

coffin in two parts or shells, united by a flanch, substantially as set forth.

Second, The manufacture of coffins of raised or cast metal in two shells, each formed with recesses of greater or less depth, which shall respectively constitute a portion of the receptacle of the corpse, thus approximating the coffin more nearly in shape to that of the human body than could otherwise be done.

[The advantages of airtight coffins are very manifest, but the difficulty of making them of metal has been the great weight of the material. This difficulty could, of course, be overcome only by making the plates very thin; and it is the purpose of this invention to so fashion the plates as to combine the requisite strength with a reasonable degree of lightness. The coffin is made of two shells, united by flanges extending around the coffin about midway between the top and bottom, the flanges bolted together, and the seam made airtight by iron cement.]

Charles H. Morgan, of Clinton, and L. Whitney, Jr., and S. Priest, of Watertown, Mass. (assignees through mense-assignments of Benj. F. Rice), for an Improvement in Machines for Making Paper Bags. Patented April 23, 1857; re-issued March 6, 1860:

I claim the machine as a whole, composed of mechanism for forming, feeding, cutting and pasting the tubular bag, combined, arranged and operating substantially as described.

I also claim the use of a supporting bar, or its equivalent, around which paper may be formed into a tube, and in connection with which the said paper tube may be severed; each and the whole substantially as described.

I also claim giving the paper the variable feeding motion, for the purpose and in the manner substantially as described.

I also claim cutting the paper, without waste of material, into such a form as shall have suitable projections for the formation of the bottom lap or seam of the bag, and for the convenient opening of the bag at the mouth, substantially as described.

Addison Crosby, of Fredonia, N. Y., for an Improved Valve for Steam Engines. Patented August 30, 1859; re-issued March 6, 1860:

I claim the oscillating valve constructed with an opening right through it, and with two eccentric faces, and fitted to a double seat of correspondingly eccentric form, which contains opposite ports or openings that are covered and closed by the faces of the said valve whenever the said valve is in contact with the said seat, substantially as described.

D. W. Crocker, of Deposit, N. Y., for an Improvement in Railroad Chairs. Patented Jan. 25, 1859; re-issued March 6, 1860:

I claim the construction of the chair, as shown and described, so that the passing weight will cause the jaws of the chair to gripe the rails, as and for the purpose shown and described.

[This invention consists in constructing a railroad chair with each jaw of a separate piece of metal, and so applying it to the rails at a joint that the downward pressure produced upon the chair by the locomotives and cars passing over the joint will tend to draw the jaws toward each other, and to make them gripe the rails more firmly, thereby causing the ends of the rails to be so confined together that they cannot be displaced vertically or laterally relatively to each other, and making a very rigid and durable joint.]

Edward Hall and Joseph L. Hall, of Cincinnati, Ohio, for an Improvement in Fire-proof Safes. Patented August 21, 1849; re-issued March 6, 1860:

We claim, first, The employment of hydraulic cement, in whole or in part, as forming the insulating medium or admixture used between the outer and inner cases of safes and chests, when said inner cases are formed of iron or other suitable metal, substantially as described for the purposes set forth.

Second, Joining the outer and inner metallic cases of safes and chests by means of the door frame, a, and flange, b, or their equivalents, when said hydraulic cement, in whole or in part, is used as the insulating medium between said metallic cases, as described, and also by means of the anchors or bolts, d, extending from the outer and inner cases, and into the space between said cases, substantially as and for the purposes set forth.

Ephraim Brown, of Lowell, Mass., for an Improved Burglar's Alarm. Patented Oct. 31, 1854; re-issued March 6, 1860:

I claim the making of the knob of a drawer movable, and so combining it with an alarm apparatus as to cause an alarm to be sounded whenever an attempt to open the drawer by pulling on the knob is attempted.

I also claim the combination of the latch or spring bolt or the secondary bolt, and key or lever, with the movable knob and the drawer: the same being to operate together as specified.

I also claim combining the alarm pawl, m, with the knob rod by means of a movable hanging lever, n, to be operated or moved by a stud, or its equivalent, fixed in the knob rod.

I also claim the combination of a decoy key or an auxiliary alarm-springing mechanism with an alarm-giving apparatus, its springing device and a latching or belting apparatus applied to a drawer, or its equivalent: the said decoy key or auxiliary alarm-springing mechanism, when put in motion, operating to set in movement the said alarm-giving apparatus, so as to cause it to sound an alarm, as it would be caused to do by reason of any movement of its main springing device.

I also claim connecting the decoy key with the hanging lever so as to operate as specified, also connecting the said hanging lever to the secondary lever, so that a forward pull on the secondary lever shall move the hanging lever so as to effect the sounding of the alarm.

I also claim the combination of the counter or numbered wheel, and its operative mechanism, with the knob rod, the same being to exhibit the number of the attempts at opening the drawer; meaning also to claim the so combining the operative mechanism of the counter-wheel with the hanging lever that a movement of the latter will effect a movement of the said wheel.

H. H. Augamar, of New Orleans, La., for an Improvement in Mode of Staying Piles for Wharves, Piers, &c. Patented July 12, 1859; re-issued March 6, 1860:

I claim, first, The linked frame, S S, constructed and operating as described for the purpose specified.

Second, In combination with piles, as described, the sleeves, a, and braces, b, constructed and operating substantially as specified.

#### ADDITIONAL IMPROVEMENTS.

Harry H. Evarts (assignor to himself and Phineas E. Merrihew), of Chicago, Ill., for an Improved Machine for Sawing Staves from the Bolt. Patented May 27, 1859:

I claim the use of the rotating block carriage, as described, in combination with the saw, H, as shown and for the purposes set forth in the specification.

John Huston, of Ottawa, Ill., for an Improvement in Seeding Machines. Patented Jan. 19, 1858:

I claim the arrangement of the stop bar, N, shares, C, spout tube, E, slides, d, levers, P G I, rockshaft, H, scrapers, M, and rollers, B, as and for the purposes set forth and described.

[The object of this improvement is to facilitate the dropping operation or the distribution of the seed, and also to provide against the contingency of the adhering of the seed and other substances to the pressure rollers; and, further, to control the upward movement on using the machine where the plow shares are raised out of the earth.]

E. H. Augamar, of New Orleans, La., for an Improvement in Mode of Staying Piles for Wharves, Piers, &c. Patented July 12, 1857; re-issued March 6, 1860:

I claim, first, The constructing and arranging of the giant steam pile-driver boat and its driving frame, as and for the purpose set forth, or in any equivalent manner for the same purpose.

Second, The diagonal bracing of piles in deep water by the means described, or by any equivalent contrivance for the same purpose, and in the manner specified (Figs. 1, 2, 3 and B).

Third, Preventing the abrasion of the soil at the foot of the piles, and between them, by the means specified by any equivalent contrivance for the same purpose (Figs. 1 and B).

Fourth, Laying down the bottom cross-tie, by the means, in the manner and for the purpose specified, or by any equivalent contrivance for the same purpose.

Fifth, The combination of the whole arrangement and modus operandi, as described and specified, or any equivalent arrangement for the same purpose.

## Notes & Queries

J. W. S., of Conn.—We do not know what pressure of the carbonic acid gas is employed for charging the dough by the company which makes effervescent bread. About seven pounds on the square inch should be sufficient for the purpose.

S. T. W., of C. W.—The application of brakes, by which the wheels are arrested from revolving and made to slide on the rail, is the most efficient for quick stoppage, but is most destructive of the permanent way. This action of brakes, we believe, is the most safe because the most efficient.

J. N. H., of Ga.—We have heard of California yeast-moss, but have never seen any of it. If you have any of it send us a sample, so that we may call attention to its peculiar qualities.

N. A. P., of N. C.—The sulphate of zinc is not so poisonous as the sugar of lead. Brown japan is made with copal varnish, colored to the shade you desire. Gum shell-lac must be heated until fusion takes place, then boiling linseed oil is poured upon it, so as to make an oil varnish. Gum copal is better, however.

A. Y., of N. J.—It is allowable to make a model or machine in England of any patented invention and bring it to this country.

E. L. P. and T. A. L., of N. Y.—If you cast the bars of your fire grates with a groove in the upper surface of each, they will endure much longer and will not warp so readily. If cast hollow and the feed water to your boiler allowed to flow through them, they will last three times longer and save considerable fuel by the extra heat imparted to the water.

M. R. L., of Tenn.—A drop of clear glass, like a bead, carefully set in a lead or brass plate, will make a very good single microscope. A drop of any transparent gum, or pure water, if you could set it, would answer the same purpose. The small hole made in a dark colored sheet of paper with the prick of a pin is also a microscope, and enlarges objects. You do not require to take insects to pieces, unless for dissecting purposes, when examining them with a microscope. We are much mistaken if you do not make a very good microscope with these instructions.

A. K., of Ill.—We do not believe there is any loss of power (aside from that of friction) occasioned by what are called the "dead points" in the crank motion. We have been frequently told there was about 21 per cent of power thus lost, but when we asked the question "Where does it go?" it always struck the person interrogated dumb as an oyster.

W. S. M. D., of Mass.—We have seen coal oil that was perfectly odorless, and have made it so ourselves; but the process was rather expensive for common use. The method by which you have accomplished the object would be very interesting and useful information to the public if you saw fit to publish it.

H. J. B., of Pa.—You cannot obtain a patent for depositing alloys by an electric battery, because this has been done (though not very successfully) by others. There may be some point of great value in your process that is patentable. We do not know of any other method of making Bunsen negative carbon plates, than by mixing the carbon with flour paste. The plates should be thoroughly dried before they are used.

D. M. B., of Ill.—There is no peculiar work devoted to petrefactions. You will find the information you desire, we think, on this subject in Lyell's "Geology."

W. J. L., of N. Y.—If any treatise on astronomy does teach that the sun passes through 360° of the ecliptic in a tropical year it is very manifestly an error, as you say. It is 54° less than 360°.

S. D. S., of N. Y.—The substance which you send us is not gold, but yellow mica.

H. W. O., of Conn.—Ladders have been made to join together in sections as you suggest.

W. P. W., of —.—It is very common to exhaust steam into water for the purpose of heating the water before it is forced into the boiler.

E. S. W., of Ill.—The gross pressure upon steam must be doubled to reduce its bulk one half. Steam at 50 lbs. above the atmosphere would be under a pressure of 65 lbs.; double its volume. Its pressure would be 32½, and at 16½ it would occupy four times the space, provided it were confined in a close vessel. If it were allowed to escape into the open air it would expand just as much as if it escaped into a vacuum.

B. R., of N. Y.—Your questions are so numerous that we have not space for intelligible replies to them all. We suggest to you, as the shortest way to understand all these matters, to make a thorough study of the sciences of chemistry and natural philosophy. You will find them very interesting.

G. H. F., of Conn.—The \$20 paid as government fee in a caveat may be applied towards the full fees in an application for a patent on the same invention at any time, even after the caveat has expired; but the amount cannot be transferred towards the government fee on any other invention than the one on which it was first paid.

J. P. P., of Mass.—The gas which causes the "pop" in champagne is carbonic acid, generated by the decomposition of sugar in the process of fermentation. The wine is allowed to ferment about 15 days, when the casks are closed with tight bungs. In the month of January the wine is racked off and clarified with isinglass. In May it is bottled, when about three per cent of syrup is added, made of sugar candy dissolved in wine. The bottles are placed with their necks inclined downward to allow the sediment to settle in the neck, when, by a dexterous withdrawal of the cork for an instant, this sediment is blown out by the pressure of the gas. This process, preceded each time by the fining operation, is sometimes repeated several times. This, accompanied by the breaking of the bottles, which not unfrequently amounts to 40 per cent, must always make champagne expensive.

#### Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, March 10, 1860:—

C. J. F., of Iowa, \$35; H. H. A., of Iowa, \$30; C. R. A., of Conn., \$90; D. S. H., of Ill., \$25; B. W. B., of Wis., \$30; J. A., of Pa., \$30; E. B. C., of —, —; J. H. & A. T. G., of N. Y., \$20; L. C. R., of N. J., \$35; M. V., of Ga., \$30; A. K., of Ill., \$15; S. S., of Mass., \$35; A. O., of N. Y., \$25; J. W. C. Jr., of Ill., \$55; S. H. L., of R. I., \$30; G. F., of Ill., \$30; E. M., of N. Y., \$35; J. G., Sr., of R. I., \$30; H. & M., of Ohio, \$30; J. L. H., of N. Y., \$25; J. H., of Ga., \$35; J. M. W., of L. I., \$35; J. G. C., of N. Y., \$25; I. H., of Ill., \$35; D. H., of Mass., \$30; M. A. H., Jr., of Ill., \$30; P. C., of Conn., \$35; S. T. S., of Mass., \$50; S. G., of N. Y., \$30; C. & F., of Cal., \$55; G. W. B., of Mass., \$30; J. C. C., of Conn., \$25; C. A. B., of Vt., \$30; D. J. V., of Ill., \$25; W. & T., of Ill., \$30; E. H. B., of N. Y., \$30; H. A. H., of N. J., \$30; A. S. & D. M., of Ill., \$30; D. T., of Mass., \$10; F. A., of Mass., \$30; J. M. H., of Cal., \$30; G. K. B., of N. Y., \$25; J. L., of N. Y., \$35; A. L., of N. Y., \$35; G. F. L., of N. Y., \$35; I. P. F., of N. J., \$35; S. T. McC., of Ga., \$30; H. A. J., of Mo., \$35; A. M. B., of Vt., \$30; J. L., of N. J., \$30; W. S., of Ill., \$35; D. M., of N. B., \$12; S. McC., of Iowa, \$35; G. S., of Mass., \$30; R. & S., of Vt., \$250; P. & McC., of Tenn., \$25; E. B. R., of N. J., \$10; A. K. T., of Mich., \$30; J. G. R., of Maine, \$30; J. W. M., of N. Y., \$30; H. W. W., of Mass., \$30; C. S. L., of Ind., \$25; R. L. H., of Ohio, \$30; E. B. W., of Ill., \$25; D. N., of Iowa, \$25; L. K. S., of Conn., \$110; R. W., of Ill., \$35; I. R., of N. Y., \$35; J. R. H., of Conn., \$30; C. J., of Mo., \$40; D. S. McK., of N. Y., \$25; F. R. L., of N. Y., \$30; J. R. T., of N. Y., \$30; C. O., of N. Y., \$35; J. S., of N. Y., \$30; M. M., of Ill., \$30; J. B. S., of Tenn., \$25; J. J. U., of La., \$50; J. B., of Mass., \$30; J. H. P., of Iowa, \$30; C. H. W., of N. Y., \$42; J. G., of La., \$30; W. C. M., of N. Y., \$12.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Saturday, March 10, 1860:—

L. E., of Mich. (3 cases); C. J. F., of Ill.; D. McK., of N. Y.; P. M., of La.; I. H., of Ill.; W. S., of Ill.; C. H. W., of N. Y.; J. B. L., of Tenn.; A. H. S., of N. H.; C. J., of Mo.; J. L., of N. Y.; D. D., of N. Y.; I. P. F., of N. Y.; R. H., of Mass.; J. C. C., of Conn.; J. C., of N. Y.; S. M. M. G., of Ind.; T. R. T., of Ohio; J. M. W., of N. Y.; J. H., of Ga.; D. J. V., of Ill.; J. S., McC., of L. I. (3 cases); C. S. L., of Ind.; J. L., of N. Y.; S. C. T., of Ga.; L. C. R., of N. J.; E. B. W., of Ill.; P. C., of Conn.; G. K. B., of N. Y.; S. H. H., of R. I.; A. O., of N. H.; G. F. L., of N. Y.; G. W. D., of N. Y.; R. & McC., of Tenn.; J. L. H., of N. Y.; D. N., of Iowa; A. L., of N. Y.; M. & C., of N. Y.; E. M., of N. Y.; D. S. McK., of N. Y.; I. R., of N. Y.

#### Literary Notices.

THE WESTMINSTER REVIEW.—Published by Leonard Scott & Co., No. 57 Gold-street, this city.—This quarterly periodical maintains its old excellence. Among the feast of good things set before us, in the number for February, may be mentioned the articles headed "Government Contracts," "The Realities of Paris," "Ceylon," "The Social Organism," "Sicily as it Was and is," "Christian Revivals," "Italy and the Designs of Louis Napoleon," and "Contemporaneous Literature."

NOTES ON NURSING.—We have received from the publishers, Messrs. D. Appleton & Co., of this city, a copy of this useful work, by Florence Nightingale. It is full of practical suggestions as to the proper care of children and the sick, from one who has a right to speak on such subjects. The authoress signified her heroic devotion to suffering humanity by visiting the Crimea in 1855, and attending upon the sick and wounded soldiers. We heartily commend this work, not only to professional nurses, but to all heads of families.

THE COURTSHIP AND ADVENTURES OF JONATHAN HONERED.—Dick & Fitzgerald, publishers, New York.

TEN THOUSAND WONDERFUL THINGS.—Dick & Fitzgerald, publishers, New York.

#### HINTS TO OUR READERS.

TO NEW SUBSCRIBERS.—Back numbers to commence the volume.—As most subscribers to this paper desire the back numbers to render their volumes complete for binding, we shall continue to send the back numbers to January 1st (the commencement of Vol. II, new series), unless the person ordering the paper instructs us to the contrary, at the time of making the remittance. Should the person sending for the paper desire his subscription to commence at the time he makes his remittance, or at any other period, he can be accommodated, as we are constantly reprinting back numbers from our electrotype plates, and can supply as many of any number as may be desired, up to a million of copies; in fact we have printed over 70,000 copies of a single number—such has been the demand for back numbers.

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## Rates of Advertising.

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## IMPORTANT TO INVENTORS.

**THE GREAT AMERICAN AND FOREIGN PATENT AGENCY.**—Messrs. MUNN & CO., Proprietors of the SCIENTIFIC AMERICAN, are happy to announce the engagement of Hon. JUDGE MASON, formerly Commissioner of Patents, as associate counsel with them in the prosecution of their extensive patent business. This connection renders their facilities still more ample than they have ever previously been for procuring Letters Patent, and attending to the various other departments of business pertaining to patents, such as Extensions, Appeals before the United States Court, Interferences, Opinions relative to Infringements, &c., &c. The long experience Messrs. MUNN & CO. have had in preparing Specifications and Drawings, extending over a period of fourteen years, 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.

Consultation may be had with the firm, between nine and four o'clock, daily, at their Principal Office, No. 37 Park-row, New York. We have also established a Branch Office in the City of Washington, on the corner of F and Seventh-streets, opposite the United States Patent Office. This office is under the general superintendence of one of the firm, and is in daily communication with the Principal Office in New York, and personal attention will be given at the Patent Office to all such cases as may require it. Inventors and others who may visit Washington, having business at the Patent Office, are cordially invited to call at this office.

They are very extensively engaged in the preparation and securing of Patents in the various European countries. For the transaction of this business they have Offices at Nos. 66 Chancery Lane, London; 29 Boulevard St. Martin, Paris, and 26 Rue des Epicerons, Brussels. We think we may 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.

A pamphlet of information concerning the proper course to be pursued in obtaining Patents through their Agency, the requirements of the Patent Office, &c., may be had gratis upon application at the Principal Office or either of the Branches. They also furnish a Circular of Information about Foreign Patents.

The annexed letters from the last three Commissioners 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 following very gratifying testimonial:—

Messrs. MUNN & CO.:—It affords me much pleasure to bear testimony to the able and efficient manner in which you discharged your duties as Solicitors of Patents while I had the honor of holding the office of Commissioner. Your business was very large, and you sustained (and, I doubt not, justly deserved) the reputation of energy, marked ability, and uncompromising fidelity in performing your professional engagements. Very respectfully,

Your obedient servant, J. HOLT.

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,

WM. D. BISHOP.

Communications and remittances should be addressed to

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**DYEING AND CALICO PRINTING.—JOHN** Wiley, No. 56 Walker-street, has just published A Practical Treatise on Dyeing and Calico Printing, including the latest inventions and improvements, by an Experienced Dyer, with a supplement, bringing the work up to the present time, and containing the most recent discoveries in color chemistry. By ROBERT MACFARLANE, of the "Scientific American." 1 thick 8vo. vol. Plates. Price \$5. Copies mailed and prepaid on the receipt of the price.

**RARE CHANCE.—FOR SALE—STATE AND** county rights of McNamee's celebrated self-feeding knife-cleaner, lately patented, and acknowledged by experienced patent right gentlemen to be the best device of the kind patented, an engraving and description of which is given on page 72 of the present volume of the SCIENTIFIC AMERICAN. References given (if desired) by housekeepers now using this invaluable household article. Address

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