAM BOILER.—THE ATTENTION OF manufacturers and others is cordially called to the HARRISON BOILER, a New Steam Generator, combining essential advantages in absolute safety from explosion, first cost and cost of repair, durability, economy of fuel, facility of cleaning and transportation, etc., not possessed by any other boiler.

The above can be furnished at less cost than the cheapest boilers made, and they show an economy in the use of fuel equal to the very best now used for stationary purposes.

\$125 A MONTH!—AGENTS WANTED EVERYWHERE to introduce the improved Shaw & Clark Family Sewing Machine, the only low-price machine in the country which is licensed by Grover & Baker, Wheeler & Wilson, Howe, Singer & Co., and Eschelder.

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WANTED—TO ASCERTAIN WHERE THERE IS A manufacturer of Spiral Springs for machine purposes. Address GEO. CHALLONER, Omro, Wis.

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RECEIPTS FURNISHED.—I WILL SEND ANY RECEIPT or process known to the arts for Compositions, Alloys, Cements, Varnishes, Glues, Diagrams for Tin Work, Dimensions and Weights for Iron or Brass, Pipes, Columns, Etc., for fifty cents.

FOR SALE—A ROTARY STEAM POWER PUNCHING and Raising Press, with eight sets of dies complete, for tin box and can work. Address Box 848 Post-office, Philadelphia.

GROVER & BAKER'S HIGHEST PREMIUM ELASTIC Stitch Sewing Machines, 435 Broadway, New York.

ANDREWS' PATENT CENTRIFUGAL PUMPS.—CAPACITY from 90 to 40,000 gallons per minute. For draining and irrigating lands, wrecking, coffee, condensers, cotton, wool and starch factories, paper mills, tanneries and all places where a large and constant supply of water is required.

WAITS' IMPROVED JONVAL TURBINE WATER Wheel is the most powerful, durable and economical wheel ever offered to the public. Every one who contemplates putting in a new wheel to drive any kind of machinery should become acquainted with these wheels before purchasing any other.

FOR SALE—STATE RIGHTS OF MY PATENT Portable Musketto Bar. It is easy to manufacture and requires but little capital. The patent was issued last year, and a large quantity of them have been sold in this State.

PORTABLE ENGINES, SUITABLE FOR THE OIL regions, from 8 to 20-horse power, with large fire place, independent steam feed pump, steam gauge and improved water heater. The most complete and simple engines in the market.

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Zur Beachtung für deutsche Erfinder. Die Untzeichneten haben eine Anweisung, die Erfinder den Verhältnissen angeht, um sich ihre Patente zu sichern, herausgegeben, und betrefen solche gratis annehmen.

Die Patent-Gesetze der Vereinigten Staaten, nebst den Regeln und der Geschäftsführung der Patent-Office und Anleitungen für den Erfinder, um sich Patente zu sichern, in den Vereinigten Staaten sowohl als in Europa.

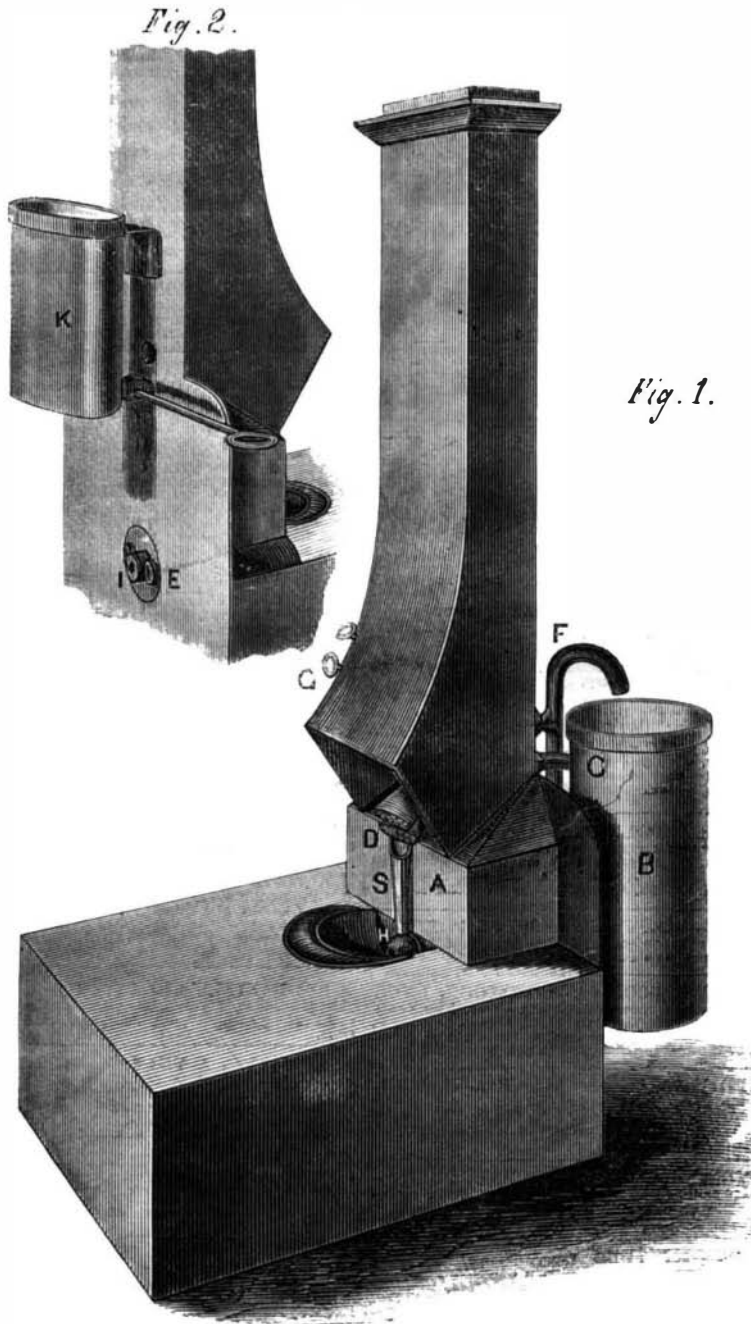
Improved Mist Forge.

All persons who have watched a blacksmith at his work must have noticed that he occasionally throws water on the fire. By a singular contradiction, when he wishes to increase the heat he throws on cold water. The object of this proceeding is gained in a different way from that generally supposed; the heat is augmented by preventing radiation, not by the decomposition of the water, and adding the resultant gases, oxygen and hydrogen, to the products of combustion. This check, for the time, increases the heat very rapidly and is attended with corresponding gain of time.

The forge here shown is intended to apply the water

is kept cool by the additional pipe, J, which allows a few drops to trickle down on it, and prevent it from burning out. This auxiliary sprinkler is to be used with the common tweer only, not with the water tweer, where it is not required. Fig. 2 shows the tank, K, used in connection with this common tweer, and the mode of attaching it to the forge back. When not in use it can be laid on one side.

The inventor asserts that the use of this arrangement, by its regular and steady action, causes a saving of fuel, and that the "heat" on the iron is taken in one-third less time than with a common forge. It can also be used without charring the coal, and the fine dust and small cinders which are forced by the



GOULD'S MIST FORGE.

itself at any time at the will of the blacksmith, and is constructed with a water back, A, as usual, and additionally a tank, B. There are pipes in this tank at the top and bottom, as at C, the latter being in communication with the sprinkler, D. The lower pipe enters through the opening, E, in the water back, and the upper pipe, F, enters the other opening. If there is a pressure of steam in the water back, the water in it enters the bottom of the tank, B, and forces water up through the pipe, C, from whence it runs into the sprinkler over the hearth, when the cock, which the handle, G, communicates with, is opened. Thus the water can be thrown on at will by opening or shutting the communication between it and the tank, and in greater or less quantities, according to the work to be done and the heat to be taken. A common water tuyere, or "tweer," as generally called, is shown at H; the blast enters this through the orifice, I, Fig. 2, and the front of it

blast over every thing in the vicinity of the fire, or else carried up the flues and out on the roof of the building, are entirely confined by the use of this sprinkler, rendering the business much healthier and the shop more agreeable to work in. A patent on this forge was procured through the Scientific American Patent Agency on the 14th of March, 1865, by J. H. Gould, of Cincinnati, Ohio; for further information address him at that place, Box 2,445.

A COAL-WHEELING STOIC.—A boiler explosion took place recently in the Missouri Iron Mills, Wheeling, while an old man named Whitmore was engaged wheeling in coal. The boiler passed close beside him, but he went on with the regularity of a pendulum, back and forward with his barrow loads of coal. The next day he assisted in clearing up the wreck. Since then the old man has died, and it was found that his legs were so severely scalded as to cause his death.

The First Iron Ship.

According to the Worcester (Eng.) *Advertiser*, Mr. John Wilkinson was the inventor and original builder of iron ships. The authority for this statement is an old letter found by his descendants. One of them thus speaks of it:—"This letter is dated Broseley, July 14, 1787; and the following is an extract:—"Yesterday week my iron boat was launched; it answers all my expectations, and has convinced the unbelievers, who were 999 in 1000. It will be a nine days' wonder, and then be like Columbus's egg." The letter is signed 'John Wilkinson.' In another part of the same letter John Wilkinson says:—"My coinage I expect will be out shortly," and accordingly it did appear in 1790, as evidenced by coins still existing, on the field of the reverse of which is pictured the iron ship alluded to. Now, I think it will be perceived from what has been stated above, that John Wilkinson, of Broseley, in Shropshire, and Castlehead, in Cartmel, Lancashire, and not Mr. Ramsden, was the inventor of iron ship-building. This vessel was built at Willey, in Shropshire, and afterwards traded between several ports in the Severn."

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