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**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. The long experience Messrs. MUNN & Co. have had in preparing Specifications and Drawings, has rendered them perfectly conversant with the mode of doing business at the United States Patent Office, and with the greater part of the inventions which have been patented. Information concerning the patentability of inventions is freely given, without charge, on sending a model or drawing and description to this office.



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. 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.

**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 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. Many thousands such examinations have been made through this office. 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 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 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.

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

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! 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.

**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, printed in English and German, is furnished gratis on application by mail. Address MUNN & CO., No. 37 Park Row, New York.

**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. 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 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 Epéronniers, Brussels. We think we can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through the Scientific American Patent Agency, No. 37 Park Row, New York.

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 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.



Many letters are addressed to us for information about the purchase of books, machinery and various other articles, also making inquiries about sundry things, requesting an answer through the paper. Such inquiries are generally of no interest to any one except the writer; hence we decline to use valuable space in our paper to notice them, and as no stamps are inclosed, the inquiries remain unanswered. We submit to all our readers that it is unjust to expect us to spend time to answer letters and forward them at our own charges. We mean to do our best for our readers, but they ought not to burden us with their private matters without inclosing a fee.]

**A. P. K. Jr., of C. W.—**Boghead coal is a peculiar cannel coal found in Scotland. It is very rich in olefant gas and oil. "Water lime" is hydraulic cement, and is so named because it becomes hard under water. It is employed as the cement for cisterns, piers and concrete structures under water.

**R. B., of Pa.—**We were not aware that the shrunken band on the Parrot gun had any such effect as you propose, and cannot find any authority for believing the recoil of a gun to be affected by the form of the breech. Any increase of weight will diminish the recoil, but we cannot understand how any form of the breech can have such effect.

**W. B. Le V., of Pa.—**We have received your diagrams of the performance of two engines—one working steam at full stroke and the other cutting off at a point not stated—with descriptions attached and thank you for your attention. We have discussed this subject very fully at different times and shall refer to it again shortly, for which purpose we shall retain your evidence.

**W. L. T., of N. H.—**By procuring one of our recently issued pamphlets you will obtain all the information you need in regard to caveats. Upon receipt of six cents we will forward one by mail to your address.

**L. T., of Mass.—**You state that your invention has been in use since 1859, that you have reason to fear some other party has applied for a patent on it, and desire to know what are your rights in this matter. This is the old and oft-repeated story, several cases of the kind having within a short time been presented to us for our opinion. We have repeatedly stated in the columns of the SCIENTIFIC AMERICAN that the public use of an invention for more than two years prior to the application for the patent would invalidate the inventor's claim. You must, therefore, submit to this state of facts, and learn from it the truth of that old saying—"delays are dangerous and often fatal."

**J. H. A., of Conn.—**Paper parchment is not manufactured in America. The best method of rendering paper water-proof is to soak it in boiled linseed oil and dry it thoroughly. It may also be rendered water-proof with copal varnish, but it is not so elastic as the oil.

**R. H. F., of Mass.—**You may study all the books on engineering ever published and yet fail to become a reliable practical engineer. You must learn the business by actual practice first as a fireman and then as an engineer.

**Money Received**

At the Scientific American Office, on account of Patent Office business, from Wednesday, February 18, to Wednesday February 25, 1863:—

N. S., of Ind., \$25; M. A. J., of Mass., \$25; F. B. B., of Ill., \$30; B. & B., of N. J., \$44; J. A. McC., of Ky., \$20; D. M., of Ind., \$12; J. B., Jr., of Mass., \$15; F. D. B., of Ind., \$15; W. H. B., of N. Y., \$15; A. S., of Conn., \$25; W. H. M., of Mo., \$25; G. B. McD., of Ky., \$17; E. B., of N. Y., \$20; F. W. R., of N. Y., \$10; W. K., of N. Y., \$25; M. F. G., of N. Y., \$3; J. R. D., of Wis., \$20; G. S., of Mass., \$25; T. M. C., of Maine, \$20; A. F. N., of N. Y., \$12; J. F. R., of N. Y., \$25; F. P. B., of N. Y., \$25; W. W. W., of Conn., \$15; H. U., of

Conn., \$15; S. & B., of Ill., \$15; I. G., of Conn., \$290; G. H. S., of Iowa, \$25; G. C. B., of Ill., \$15; J. A. W., of Wis., \$35; W. C. H., of Ohio, \$15; D. C. S., of Conn., \$10; L. & E., of Ill., \$15; F. H. M., of N. Y., \$25; M. T. W., of Ky., \$15; J. M. D., of N. Y., \$45; M. & B., of N. Y., \$80; B. T. S., of Ill., \$20; R. B., of Mass., \$46; R. H. G., of N. Y., \$120; J. D. B., of Vt., \$20; R. F. C., of N. Y., \$20; W. B. F., of Mich., \$20; S. B. C., of N. Y., \$12; D. B. H., of N. Y., \$25; F. H. B., of N. Y., \$25; H. R., of Mass., \$12; C. O. L., of Vt., \$30; J. W., of Ill., \$70; S. C. S., of Ill., \$15; T. J. & J. H. McG., of Ohio, \$40; G. D., of Mass., \$50; J. R. B., of Ind., \$15; C. C. W., of Ill., \$15; F. L. S., of Pa., \$15; E. B., of Mo., \$25; R. J. & F. D. P., of Iowa, \$10; J. H., of N. Y., \$25; C. W. H., of N. Y., \$20; W. M., of N. Y., \$20; A. W. S., of N. Y., \$20; C. B., of Mich., \$20; A. R., of N. J., \$20; T. C. F., of N. Y., \$20; C. D., of Ill., \$20; C. D., of N. Y., \$15.

[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 18, to Wednesday, February 25, 1863:—

M. A. J., of Mass.; D. & T. W., of Cal.; A. B., of Mo.; G. D., of Mass.; J. H., of N. Y.; N. A., of Conn.; C. W. H., of N. Y.; M. F. G., of N. Y., (2 cases); R. H. G., of N. Y., (3 cases); T. C. McK., of Tenn.; F. P. S., of N. Y.; F. R. B., of Ill.; H. R., of Mass.; G. H. S., of Iowa; S. C. B., of Ill.; J. A. W., of Wis.; W. H. M., of Iowa; M. & B., of N. Y., (2 cases); R. B., of Mass.; A. F. N., of N. Y.; J. F. R., of N. Y.; F. H. B., of N. Y.; N. S., of Ind.; J. A., of Ky.; B. & B., of N. J., (2 cases); D. M., of Ind.; G. B. McD., of Ky.; E. B., of Mo.; W. K., of N. Y.; H. M., of N. Y.; S. B. C., of N. Y.; D. B. H., of N. Y.

**RATES OF ADVERTISING.**

Twenty-five Cents per line for each and every insertion, payable in advance. To enable all to understand how to compute the amount they must send in when they wish advertisements inserted, we will explain that ten words average one line. Engravings will not be admitted into our advertising columns; and, as heretofore, the publishers reserve to themselves the right to reject any advertisement they may deem objectionable.

**A HERETOFORE UNSUPPLIED WANT—THE NATIONAL ALMANAC and Annual Record for 1863,** furnishing more full, accurate, recent and interesting information concerning the present condition of our country than has ever been issued in any single volume. In the extent, fullness and accuracy of its statistics, and the variety and completeness of its details, it is believed that the National Almanac far surpasses any previous statistical work on the United States, and that it must become such a hand-book of reference to every thing pertaining to our national condition as every person will need. Notwithstanding the large amount expended in getting up this work (over five thousand dollars), and the high price of paper, it is furnished at a very low price, 12mo, 700 pages, bound in Boards, price \$1, or substantially bound in muslin, \$1.25. Sent free, by mail, on receipt of price. Address GEORGE W. CHILDS, Publisher, 628 and 430 Chestnut street, Philadelphia, Pa. Agents wanted everywhere.

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THE CHEAPEST MODE OF INTRODUCING INVENTIONS.

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. We wish it understood, however, that no secondhand or poor engravings, such as patentees often get executed by inexperienced artists for printing circulars and handbills from, can be admitted into these pages.

MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York City

DR. G. W. SCOLLAY'S

AIR-TIGHT DEODORIZING BURIAL-CASE, PATENTED MARCH 18, 1862.

The undersigned desires to call the attention of Undertakers, and all parties interested, to a new and useful improvement in Burial-Cases, by means of which a human body may be withheld from interment some sixty to ninety days, or more, without the emission of the usual offensive odor, and at a small expense beyond that of the ordinary burial-case.

When the invention was completed, and its efficacy tested by numerous experiments, to the satisfaction of the undersigned, he brought it before the Western Sanitary Commission of St. Louis, who, on the 28th of April, 1862, appointed a Scientific Committee to investigate its merits, and report thereon.

In conclusion, your Committee cannot but feel that the advantages of the improvement are obviously many and great, and the practicable points deducible from the foregoing, and which your Committee regards as established, are as follows:

- FIRST—Dr. Scollay has succeeded in making the common wooden coffin water-tight and air-tight, up to a certain degree of pressure. SECOND—Beyond this point, by the judicious application of a self-adjusting valve, the gases are allowed to escape, and the coffin secured against explosion. THIRD—By the introduction of a chemical compound, he renders the escaping gases inoffensive and disinfected.

FIFTH—Having examined the improvement carefully, and conducted satisfactory experiments, we regard it as our duty in the present exigency to bring it speedily before the public, and recommend its general adoption.

All of which is respectfully submitted: (Signed) S. POLLAK, M.D., CHAS. A. JOPE, M.D., J. O. HODGE, M.D., M. SCHUYLER, D.D., JOHN B. JOHNSON, M.D., R. R. HAZARD, JR.

When the foregoing had transpired, the subscriber went immediately to Washington with the following introduction, to lay the matter before the proper authorities there: ROOMS WESTERN SANITARY COMMISSION, St. Louis, June 26, 1862.

DEAR SIR—I take pleasure in introducing to you Dr. G. W. Scollay, of this city, who, on our recommendation, visits Washington to bring to your notice an improvement in Burial-Cases, which is regarded by this Commission as of great value. I would simply state that a Scientific Committee was appointed by this Commission to investigate the merits of this invention, the result of which investigation is an elaborate report, in which the Commission fully concur, and to which I respectfully refer you.

The result of the visit of the undersigned to Washington is best set forth by the following certificates of the Surgeon-General and the Assistant-Surgeon-General of the U. S. A. OFFICE SURGEON-GENERAL U. S. A., Washington, July 18, 1862.

My attention has been called by the Western Sanitary Commission at St. Louis, to an invention of Dr. G. W. Scollay, called an 'Air-tight Deodorizing Burial-case.' I have examined the same; and at my request, Dr. Scollay has conducted and concluded an experiment therewith, under my personal observation.

The result is perfectly satisfactory, and has convinced me that the claims made for this case are substantial, and that the improvement is one of great practical utility; that the principle of its most important feature—the deodorizer—is correct; while the application of it, as made by Dr. Scollay, to an ordinary burial-case, is so simple, cheap and effective, as to commend it strongly for general use.

I fully concur in the above opinions and recommendation of the Surgeon-General, and think the invention of Dr. Scollay very valuable in its sanitary relation.

R. C. WOOD, Assistant Surgeon-General, Surgeon-General's Office, Washington, July 18, 1862.

The undersigned takes great pleasure in also submitting for public perusal the following communication from the great Surgeon of the Age, the celebrated Doctor Valentine Mott, who has kindly permitted its publication: NEW YORK, December 27th, 1862.

At the request of Mr. Boyle, and accompanied by him and Mr. Todd I visited to-day and carefully examined the 'Air-tight Deodorizing Burial-case' of Dr. Scollay, of St. Louis, Mo.

In times like the present, when so many are bereft of one or more members of their families by the calamities of a horrid war, it is humane and natural that their remains should be sought and transported to their homes, in order that their bones may repose with their kindred.

The rich and the titled can afford to be embalmed, but the common man is pitched into the pit unheeded as a thing unknown.

Dr. S. is entitled to great credit for his newly-invented Coffin, as having done a public good.

The lightness and cheapness of the case are what will recommend it to the public.

The small patent elastic, self-acting and self-adjusting valve placed at the foot of the coffin, in direct connection with the Chemical Box or Deodorizer, and serving the two-fold purpose of permitting the escape of the offensive gases generated by the decomposition of the Body enclosed therein, and, at the same time, excluding the entrance of atmospheric air, evinces, on the part of Dr. Scollay—from the simplicity of its mechanical construction—rare inventive skill, and he assuredly merits deserved praise for his ingenuity.

VALENTINE MOTT, No. 1 Gramercy Park, New York, February 2d, 1863.

A period of nearly five weeks having elapsed since I wrote the above, I have this day again made another careful examination of the experiment alluded to. The decomposition of the subject (which I

omitted to say is enclosed in an ordinary 'Walnut' or 'Whitewood' coffin, with Dr. Scollay's invention attached) has rapidly increased, and although it has remained upwards of three months in a room or chamber, at a mild temperature, I cannot discover the slightest approximation to any disagreeable or offensive odor.

I, therefore, have no cause to alter the opinions which I have heretofore expressed in relation to Dr. Scollay's ingenious invention.

THE UNDERSIGNED WOULD STATE, AS A SEQUEL TO THIS MODE OF BRINGING HIS INVENTION BEFORE THE PUBLIC, THAT HIS 'AIR-TIGHT DEODORIZING BURIAL-CASE' HAS BEEN ADOPTED, AND IS NOW IN GENERAL USE IN SOME OF OUR LARGE WESTERN CITIES; AND THAT IT CAN BE IMMEDIATELY FURNISHED BY ANY OF OUR UNDERTAKERS TO PARTIES DESIROUS OF HAVING THE REMAINS OF THEIR DECEASED RELATIVES OR FRIENDS REMOVED FROM THIS OR OTHER CITIES, OR FROM DISTANT LOCALITIES.

These Cases are now being manufactured, and can be immediately supplied by— Messrs. McGraw & Taylor, No. 163 Bowery, New York; Mr. John A. Smithers, undertaker, St. Louis, Mo.; Mr. C. S. Wheeler, undertaker, Baltimore, Md.; Mr. J. M. Hall, undertaker, Philadelphia, Pa.; Mr. Wm. A. Biegelow, No. 451 Pennsylvania Avenue, Washington City.

Persons desiring information, or wishing to purchase the right of using this invention in either of the States or Territories, will please address O. W. CHILL, No. 78 Cedar street, New York.

New York, Feb. 20th, 1863.

A VALUABLE WORK FOR INVENTORS, PATENTEES AND MANUFACTURERS.

The publishers of the SCIENTIFIC AMERICAN have just prepared, with much care, a pamphlet of information about Patents and the Patent Laws, which ought to be in the hands of every inventor and patentee, and also of manufacturers who use patented inventions.

The complete Patent Law Amendment Act of 1861—Practical Instructions to Inventors, how to obtain Letters Patent, also about Models—Designs—Caveats—Trade-marks—Assignments—Revenue Tax—Extensions—Infringements—Appeals—Re-issues of Patents—Patents—Validity of Patents—Abandonment of Inventions—Best Mode of Introducing them—Importance of the Specification—Who are entitled to Patents—What will prevent the Granting of a Patent—Patents in Canada and European Patents—Schedule of Patent Fees; also a variety of miscellaneous items on patent law questions.

It has been the design of the publishers to not only furnish, in convenient form for presentation, a synopsis of the Law and Practice, but also to answer a great variety of questions which have been put to them from time to time during their practice of upwards of seventeen years, which replies are not accessible in any other form. The publishers will promptly forward the pamphlet by mail, on receipt of six cents in postage stamps.

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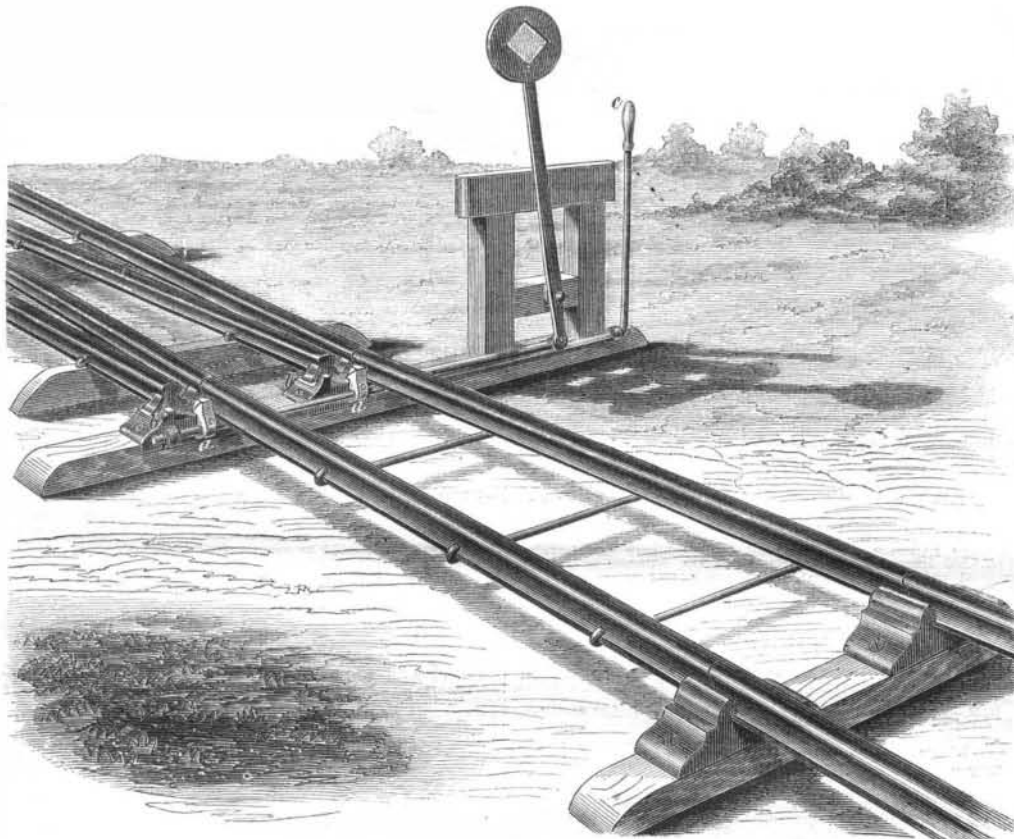
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**Improved Railroad Switch.**

Many valuable lives and large amounts of property are constantly being destroyed on railroads by having the tracks so misplaced at the switches that the trains are thrown off. These accidents occur through many causes, not the least of which is the negligence of the watchman or switch-tender to bring the rails in the proper place. The device which we here illustrate, is intended to prevent accidents of this kind, as the engineer can see at a long distance whether the tracks are in a continuous line, or whether they only approach correctness; he can then stop his train in time to avoid accident. The invention consists in disposing a pair of dogs, *a*, fixed upon a horizontal shaft in connection with the side of the rail, so that they confine the latter as immovably between two

large shops hacking away with a hammer and chisel on work that they could do better and more profitably to themselves and their employers in a lathe or planer. A slotting machine is one of the most useful tools in a shop; a compound planer is also a good tool, and the busy, quick-stroke, shaping machines can do more work, of a better class, than all the flat or cape chisels in the country. It looks out of place and behind the times to see a man with a rock-shaft arm or a connecting rod in the vice, chipping, slowly and carefully, portions that might be cut off in a twinkling by the proper tools. There are not enough slotting machines in use, and of the lighter tools there are also too few. We should like to see all work done by machinery, that can be advantageously done; and then the workman could take his

materially. "Man shall earn his bread by the sweat of his brow," and he does; invention is the sorest toil; they who consume the midnight oil know this; they who, tortured on the rack of thought, turn restlessly and uneasily in the night, big with the inspiration of some new and valuable machine or process, they know this; all men who have ever given time, toil, and patient reflection to the details of some new tool, will acknowledge the truth of the statement that invention is sore toil. Therefore let us honor our inventors, and stimulate them to still greater efforts. Let us not be wanting in our appreciation of the exertions they are making to improve themselves, and develop the best interests of the country, but show our gratitude by employing new machinery wherever it can be profitably introduced.

**MARSHALL'S PATENT RAILROAD SWITCH.**

iron jaws as if they were in a vice. There are two stops, *b b*, on the chair in which the ends of the switch rails work, which stops limit the motion of the rails and prevent them from being thrown over too far. When the track is to be shifted for the passage of a train, the small handle, *c*, is thrown down horizontally, this releases the toes from their hold and the rails may then be thrown over by the ordinary brake; when the train has passed, the handle is raised and the toes bind on the opposite side of the rails and bring them in direct line with the main track. It will be evident to the reader that, if the vertical handle is not in the position shown in the engraving, the switch is not safe, as the track is liable to be deranged by passing trains; and it is valuable in this, that the persons in charge can see at a glance, even from a distance, the condition of the line. This switch has been in use for the past year on one of the New England roads and has given great satisfaction; it is the invention of Mr. Oliver W. Marshall, of Windsor Locks, Conn., and was patented on June 18, 1861; further information respecting it can be had by addressing the patentee at that place.

**MACHINERY versus MUSCLE.**

Which is the best—machinery or manual labor? If tools are of any benefit to manufacturers, particularly of machinery, why not use them instead of occupying twice the necessary time in removing superfluous metal with a hammer and chisel or a file? There are but few processes at the present time that cannot be performed by tools, either ordinary or those designed for some special purpose. These remarks are stimulated by seeing men in some of our

proper place and oversee the "slave" that saves him unnecessary toil and labor.

There is by far too much pulling and hauling by muscle where machinery would do the business quicker and better. It was thought to be a terrible innovation on established customs when portable engines came into use for hoisting out; or stowing in, ships' cargoes. The loud cry of the stevedore's gang is hushed—the call of the 'longshoremen, summoning their mates away to labor, is heard no more; a little portable engine, standing in six square feet, contains all the muscle and will of five hundred workmen, and, obedient to the signal, runs away with the heavy bales and boxes, and snatches them up aloft as though they were so many feathers. This is just what we desire to see. In the present age we have the apotheosis of machinery—science active, eager and vigilant to advance the best interests of mankind. Muscle is down, and brain power is up. Weighed in the balance, main strength and stupidity must always kick the beam, opposed to patient and laborious thought.

Let us have more useful machinery. In every situation of life, we see openings that demand the substitution of improved methods for obsolete ones. The work of housekeeping alone has been lightened a hundred fold by the ingenuity of our inventors; and our readers have only to reflect, and they will see for themselves that this assertion is true. Keep on in the good work; it will not invalidate manual labor, where it is wanted, but will enhance its worth. There will not be so many hewers of wood and drawers of water; but there will be more, and a better class, of intelligent, thoughtful men, who, by seeking out causes and effects, increase the value of their own labor, and advance the interests of the world

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OF THE

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*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.

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