



H. A. L., of Mass.—The control, ownership, right of use and sale of a patent, rests exclusively in the patentee until he assigns his right. He can assign the whole or any portion of his right, either before or after the grant of the patent. It appears to us that he who, in a copartnership, offsets his skill against the capital and business talents of his associates, is morally bound to give them the full benefit of any improvements he may make, connected with the company enterprises. The fact that the improvement is of a portable character makes no difference. Indeed, the very first use to which the man of skill should devote his patent ought to be to secure and assist the company just as far as possible. The creditors of an assignor cannot seize a patent from the assignee, provided the assignment was made in good faith.

R. H. J., of Iowa.—The current produced by a magnetic electric machine, when passing through a wire, renders iron magnetic in the same manner as a galvanic battery. The magnetic current is about the same strength in all parts of a short circuit. You cannot gain any power by arranging a number of water-wheels and permitting the water to pass from the one into the other. One good wheel will give out more power than two or more placed one above the other, and all connected together. We think your improvement in sewing machines for regulating the separation of the needles, when several are used, is a new and patentable improvement.

Leager, of Penn.—Your failure to give us the size of the hose renders it impossible to answer your question categorically. The greater the length of hose, however, the more would the flow of water through it be obstructed; and while it is impossible that the short piece of hose should burst more readily than the long piece, it may be that the size of the hose is so great in proportion to the size of the nozzle, that the latter would obstruct the flow of the water sufficiently to make the length of hose of no consequence.

H. H. S., of Ill.—It takes about 4,000 cubic feet of hydrogen gas in a balloon to support an ordinary man in the air.

J. H. H., of N. Y.—Copper lightning rods are the best in use. Varnishing a lightning rod injures its conducting power.

J. A., of N. Y.—We have never seen a quartz crusher that we liked better than the common stamping mill. This is formed of a series of upright sticks of scantling—say four inches square—lined with chilled cast-iron at the lower end, and raised by cogs upon a revolving shaft.

E. R., of N. Y.—The powder used in the Grimea confined in small tubes, which were broken by attacking parties, and communicated with explosive wires, was the chlorate of potash and fulminating mercury—percussion powder. Common gunpowder and gun-cotton may be exploded by the electric spark. You can dilute common powder so as to burn as slow as you please, by using common ground charcoal, but its expansive force will be diminished in proportion as it lacks the requisite quantities of sulphur and niter.

G. F. L., of N. Y.—There is no possible way of making a strip of cloth a first-class conductor of heat. Cloth cannot be made perfectly water-proof without the use of india rubber, or some resin or oil varnish, but it will become partially water-proof by boiling it in a solution of alum and sugar of lead, then drying it in a warm apartment. There is no efficient nor useful mode of producing artificial cold without the use of a fluid.

R. S. S., of Conn.—A vacuum is a place devoid of matter. A partial vacuum can be produced in the bell glass of an air pump, but we have never yet witnessed the formation of a perfect vacuum. Bourne's "Catechism of the Steam Engine" will be very useful to you. Steam has frequently been used with success for extinguishing fires on steamboats.

R. W., of N. Y.—Your invention was patented some years ago by A. S. Lyman. Such chambers are called accelerating chambers. A peculiar construction of such chambers is also embraced in the patent of J. W. Cochran, in 1859.

I. L. A., of N. Y.—Steam is superheated by passing it through tubes situated in the smoke-box, or flues, as it flows from the boiler to the cylinder. Wethered Brothers, Baltimore, Md., fit up superheating apparatuses. C. Copeland, engineer, this city, can give you the information desired about the size of tubes, &c.

C. R. and S., of N. H.—We do not know how the opaque parts of skins, for drum-heads, are rendered clear, but perhaps you may improve their appearance by giving a little stronger "sour" of sulphuric acid.

A. C. R., of Boston, Mass.—Sweet oil of almond may be made to unite with water and form an emulsion, by adding a little pearl ash, or aqua ammonia, to the water, and agitating the whole together for ten or fifteen minutes.

W. W. A., of Ind.—In the earlier volumes of the SCIENTIFIC AMERICAN we published meteorological tables, but we found they occupied too much space for the majority of our readers.

W. H., of N. Y.—Upon inquiry of a painter in this city, who has used English varnish for carriages, he stated that he found no difficulty in managing it so as to dry equally, and not in streaks, when he kept it well stirred, and carried on the operation in a warm dry place. Care must be taken that no moisture be allowed on the surface to which varnish is applied, and it should be of a uniform temperature, or it will dry in opaque streaks.

B. D., of Boston, Mass.—Thin black paint is the only indelible black marking fluid, known to us, for application on boxes with a brush. All the common inks wash out with rain. Nitrate of silver in solution is the common indelible ink sold for writing on linen.

A. O. P., of N. Y.—We do not think that a machine for removing the spikes of cannon—if it is complicated—would be of much service to an army. We could form a more correct opinion of such a machine, if we saw it, so as to judge of its construction and operation.

J. W. P., of N. Y.—Professor Vergnes' electro-magnetic machine did not generate its own power. A large galvanic battery was employed to give it motion. The inventor resides in this city.

H. H. G., of Conn.—The subject of centrifugal force is fully discussed in "Morin's Mechanics," translated by Bennet, and published by D. Appleton & Co., of this city. To calculate the force with which any given segment of the ring of a revolving fly-wheel tends to fly away from the center, divide the weight of the segment in pounds by 32, multiply the quotient by the square of the velocity of the ring in feet per second, and the product by the radius in feet; the last product will express the force in pounds.

W. S., of N. Y.—The telescopic sight for rifles, to which you refer, has not been patented in this country. Dick does not describe a telescope, in his "Practical Astronomer" as applied to rifles. It is probable that Dr. Dick never fired a rifle in his life.

J. H., of Pa.—Gas stoves are most useful and convenient apparatus for cooking in summer. They are more cleanly, and we believe more economical, also, than coal stoves. The gas should be mixed with a portion of air, in a separate chamber, prior to admitting into the combustion chamber.

C. S., of Mo.—You are right, "I done" is ungrammatical. You should say "I did," and "I have done." But "the boat was laying at the wharf" is not right; it should be "the boat was lying at the wharf."

Money Received

At the Scientific American Office on account of Patent Office business, during one week preceding Wednesday, July 10 1861:—

C. F., of Wis., \$15; R. W., of Iowa, \$15; W. A. D., of Ill., \$15; P. F., of Pa., \$15; W. H., of Ct., \$25; E. H., of Maine, \$25; C. M. S., of Ct., \$55; L. B. L., of Cal., \$30; J. A. A., of Ct., \$25; B. and C., of N. Y., \$15; H. H. W., of Cal., \$50; H. C., of Cal., \$35; J. H. M., of Mich., \$25; W. M., of Mass., \$15; A. S. L., of N. Y., \$20; B. A. M., of Ct., \$10; T. B. R., of Ill., \$25; C. F. L., of Pa., \$15; W. M. M., of Ill., \$20; S. M. D., of Mass., \$35; E. and B., of Vt., \$15; F. J. B., of N. S., \$15; J. N. D., of N. Y., \$25; R. G. T., of Mass., \$15; W. B., of N. Y., \$15; A. J. S., of Iowa, \$22; L. A., of Mass., \$15; J. E. S., of N. Y., \$40; W. L. G., of N. Y., \$15; G. J., of N. Y., \$15; P. F., of Austria, \$30; P. C., of N. Y., \$25; L. and W., of N. Y., \$5; F. J. B., of Wis., \$25; C. A., of N. Y., \$12; G. D. H., of Ill., \$25; C. F. B., of R. I., \$20; E. T. de V., of N. Y., \$15; W. H., of N. Y., \$22; G. G. G., of Ct., \$45; A. B., of N. Y., \$20; H. T. C., of Ct., \$20; J. and M., of N. Y., \$20; M. G. C., of N. Y., \$20; W. P., of N. Y., \$20; W. and L., of N. Y., \$20; G. S. R., of N. Y., \$20; W. H., of N. Y., \$20; I. P. L., of Minn., \$20; W. and S., of Ohio, \$25; E. F. H., of N. Y., \$25; W. and L., of N. Y., \$25; G. S. R., of Vt., \$25; S. M. D., of Mass., \$25; A. C. C., of R. I., \$15; W. H. B., of Ct., \$25; W. L. W., of Mass., \$25; C. R. S., of Vt., \$25; G. G. G., of Ct., \$25.

Specifications and drawings and models belonging to parties with the following initials have been forwarded to the Patent Office from July 3 to Wednesday, July 10, 1861:—

S. M., of Mass.; J. C. G., of Mass.; E. H., of Maine; T. B. R., of Ill.; J. A. A., of Conn.; W. M. M., of Ill.; W. E., of N. Y.; J. H. M., of Mich.; A. R. D., of N. Y.; H. C., of Cal.; C. N., of N. H.; C. T., of N. Y.; R. B., of Iowa; A. J. S., of Iowa; C. C., of Pa.; E. G., of Maine; R. R. P., of Mass.; A. P., of Conn.; R. D., of N. Y.

New Books and Periodicals Received.

The *American Railway Review* has just commenced its fifth volume. It is an able weekly, devoted to railway finances, engineering and public works. It occupies a position in general information respecting railways which is creditable to its publisher and editor. It generally discusses questions relating to railways with impartiality, and in a very intelligent manner. It appears to be an indispensable companion for all who are particularly interested in railways.

INSTRUCTIONS ABOUT EUROPEAN PATENTS, With a Synopsis of the Patent Laws of the Various Countries.

AMERICAN INVENTORS SHOULD BEAR IN MIND that, as a general rule, any invention which is valuable to the patentee in this country is worth equally as much in England and some other foreign countries. Four patents—American, English, French and Belgian—will secure an inventor exclusive monopoly to his discovery among 100,000,000 of the most intelligent people in the world. The facilities of business and steam communication are such that patents can be obtained abroad by our citizens almost as easily as at home. The majority of all patents taken out by Americans in foreign countries are obtained through the Scientific American Patent Agency. We have established agencies at all the principal European seats of government, and obtain patents in Great Britain, France, Belgium, Prussia, Austria, Spain, &c., with promptness and dispatch.

It is generally much better to apply for foreign patents simultaneously with the application here; or, if this cannot be conveniently done, as little time as possible should be lost after the patent is issued, as the laws in some foreign countries allow patents to anyone who first makes the application, and in this way many inventors are deprived of valid patents for their own inventions.

Many valuable inventions are yearly introduced into Europe from the United States, by parties ever on the alert to pick up whatever they can lay their hands upon which may seem useful.

Models are not required in any European country, but the utmost care and experience is necessary in the preparation of each case.

GREAT BRITAIN.

Patents for inventions under the new law, as amended by the act of Oct. 1, 1852, and now in operation, include the United Kingdom of Great Britain and Ireland in one grant, which confers the exclusive right to make, use, exercise or vend. This is conceded to the inventor, or the introducer, for a period of fourteen years, subject, after the patent is granted, and the first expenses paid, to a government tax twice during its existence—once within three years, and once again within seven. The purchaser of a patent would assume the payment of these taxes.

There is no provision in the English law requiring that a patented invention shall be introduced into public use within any specified limit. Under the Patent Act of October, 1852, the British government relinquished its right to grant patents for any of its colonies, each colony being permitted to regulate its own patent system. If a patent has been previously taken out in a foreign country, the British patent will expire with it.

FRANCE.

Patents in France are granted for a term of fifteen years, unless the invention has been previously secured by patent in some other country; in such case, it must take date with and expire with the previous patent. After the patent is issued, the French government requires the payment of a small tax each year so long as the patent is kept alive, and two years' time is given to put the invention patented into practice.

It should be borne in mind that, although the French law does not require that the applicant should make oath to his papers, yet if a patent should be obtained by any other person than the inventor, upon proof being adduced to the proper authorities, the patent would be declared illegal.

BELGIUM.

Patents in Belgium are granted for twenty years, or if previously patented in another country, they expire with the date thereof. The working of the invention must take place within one year from date of issue; but an extension for an additional year may be obtained on application to the proper authorities. Inventors are only legally entitled to take out patents.

THE NETHERLANDS.

Patents are granted by the Royal Institute of the Netherlands to natives or foreigners represented by a resident subject, which extend to a period of about two years, within which time the invention must be brought into use, and upon payment of an additional tax, a patent will be granted to complete its whole term of fifteen years. Unless these conditions are complied with, the patent ceases.

PRUSSIA.

Applications for patents in Prussia are examined by the Royal Polytechnic Commission, and unless there is novelty in the invention, the applicant's petition will be denied; and if it is granted, the invention must be worked within six months afterward. A respite, however, of six additional months may be obtained, if good and sufficient reasons for it can be shown.

AUSTRIA.

Austrian patents are granted for a term of fifteen years, upon the payment of 1,000 florins, or about \$500 in American currency. This sum, however, is not all required to be paid in advance. It is usual to pay the tax for the first five years upon the deposit of the papers, and the patent must be worked within its first year. The Emperor can extend the patent and privilege of working by special grant. In order to obtain a patent in Austria, an authenticated copy of the original Letters Patent must be produced.

SPAIN.

The duration of a Spanish patent of importation is five years, and can be prolonged to ten years; and the invention is to be worked within one year and one day.

To obtain a Cuban patent requires a special application and an extra charge.

RUSSIA.

Since the close of the Crimean war, considerable attention has been given to Russian patents by Americans. Russia is a country rich in mineral and agricultural products, and there seems to be a field open for certain kinds of improvements. The present Emperor is very liberally disposed toward inventors, and as an evidence of the interest which he takes in the progress of mechanic arts, we may state that we have had visits from two distinguished Russian sovereigns, specially sent out by the Emperor to examine American inventions. As Russian patents are expensive, and somewhat difficult to obtain, we do not take it upon ourselves to advise applications; inventors must judge for themselves; and this remark applies not only to Russia, but also to all other foreign countries.

CANADA.

Patents of invention are granted only to actual residents of Canada and British subjects. Under the general Patent Law of Canada, an American cannot procure a patent for his invention there. The only way in which he can do so is by virtue of a special act of Parliament, which is very difficult, uncertain, and expensive to obtain. Several zealous friends of reform in Canada are working earnestly to bring about a reciprocal law, but their efforts have thus far proved fruitless.

BRITISH INDIA.

The date of the law, Feb. 28, 1856; duration of a patent, fourteen years. Invention must be worked within two years from date of petition. Privilege granted only to the original inventor or his authorized agent in India.

SAXONY.

Duration of patent, from five to ten years. Invention must be worked within one year from date of grant. Careful examination made before granting a patent.

HANOVER.

Duration of patent, ten years; and in case of foreign patent having been previously obtained, an authenticated copy of said patent must be produced. Invention must be worked within six months from date of grant.

SARDINIA.

Duration of patent, from one to fifteen years. Patents for five years or less must be worked within one year, and all others within two years.

NORWAY AND SWEDEN.

Duration of patent, three years, at least; fifteen at most, according to the nature and importance of the invention. Patents for foreign inventions not to exceed the term granted abroad, and to be worked within one, two or four years.

AUSTRALIA.

Date of law, March 31, 1854. Careful examination made by competent persons previous to issue of patent, which, when granted, extends to fourteen years. Imported inventions are valid according to duration of foreign patent. It would require from twelve to eighteen months to procure a patent from the Australian government. Parties holding foreign patents secured through our agency will be notified from time to time of the condition of their cases.

GENERAL REMARKS.

While it is true of most of the European countries herein specified, that the system of examination is not so rigid as that practised in this country, yet it is vastly important that inventors should have their papers prepared only by the most competent solicitors, in order that they may stand the test of a searching legal examination; as it is a common practice when a patentee finds a purchaser for his invention for the latter to cause such examination to be made before he will accept the title.

It is also very unsafe to entrust a useful invention to any other than a solicitor of known integrity and ability. Inventors should beware of speculators, whether in the guise of patent agents or patent brokers, as they cannot ordinarily be trusted with valuable inventions.

Messrs. MUNN & CO. have been established fifteen years as American and Foreign Patent Attorneys and publishers of the SCIENTIFIC AMERICAN, and during this time they have been entrusted with some of the most important inventions of the age; and it is a matter of pardonable pride in them to state that not a single case can be adduced in which they have ever betrayed the important trust committed to their care. Their agents in London, Paris, and other Continental cities, are among the oldest and most reliable Patent Solicitors in Europe, and they will have no connection with any other.

It has become a somewhat common practice for agents located in England to send out circulars soliciting the patronage of American inventors. We caution the latter against heeding such applications, or they may otherwise fall into the hands of irresponsible parties, and thus be defrauded of their rights. It is much safer for inventors to entrust their cases to the care of a competent, reliable agent at home.

The fees required by us for the preparation of foreign applications are not the same in every case; as, in some instances, when the inventions are of a complicated character, we are obliged to charge a higher fee. Applicants can always depend, however, upon our best terms, and can learn all particulars upon application, either in person or by letter.

Parties desiring to procure patents in Europe can correspond with the undersigned, and obtain all the necessary advice and information respecting the expenses of obtaining foreign patents. All letters should be addressed to Messrs. MUNN & CO., No. 37 Park-row, New York.

CHANGE IN THE PATENT LAWS.

NEW ARRANGEMENTS.—PATENTS GRANTED FOR SEVENTEEN YEARS.

The new Patent Laws, recently enacted by Congress, are now in full force, and promise 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 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, except in 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.

Testimonials.

The annexed letters, from the last three Commissioner 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. Yours, very truly, CHAS. MASON.

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

Messrs. MUNN & Co.—It affords me much pleasure to bear testimony to the able and efficient manner in which you have discharged your duties of 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. 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 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, 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. Over 1,500 of these examinations were made last year through this Office, and as a measure of prudence and economy, we usually advise Inventors to have a preliminary examination made. 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 furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.

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 is composed, for the Patent Office. These should be securely packed, the Inventor's name marked on them, and sent, with the government fee, 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.

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 their case, inclosing the official letters, &c.

Foreign Patents.

We are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business, we have offices at Nos. 66 Chancery-lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. We think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through 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.

Interferences.

We offer our services to examine witnesses in cases of interference, to prepare arguments, and appear before the Commissioner of Patents or in the United States Court, as counsel in conducting interferences or appeals.

For further information, send for a copy of "Hints to Inventors." Furnished free. 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.

Extension of Patents.

Valuable Patents are annually expiring which might be extended and bring fortunes to the households of many a poor Inventor or his family. We have had much experience in procuring the extension of Patents; and, as an evidence of our success in this department, we would state that, in all our immense practice, we have lost but two cases, and these were unsuccessful from causes entirely beyond our control.

It is important that extension cases should be managed by attorneys of the utmost skill to insure success. All documents connected with extensions require to be carefully drawn up, as any discrepancy or untruth exhibited in the papers is very liable to defeat the application.

If all business connected with Patents, it is most important that extensions should be entrusted only to those who have had long experience, and understand the kind of evidence to be furnished the Patent Office, and the manner of presenting it. The heirs of a deceased Patentee may apply for an extension. Parties should arrange for an application for an extension at least six months before the expiration of the Patent.

For further information as to terms and mode of procedure in obtaining an extension, address MUNN & CO., No. 37 Park-row, New York.

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.

RATES OF ADVERTISING.

Thirty 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 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 sent for publication.

ILLINOIS STATE FAIR—TO BE HELD AT CHICAGO, Sept. 9th to the 14th; regular premium list, \$22,000. Messrs. Garrison & Co. will receive and put upon exhibition, and procure premiums for (if possible), articles from parties at a distance. They will also negotiate sales of rights, &c., &c. Parties will here have their articles brought before the notice of 100,000 people. Charges, from \$3 to \$12; best of reference given. Address GARRISON & CO., No. 126 Randolph street, Chicago, Ill.; P. O. Box, No. 3, 871.

C. C. HOFF'S PATENT IMPROVED DEODORIZED Mastic Roofing—Patented May 14, 1861. This Roofing is carefully put up and shipped to any part of the United States, with full printed directions for use. It is adapted to steep or flat roofs; is fire-proof. State and county rights for sale. Address the inventor and proprietor, C. C. HOFF, Poughkeepsie, N. Y. 3 4*

NEW SHINGLE MACHINE—THAT WILL RIVE AND Shave 24,000 Shingles in a day, for sale by S. C. HILLS, No. 2 Platt-street, New York. 1 lem

MESSIEURS LES INVENTEURS—AVIS IMPORTANT. Les Inventeurs non familiers avec la langue Anglaise et qui préféreraient nous 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 reçues et confidentielles. MUNN & CO., SCIENTIFIC AMERICAN Office, No. 37 Park-row, New York.

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Improvement in Slate Roofing.

The many advantages combined by slate, as a material for roofing, makes it infinitely superior to the various substitutes now in general use. The ordinary method of laying it has, however, confined its use to steep roofs, and has been attended with serious disadvantages, the principal of which are, the breaking and splitting of the slate in winter caused by the formation of ice in the interstices, and the liability of the slate being loosened and blown away in stormy weather.

The idea of laying slate without lapping, and upon flat roofs, or those with a moderate pitch, has occurred to the minds of many men, and efforts have been made to put the idea into practice, but the difficulties in the way have not hitherto been fully surmounted.

Slate has been laid without lapping the slabs, in cement, forming water-tight joints, but inelastic or

This valuable invention is protected by two patents secured through the Scientific American Patent Agency—one dated February 26, and the second, May 21, 1861, and parties wishing to obtain further and more particular information in relation to it can do so by calling upon or addressing the patentee, J. S. Sammons, 229 Broadway (New York Central R. R. office), New York.

The inventor of this roofing has also produced an ingenious machine for dressing the slate, which will be noticed in a future number of this paper.

ALLEN'S CLOTHES DRYER.

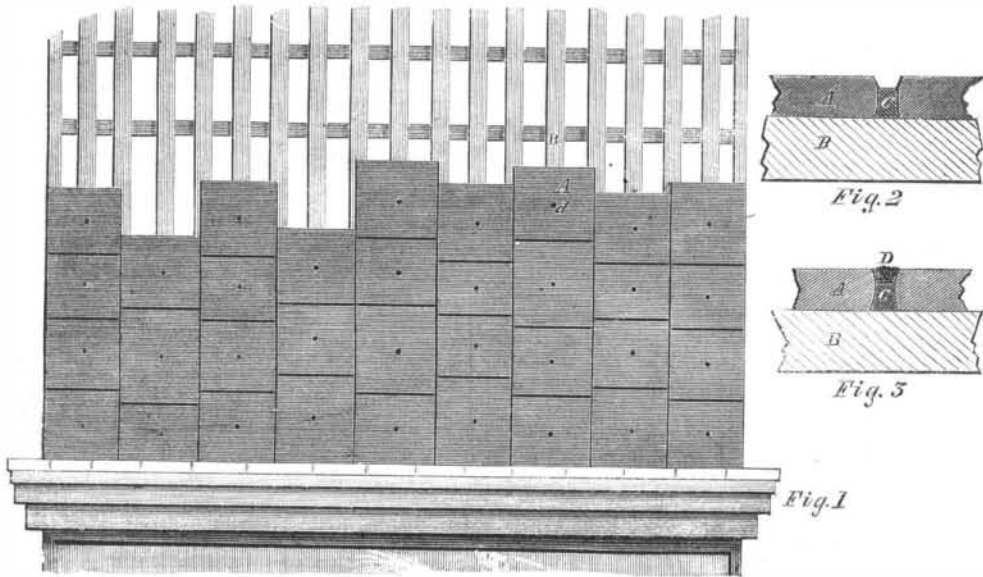
Of all the clothes dryers that have been invented, the one here illustrated is one of the simplest, most compact and most convenient. A post is set firmly in the ground, and four or more arms extend from it at an inclination upward; between these arms are

heavy sheets, which is ordinarily so fatiguing. As the frame is blown around by the wind, this motion also hastens the drying of the clothes.

We have had this dryer in use in our families for some time, and it gives the most perfect satisfaction.

The patent for this invention was granted, through the Scientific American Patent Agency, Sept. 11, 1860, and further information in relation to it may be obtained by addressing the inventor, O. P. Allen, at Rindge, N. H.

TO KEEP BUTTER SWEET.—D. E. Smith contributes to the *American Agriculturist* the following directions for preserving butter in good condition for any length of time:—"In May or June when butter is plenty, work it thoroughly two or three times, and add at the last working nearly one grain of saltpeter and a table-spoonful of pulverized loaf sugar to each pound of butter. Pack it tightly in stone jars to within two inches of the top, and fill the remaining space with strong brine. Cover the jars tightly, and bury them in the cellar bottom, where the butter will keep unhurt for a long time."



SAMMONS' ELASTIC JOINT SLATE ROOF.

unyielding, and consequently, on the sagging or settling of the roof, which soon occurs, the joints crack or batter the cement, causing the roof to leak.

We now, however, have the satisfaction of illustrating an important improvement in slate roofing, by which all these difficulties are practically obviated. The slabs, A, which are not necessarily limited to any particular size or thickness, are dressed with parallel sides and ends, the edges being beveled at the top and bottom, and a hole drilled through the center of each, which is countersunk so as to allow the insertion of a screw, for the purpose of fastening them to the roofing plank. The slabs are connected together by elastic joints, formed of materials that will yield to the sagging of the roof, without rendering it any the less water-proof. The lower parts of these joints are made of strips of vulcanized india rubber, C, which are introduced between the slabs and made to adhere to the edges of the slate by a solution of rubber. The remaining space above the rubber is filled with an indissoluble cement, D, and coated with sand, which finishes the joint.

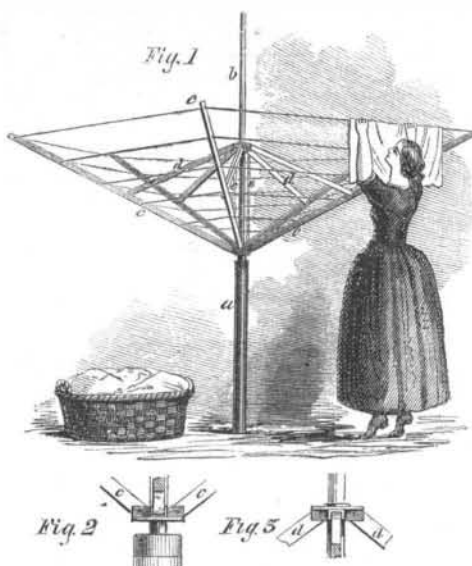
The cement does not destroy the elasticity of the joint, and is designed to protect the rubber from the effects of the weather. The heads of the screws, which sink far enough into the countersinks of the slabs to permit of it, are also protected by a coating of the cement. The roofing planks or strips upon which the slates are to be laid may be separated, as shown in the engraving, one fourth the width of the slate, thereby saving one half the lumber ordinarily used.

The materials of which this roof is formed, taken in connection with the method of laying it, afford a sufficient guarantee of its durability.

It is believed by men most familiar with vulcanized india rubber, that it will last in the joints of this roof, protected in the manner which it is, as long as the slate. A roof of this description does not stand in constant need of painting and repairing to preserve it and keep it water-proof, as is the case with all kinds of metal roofs. It seems to us that when its merits are fully known, it must come into general use where slate can be obtained, and prove a rich prize to the inventor.

stretched the lines on which the clothes are hung. This invention relates to improvements in the mode of arranging and bracing the several parts.

In the cut, Fig. 1 is a perspective view of the apparatus, and the other figures represent some of the parts on a larger scale. The post, a, is set sufficiently deep in the ground to stand firmly, and the smaller shaft, b, is inserted into its upper end so as to form a shoulder at the junction. A collar, with projecting ears as represented in Fig. 2, rests upon the shoulder of the post, surrounding the shaft, b, and supporting



the arms, c c. Braces, d d, extend from near the middle of the arms, c c, to a second collar surrounding the shaft, b, represented in Fig. 2. Lines, e e, connect the two collars, and by tightening these lines so as to draw the two collars together, the arms, c c, are pressed outward, and the lines connecting them are stretched taut.

As the whole fabric of arms and braces turns freely around the central post, steps may be placed at one side of the apparatus, and the clothes hung upon the lines without the hard work of reaching upwards with

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