

IMPORTANT TO INVENTORS.

PATENTS FOR SEVENTEEN YEARS.

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



They also attend to various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Court. Interferences, Opinions relative to infringements, &c.

United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office.

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.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service we render gratuitously upon examining an invention does not extend to a search at the Patent Office, to see if 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.

HOW TO MAKE AN APPLICATION FOR A PATENT.

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

The 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.

Table listing fees for various patent services: On filing each caveat, \$10; On filing each application for a patent, \$15; On issuing each original patent, \$20; On appeal to Commissioner of Patents, \$30; On application for Re-issue, \$30; 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, fourteen years, \$30.

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

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

CAVEATS.

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

ASSIGNMENTS OF PATENTS.

Assignments of patents, and agreements between patentees and manufacturers are carefully prepared and placed 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 inventors or patentees may be served at our offices. We cordially invite all who have anything to do with Patent property or inventions to call at our extensive offices, No. 37 Park Row, New York, where any questions regarding the rights of patentees will be cheerfully answered.

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

REJECTED APPLICATIONS.

We are prepared to undertake the investigation and prosecution of rejected cases on reasonable terms. The close proximity of our Washington Agency to the Patent Office affords us rare opportunities for the examination and comparison of references, models, drawings, documents, &c.

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

FOREIGN PATENTS.

We are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business we have offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels.

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



L. K., of N. Y.—In referring to articles which have appeared in the SCIENTIFIC AMERICAN, it would save us much trouble if correspondents would mention the pages instead of the dates. Your article is well written, but of no general interest to our class of readers.

C. B. R., of Mass.—Colonel Bissel, who has charge of the engineering operations for cutting the canal to isolate Vicksburgh, is a practical engineer, and is well acquainted with excavating machines. If they can be applied to his purpose, he will, we think, not fail to make the application.

J. F., of Ohio.—The chloride of calcium is made by dissolving marble in muriatic acid, then evaporating the free liquid and fusing the solid product. It is a white crystalline substance, and absorbs water rapidly from the atmosphere.

M. P. H., of N. H.—Molds made of common clay will remain plastic for a considerable length of time after being formed and they may be hardened almost like stone by heat. They require to be dried slowly or they will crack.

J. S., of Ill.—Glass tubes only are suitable for barometers. They may be of any diameter, provided they are smooth and equal in the size of bore. Crude mercury will not answer for filling them. The method of purifying mercury for barometers is described in most treatises on chemistry.

J. B., of Pa.—The way to make a good lubricating oil for clocks and fine machinery is to mix common sweet or sperm oil with its own weight of alcohol in a vial, agitate it occasionally for a few hours, allow it to settle and use the clear.

H. S. R., of C. E.—We cannot give you more information respecting the "photographic camera" than is obtained in the advertisement to which you refer.

S. L. P., of Mich.—The volume of D. Kirkaldy, containing an account of his experiments with iron and steel, is not republished in this country.

R. S., of Mo.—The enamel gloss upon shirt collars and bosoms is the result of practical skill. The linen must be well starched, then a clean iron, hard pressure and friction upon the cloth, will produce the gloss.

W. E., of N. B.—Machinery for scutching and preparing flax for spinning to make cloth, is not manufactured in this vicinity. The best machinery for preparing spinning flax, that we have seen, was made at the works of Sir Peter Fairbairn, Leeds, England.

C. E. K., of Mo.—The principal ingredient in potter's clay is silica. The common kinds consist of about 60 parts of silica, 30 of alumina, 1 of iron and 1 of lime. The iron and lime are impurities. In making pottery the clay is ground, then molded or spun upon a potter's lathe, then carefully dried and afterwards baked in a kiln heated to a very high temperature.

T. R. H., of Mass.—We have seen frictional gearing successfully applied to small machines as hay-cutters.

R. H., of Md.—Address Mr. F. Storer, chemist, Cambridge, Mass., respecting his experiments with alloys.

O. L., of N. H.—We dont know what kind of sand you use in molding your castings, therefore cannot say whether it is good or not; if the castings are rough, the facing you use is not suitable; fine flour, charcoal and black lead, are used by molders for this purpose.

F. C. W., of Wis.—Your engine will work up to about 20 horse-power. You will require fifteen square feet of heating surface for every horse-power. If your boiler contains that amount you will have enough.

A. E. T. Jr., of Ohio.—The composition for priming percussion caps consists of fulminating mercury, 3 parts, by weight; chlorate of potash, 5 parts; powdered glass, 1 part. This powder is very dangerous.

A. W. B., of N. Y.—Nitric acid is employed to etch steel plates for engraving. Those parts of the plate not to be etched are covered with a varnish made of resin and wax.

C. A. B., of Mass.—A ball fired vertically will descend with the same force with which it was projected, minus that which is absorbed by the resistance of the atmosphere.

E. B., of Mass.—Steel wire is used for clock bells. Apart from the "surroundings" of wire bells in clocks, the wire itself would make miserable music.

A. S., of N. Y.—Hard india-rubber is polished like the fine metals. No oil is used in the polishing operations, as it tends to soften the india-rubber.

W. M. F., of N. J.—On page 384, Vol. VI of the SCIENTIFIC AMERICAN, you will find a description of a projectile on the same principle as yours. We do not think you could obtain any patent on your invention.

S. C., of N. Y.—Fire-clay tiles are manufactured at several works near this city, but we know not where tiles similar to those used in England for malt-kilns are made.

Z. T. W., of R. I.—Your sketch represents a coil of pipe heated by steam placed in a vessel for "trying lard." You inquire if a patent can be obtained for the improvement. This mode of heating boilers by steam is at least half a century old, and is not therefore patentable.

G. T. C., of Mich.—All our soda ash is imported. You state that the manufacture of this substance may be rendered a profitable business in a salt country, like that where you reside. This depends on the cost of sulphuric acid, which is required in its manufacture.

Money Received

At the Scientific American Office, on account of Patent Office business, from Wednesday, February 25, to Wednesday March 4, 1863:—

- G. S., of Mass.; C. D., of N. Y.; B. & H., of N. Y.; J. M. Y., of N. Y.; T. J. P., of Ohio; A. C. F., of N. Y.; W. D., of Conn.; D. D., of N. Y.; J. W. S., of N. Y.; G. R., of Ky.; A. B. T., of N. Y.; E. R., of Ill.; E. K. B., of Conn.; O. C. S., of Mass.; H. B. S., of Ill.; G. A. T., of Wis.; E. E., of Ill.; J. P., Jr., of Cal.; W. J. S., of Ohio; M. & B., of Ohio; T. I. E., of Ind.; A. B., of N. Y.; F. W. R., of N. Y.; H. C., of Ohio; K. P. K., of Vt.; H. M., of N. Y.; E. S., of N. Y.; T. & N., of N. Y.; J. E. T., of Pa.; J. H. V., of Mass.; H. T., of N. J.; A. C., of Vt.; J. W., of Mass.; C. R. S., of N. H.; G. J., of N. Y.; J. B., of Ill.; P. L., of N. J.; J. C. K., of Mass.; A. T. W., of Ind.; M. B. W., of Conn.; L. G. K., of Conn.; B. D. S., of N. Y.; R. G., of N. Y.; P. M., of N. J.; P. M., of Germany; G. B. R., of Mich.; L. D., of N. Y.; P. R., of N. Y.; H. & D., of N. Y.; W. & L., of N. Y.; N. F. B., of Pa.; A. W., of La.; J. D. B., of Vt.; J. B. S., of Conn.; J. H. R., of Mich.; C. H. G., of C. E.; T. H. A., of Ill.; J. I. C., of Wis.; C. A., of Cal.; J. A. G., of Iowa; J. W. B., of Ill.; W. K. M., of Wis.; M. D. H., of N. Y.; S. and P., of N. Y.; H. B. M., of N. Y.; J. W. W., of Cal.; J. B., of Ind.; J. H., of Ill.; J. B., of Ill.; H. K. H., of N. J.; L. M. Van S., of N. J.; J. H. F., of Mass.; C. O., of N. Y.; N. P. B., of N. Y.; R. P., of Wis.; R. B., of Pa.; S. M. S., of Iowa; W. B. A., of Ohio; J. H., of Ohio; R. G., of Ind.; H. B., of Iowa; J. N. N., of Iowa; J. T., of Wis.; R. W. S., of Mass.; J. B., of Iowa; G. H., of Mass.; C. A. W., of N. Y.; J. H., of Cal.; D. G. H., of Mass.; \$36.

Persons having remitted money to this office will please to examine the above list to see that their initials appear in it, and if they have not received an acknowledgment by mail, and their initials are not to be found in this list, they will please notify us immediately, and inform us the amount, and how it was sent, whether by mail or express.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from Wednesday, February 25, to Wednesday, March 4, 1863:—

- G. S., of Mass.; A. B., of N. Y.; R. G., of N. Y.; C. D., of N. Y.; F. W. R., of N. Y.; J. W. D., of Conn.; J. E. T., of Pa.; J. H., of Cal.; J. W., of Mass.; E. K. B., of Conn.; C. H. G., of C. E.; S. C. K., of Mass.; A. T. W., of Ind.; L. G. K., of Conn.; H. B., of Iowa; T. R. H., of Ohio; R. G., of Ind.; W. B. A., of Ohio; W. W., of Cal.; J. M. S., of Iowa; S. and P., of N. Y.; J. H. F., of Mass.; W. W. W., of Conn.; M. D. H., of N. Y.; J. B., of Ind.; C. A. W., of N. J.; C. R. S., of N. H.; H. B. M., of N. Y.

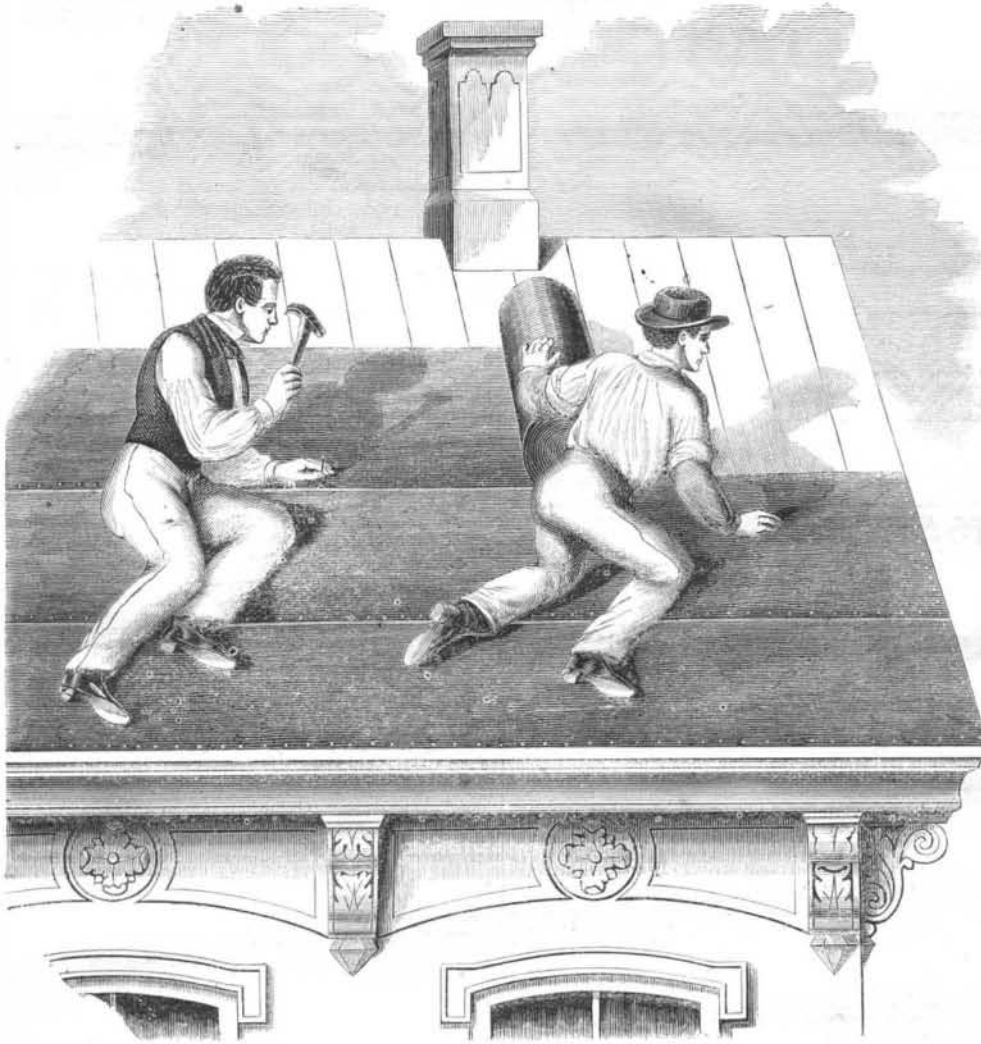
A New Roofing Material.

The accompanying engraving represents the mode of applying a new patented material to the roofs of buildings. The article is manufactured in webs, ready to be laid upon the roof and put on in strips, slightly overlapping one another, and then tacked at the edges as shown by the cut. This brief description fully explains the mode of applying the material. We will now proceed to state how the article is manufactured, and the nature and advantages of the composition. The base is composed of a thick woven fabric, which is thoroughly saturated and coated with a waterproof durable composition, and then dried at an elevated temperature. The

known to endure for seventeen years without apparent signs of decay. The greatest difficulty heretofore experienced in roofing of this kind, has been owing to the inferior quality of the fabric used, cotton sheeting being the material usually employed. The fabric used by Mr. Robinson absorbs a large quantity of the insoluble composition, filling up its interstices, and forming a close, thick, firm waterproof material. The drying of this composition under a high heat admirably adapts it for warm climates. Twenty-five miles of this roofing have been manufactured for covering buildings for the Government. Any farmer or mechanic can roof his own buildings with such a material as well as a builder. For more

the United States grand jury found bills of indictment against Nehemiah Hodge of North Adams, for conspiracy and assault, with intent to commit murder, and he was arrested as stated.—*Boston Traveler.*

A new rule in fashionable etiquette is now coming into observation in Paris, in consequence of a regulation made by the Empress for a grand masked ball soon to be given at the Tuilleries, viz: that each person must present to the chamberlain, upon entering, a *carte-de-visite* representing the guest in the costume to be worn for the evening. These cards are afterwards to be gathered in a photographic album for the boudoir table of the Empress.



ROBINSON'S MODE OF COVERING ROOFS.

fiber employed is derived from tarred rope, which is made into strong heavy brown cloth by a method for which a patent was obtained through the Scientific American Agency on Aug. 16, 1862. The chief object of the invention is the production of a heavy fabric of great thickness and low cost, which is woven in looms adapted for the purpose, making webs twenty-five yards in length and forty inches in width. To give it the waterproof composition, a web of this fabric is first run by machinery through a vessel containing a composition of warm distilled bitumen, linseed oil, and some other ingredients. This saturates it completely and fills up all the pores. From the bitumen in this vessel it is carried upon rollers to the drying-room, where it is submitted to a temperature of 175 degrees, and is then completely dried, forming the first coat. After this it is again run through a composition of warm distilled bitumen containing a certain quantity of dry pulverized earthy substances; thence it is carried along upon rollers and its surface coated with sand, after which it is callendered and dried again as before stated, when it is finished and put up in rolls, ready to be put upon a roof in the manner shown by the engraving. The fabric is pliable and does not crack, and yet the composition is very hard on the surface, and it is said will not soften in the hottest climate. Such roofing may be walked upon without the slightest injury to it. The creosote in the distilled bitumen is a most effective preservation of the fabric. Duck prepared with the same composition has been

information apply to the patentee, A. Robinson, Secretary of the Ready Roofing Company, 73 Maiden Lane, New York.

An Ingenious Infernal Machine.

North Adams, Mass., was thrown into a fever of excitement last Thursday night, by the arrival of C. P. Bradley, the noted detective of Chicago, and two assistants, having a requisition from the Governor of Illinois for the arrest of Nehemiah Hodge. Hodge was charged with sending an "infernal machine," last December, to one Stephen M. Whipple of Chicago. Whipple formerly acted as agent for Hodge in selling a patent railroad brake of his invention, but of late there have been differences between them and several lawsuits, two of which are now pending. Upon the receipt of the box at Chicago, Whipple suspected that something was wrong from its appearance, and it was placed in the hands of detective Bradley. It was opened by a weight and a wedge, between two ledges of rocks, a long rope being attached to the weight. An explosion followed which could be heard for miles. The box proved to have contained about fifteen pounds of powder. On the inside of the cover a spiral spring had been so arranged as to release a hammer and strike a percussion cap at the moment the box was opened. There was no possibility of a failure in the murderous engine if an attempt had been made to open it in the usual manner. Chief Bradley procured all the evidence that he could obtain, and returned to Chicago, whereupon

PROSPECTUS

OF THE

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NINETEENTH YEAR!

VOLUME VIII.—NEW SERIES.

The publishers of this popular and cheap illustrated newspaper beg to announce that on the third day of January, 1863, a new volume commenced. The journal is still issued in the same form and size as heretofore, and it is the aim of the publishers to render the contents of each successive number more attractive and useful than any of its predecessors.

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 the eighteen years they have been connected with its publication.

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 those old countries. We shall continue to transfer to our columns copious extracts from those journals of what ever 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 six 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, expressly for this paper.

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 those 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.

TERMS.

To mail subscribers:—Three Dollars a Year, or One Dollar for four months. One Dollar and Fifty Cents pay for one complete volume of 416 pages; two volumes comprise one year. A new volume commenced on the third of January, 1863.

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