

A Visit to Robinson Crusoe's Island.

The following interesting information is derived from the *San Francisco Times*:—While the ship *Golden Rocket* was on her last passage from Boston to San Francisco, Capt. Pendleton determined to stop at the island of San Juan Fernandez, to take in water. On the 24th of March he arrived in the bay of St. Joseph and anchored on the opposite side from that on which Robinson Crusoe (Alexander Selkirk the exile Scotchman) lived. The casks were taken on shore, and while the crew were at work, the passengers, among whom were fifty ladies, rambled about in different directions. The island is twenty-five miles long by about four in breadth. The land is very high, rising in rugged, precipitous peaks; one of them called Tunkcue, 3,500 feet above the level of the sea. The peaks are generally overhung with clouds. The valleys are exceeding fertile, the grass growing to the height of six or eight feet. Figs, strawberries, peaches and cherries abound in their season. The *Golden Rocket* was there in the season of peaches, and the valleys and hillsides were full of trees loaded down with delicious fruit. Strawberries flourish best in December and January. There are three remarkable caves in the sides of the hill facing the harbor, about thirty feet in length, twenty-five in width and about the same in height. The inhabitants now number but fourteen, of whom Messrs. Day and Kirkaldie, from Valparaiso, are the chief persons; they have been appointed overseers of the island by the Chilean Government. An immense number of goats are running wild over the island, and an abundance of fish are taken on the coast.

Sea Sickness.

A late number of *Silliman's Journal* contains a paper by R. M. Bache, of the United States Coast Survey, on the "Physiology of Sea Sickness." Prof. Bache asserts the theory that this distressing malady is not a disease of the stomach, but of the brain, and arises from the fact of the mind not being able to understand the varying motions of the ship as rapidly as the senses feel them, thus causing a conflict of impression and a consequent affection of the brain, which in turn deranges the nervous system and produces nausea. The smell of food, close air, and similar matters may aggravate the disease, but are not the primary cause of it. As soon as the mind is educated up to a point that enables it to conceive the idea of each motion as soon as it is felt, sea sickness ceases. Prof. Bache recommends persons going on board a vessel to eat an ordinary meal, and while there to conform as closely as possible to their habits while on land. The deck is the best place to remain during sea sickness, as the sight can there be best educated to the movements, and the fresh air has a good effect. A steady gaze at the horizon enables the sufferer to quickly estimate the movements of the ship. If possible, chose a position amidships, on deck, spread a mattress, lie down and look at the horizon, and then all has been done that can be done to prevent sea sickness. With all possible deference to Prof. Bache's opinion, we would like to ask how it is that old captains and sailors who have followed the sea for years get deadly sick at times in a storm?

Oil for Chronometers.

Professor Airy has recently made an interesting report to the British Government, involving the results of his examination of various chronometers. Professor Airy says that the material and workmanship of all the chronometers are very good, there being amongst nearly all of them but very little difference in this respect; and, in uniform circumstances of temperature, every one of the chronometers would go almost as well as an astronomical clock. The great cause of failure is the want of compensation or the too great compensation for the effects of temperature. Another very serious cause of error has its source in the oil, which is injured by heat. This is very different in different cases. Thus the oil employed by one chronometer maker was not at all injured by heat; while some of that used by another chronometer maker was found to be so bad that, after going through the same heating as that of the first-mentioned maker, the rates of the chronometers were changed, on returning to ordinary temperature, by eighty seconds per week.



ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING NOVEMBER 4, 1862.

Reported Officially for the Scientific American.

♦♦♦ Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 2, 1861, specifying size of model required, and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

36,827.—Lambert Andrews, of Plantsville, Conn., for Improvement in Mole Traps:

I claim an improved mode of constructing and using mole traps, viz.: The combination of the plate, e, pins, f, (arranged at each end of said plate, e), and the box, a, (with proper spring device), when placed in the ground as described, and the parts arranged and operating substantially in the manner and for the purpose described.

36,828.—S. G. Barker, of Carbondale, Pa., for Improvement in Scale Beams:

I claim making the suspension point, c, adjustable upon the beam, A, by means of the slide, B, in combination with the threaded stem, h, jam nut, i, boss, j, thumb screw, m, the same being arranged to operate substantially in the manner described, for the purposes specified.

36,829.—R. Boeklen, of Brooklyn, N. Y., and G. W. Schramm, of New York City, for Improvement in Hammers:

We claim the construction of a hammer head, with a face at each end and a claw on one side, substantially as and for the purpose herein specified.

36,830.—J. L. Booth, of Rochester, N. Y., for Improvement in Grain Separators:

I claim the above-described apparatus, composed of the frame, A, provided with hopper, E, screens, C, the standards, B B B, and spurs, I I I, so arranged that it may be secured to the floor at any place, in the manner shown, and operating by vibrations, substantially as herein set forth.

36,831.—William Bourn, of Geneva, N. Y., for Improved Boot-jack:

I claim the combination of the side pieces, A A, double-acting wedge, B, and bolt, C, arranged in such a manner that the wedge forms a bearing the whole length between the said side pieces, and operates the jaws automatically by the weight of the operator, substantially as herein set forth.

36,832.—Adolph Brown and Felix Brown, of New York City, for Improvement in Friction Couplings:

We claim the particular arrangement of the constructed and operating in the manner and for the purpose substantially as specified and set forth.

36,833.—A. B. Corey, of Sprague, Conn., for Improvement in Machinery in Dressing and Sizing Warps:

I claim the arrangement and combination of the evener with other warp-dressing machinery, substantially as described.

36,834.—Joseph Evans, of Newark, N. J., for Improvement in Fruit Gatherers:

I claim attaching and detaching the conveyer, K, to and from the jaw levers, by means of the curved spring wires or rods, I I, and lateral eyes, i i, the whole arranged, combined and operating, substantially as and for the purpose herein set forth.

I also claim the particular arrangement of the whole instrument, consisting essentially of the cross levers, B B, connecting bars, D D, sliding rod, E, guide collar, G, pole, A, with the cylindrical end, H, and detachable conveyer, K, substantially as herein described.

I also claim the vertical separating wires, d, d, of the jaws, for properly guiding the twigs to the knives in pruning, in combination with the knives, L L, at the top of the jaws, arranged and operating substantially as herein described.

36,835.—Francis Gardner, of Roxbury, Mass., for Improved Canteen:

I claim the within-described canteen, with its various compartments, removable drinking tube and filter, constructed and arranged as described.

36,836.—R. J. Gatling, of Indianapolis, Ind., for Improvement in Revolving Battery Guns:

I claim, first, The combination of the lock cylinder or breech, D, with the grooved carrier, C, circular plate, F, and barrels, E E, &c. The lock-cylinder or breech carrier, and circular plate, being firmly fastened upon the main shaft, M, and the locks, grooves in the carrier, and barrels, being arranged on a line parallel with the axis of revolution. The whole revolving together when the gun is in operation, substantially as described.

Second, I claim the use of as many locks as there are barrels, said locks revolving simultaneously with the breech and barrels, and being arranged and operated substantially as set forth.

Third, I claim the stationary ring, E, provided with inclined planes on its rear edge, in combination with lock-cylinder, D, and locks, when constructed and operated for the purposes substantially as set forth.

Fourth, I claim the tubes, a, &c., furnished with the flanged breech pins, c, &c., and springs, e, e, &c., and which contain the lock hammers, b, &c., and main springs, d, d, &c., in combination with a revolving breech, D, and barrel, G, when constructed, arranged and operated, for the purposes substantially as set forth.

Fifth, I claim the disc, I, in combination with the external breech piece or casing, A, which forms a shield or covering for the lock cylinder, and which protects the locks and cog wheels from injury.

36,837.—H. C. Hunt and G. W. Devin, of Ottumwa, Iowa, for Improvement in Pumps:

The stationary semi-cylindrical case, B, provided with the slide valve, D, abutment or partition, a, and induction openings, c, c, with the education pipe, C, placed between them, in combination with the oscillating plate, F, having the pistons, E E', attached and placed respectively in the compartments, b b', and provided with the arms, g, which are connected to a suitable lever, G, all arranged to operate as and for the purpose herein set forth.

[The object of this invention is to obtain a force pump which will be simple in construction, capable of being operated with but a small expenditure of power, and of being manufactured at a reasonable cost, and not liable to get out of repair and become deranged by use.]

36,838.—L. F. Hall, of Fonda, N. Y., for Improvement in Shawl Pins:

I claim a shawl pin constructed of a single piece of wire, bent so as to form two parallel rods, a, a, provided with hooks, b b, at one end, and a hook, c, at the opposite end, as herein shown and described.

[The object of this invention is to obtain a shawl pin of simple construction which may be constructed at a small cost, be readily applied to the shawl for securing it on the person, and when thus applied not capable of being casually detached.]

36,839.—James Gordon, of Caledonia, N. Y., for Improved Printing Press:

I claim, first, A partially-rotating cylinder, B, provided with a type form, F, and operating in connection with a reciprocating bed, G, which holds or retains the sheets, while they are receiving the impression from the form, F, on cylinder, B, in combination with the reciprocating form bed, S, and pressure rollers, Q Q, all arranged as shown, and in connection with conveying tapes, to operate as and for the purpose herein set forth.

Second, The manner of adjusting, or raising and lowering the roll-

ers, Q Q, as shown and described, to wit, by means of the pitmen, a, attached to the bearings, R, and to cranks, b, on shafts, a' a', which are connected by a bar, d', secured to the ends of arms, e', which project from said shafts, and one of the latter having a forked arm, g', attached to it, in which an eccentric, f', on shaft, P, works.

36,840.—G. P. Gordon, of Brooklyn, N. Y., for Improvement in Printing Presses:

First, I claim a platen which shall be stationary for the reception of the sheet and for the reception of the impression, a, when such platen shall be vibrated for the purpose set forth; b, when such platen shall be placed at an angle from the horizontal or vertical position, in order that the printed sheet may be readily delivered by the rolling tympan sheet and sheet-taking nippers, as shown; c, when such platen shall be combined with the sheet-taking nippers, held and carried, substantially as described; d, when such platen shall be combined with the rocking nipper arms, and the rolling tympan operating substantially as described, for the purposes fully described.

Second, I claim the sheet-taking nippers, a, when held and carried by the rocking arms in combination with a stationary feed-table, as shown, for the purpose set forth; b, when such sheet-taking nippers shall be swivelled and hung upon a rod, so that they must move in any direction in which the rod may be turned, and yet, at the same time, allow the jaws of such nippers to have an independent movement to and from each other, to take and deliver a sheet; c, when said sheet-taking nippers shall be operated as shown, for the purpose specified; d, when said sheet-taking nippers, holding the sheet and resting upon the plate, shall be operated as shown, for the purpose specified.

Third, I claim the sheet-guide or shield, a, when such sheet-guide or shield shall be used in combination with the rocking nipper arms and the rolling tympan, operating substantially as shown; b, when such sheet-guide or shield shall be used in combination with the pile table, for the purpose fully shown.

Fourth, I claim, for the purpose of giving a more thorough distribution and for supplying ink to the inking rollers, a revolving tabular distribution surface upon one side of the form, and a revolving cylindrical distribution surface upon the other side of the form, as herein fully shown.

Fifth, Detaching, and thereby suspending the operation of the nippers, nipper arms and rolling tympan, for the purpose specified.

Sixth, I claim the sheet catches or holders, K K; a, when such sheet catches or holders shall be combined with the pile table, for the purpose described; b, when such sheet catches or holders shall be combined with the sheet-guide or shield, for the purpose shown.

Seventh, I claim projecting the stationary feed-table over and beyond the face line of the platen, for the purpose specified.

Eighth, I claim the sheet gages, constructed substantially as described, in combination with a stationary feed table, for the purpose set forth.

36,841.—J. H. Irwin, of Chicago, Ill., for Improvement in Lanterns:

I claim the combination of the two flanges, b c, and plates, d, with the lamp, E, jacket, G, and lantern, A, in the manner herein shown and described.

I also claim having the cap, H, arranged below the upper extremities of the wick tubes, as herein shown and described.

[The object of this invention is to obtain a burner for lanterns which will admit of coal oil and other similar hydro-carbons being used as a burning material without the usual draught-chimney, and without the liability of the flame being extinguished by the swinging of the lantern or an up-and-down movement of the same, and also without the liability of the oil being unduly heated and vaporized so as to cause an explosion of the lamp.]

36,842.—Gamaliel Jackson, of Cincinnati, Ohio, for Improved Watchmakers' Lathe:

I claim, first, The arrangement of grasping apparatus on parallel adjustable bearings, I, in such a manner that the piece to be turned may be grasped at any part, one end of it resting in a stationary center.

Second, The application of ball-and-socket motion to the head of a lathe, in such a manner that one end of a piece of work may be adjusted, while the other end rests in a stationary center, constructed and operating as herein set forth.

36,843.—Samuel Johnston, of Buffalo, N. Y., for Improvement in Harvesters:

I claim, first, The arrangement and combination in a reaper and mower of the hinge guides, O, hinge joints, M and G, and shield, P', of shoe, P, or their equivalents, constructed and operating substantially in the manner and for the purpose described.

Second, Constructing and arranging the bearing, n, m, substantially in the manner described, in combination with the pitman shaft, J, shield, P', and hinge joints, M and G, for the purpose set forth.

Third, The hang gear, T, L, T', h, i, constructed as described.

Fourth, Arranging the automatic rake attachment upon the inner end of the finger beam, by means and in the manner substantially as described and for the purpose set forth.

Fifth, The combination of the cam track, partly inclosed by rails, t v, and a yielding gate, u, with the guiding eye, R2, lever, Z, crane-like arm, U V, pivoted rake head, X, and stale, Y, substantially as and for the purposes described.

Sixth, The construction of the jointed crane-like arm, U V, substantially as and for the purpose set forth.

Seventh, The construction of the part, V, of the arm with journals, and with points of attachment for the lever, Z, and part, U, of the arm, substantially in the manner described.

Eighth, The combination of the yielding gate, u, and the rails, t v, of the grooved or cam track, W, substantially as and for the purpose described.

Ninth, The bearing, W, with a groove and rails, t v, constructed and operating as described, in combination with the extension, S S', of the part, U, of the crane-like arm, for the purpose set forth.

Tenth, The construction and arrangement of the pivoted spring gate at the end of the horizontal groove or cam track, substantially as and for the purpose set forth.

Eleventh, The combination, in an automatic hand-rake attachment, of the eye, R2, and the stale, Y, for the purpose set forth.

Twelfth, The construction and arrangement of the open-slotted adjustable pole plate, N p, as described and for the purpose set forth.

36,844.—T. J. McGowan, of Cincinnati, Ohio, for Improvement in Pumps:

I claim providing the pump bucket, D, or any suitable part connected therewith, and the lower valve guard, I, or any part attached to it, with screens, or their equivalents, arranged in such a manner that all the working parts of the pump may, by a simple manipulation, be connected together, and simultaneously withdrawn from the pump cylinder, A, and also adjusted therein, substantially as and for the purpose herein specified.

[This invention relates to an improvement in the ordinary reciprocating pump, and consists in constructing and arranging the working parts thereof, namely, the bucket, valves and lower valve seat, in such a manner that they may all, when necessary, be readily withdrawn from the pump cylinder at one operation or simultaneously, without disturbing or moving the pump cylinder, thereby rendering the labor of repairing comparatively light and inexpensive.]

36,845.—Isaac A. Ketcham, of Brooklyn, N. Y., for Improved Mode of Operating Submarine or Floating Batteries:

I claim the combination of a battery or connected series of explosive shells, D, and dress cable, B, for continuing and adjusting them in position, and a buoyant attachment, F G, for effecting their explosion by the action of a passing vessel with the buoyant indicator, H, the whole being constructed and arranged to operate in the manner and for the purposes specified.

[The subject of this invention is a device by means of which a submerged battery or any number of explosive shells may be advanced from a vessel or fortification and adjusted to a suitable position to be exploded at the time of the passage of an enemy's ship, either by the motion of the said ship or by means of a connection with the vessel or fortification from which the battery is thrown out.]

36,846.—T. J. Kindleberger, of Springfield, Ohio, for Improvement in Water Wheels:

I claim, first, The wheel, B, placed within the cylinder, A, and composed of a plurality of parts, a a' a'', three more or less, provided with buckets, D, formed of an inner tangential and inclined portion, c, and a horizontal and radial outer portion, d, in connection with the chutes, F, and cylindrical gate, G, all arranged substantially as and for the purpose specified.

Second, The arms g, connected to the gate by rods, f, said arms

1,352.—D. H. Dotterer, of Chicago, Ill. (formerly of Memphis, Tenn.), for Improvement in Journal Boxes. Patented May 7, 1861:

I claim, first, Providing in journal boxes an endless revolving band or ring, M, substantially as and for the purposes described.
Second, I claim the sheave, J, and axial pin, I, for supporting the upward thrust on the endless revolving band or ring, M, within the journal box, substantially as described.
Third, I claim the auxiliary end bearing, I, for the axle journal, substantially as described.

1,353.—J. C. Lefferts, of New York City, assignee of J. F. Martin and H. C. Nicholson, of Mount Washington, Ohio, for Improvement in Preserve Cans. Patented Feb. 15, 1859:

I claim, first, A fruit or provision can, to be hermetically sealed or tightly closed, constructed of metal, lined on the inside with a vitreous body to resist the action of acids contained in the substances to be preserved.
Second, A vitreously enameled iron provision can or jar, substantially as herein set forth.

Third, The combination of a vitreously lined metallic cover with a preserve jar, substantially as set forth.

PATENTS FOR SEVENTEEN YEARS.



The new 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
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, excepting reference to such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs) on the above terms.

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.

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 vice 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 &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. More than 5,000 such examinations have been made through this office during the past three years. Address MUNN & CO., No. 37 Park-row, N. Y.

How to Make an Application for a Patent.

Every applicant for a Patent must furnish a model of his invention is susceptible of one; or if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the government fees by express. The express charge should be 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.

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.

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 mination 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.

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.

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, in English and German, furnished gratis on application by mail. Address MUNN & CO., No. 37 Park-row, New York.



A. B., of Conn.—Your plan of a Broadway railroad is not new. If you will turn to the back files of the SCIENTIFIC AMERICAN you will find the same thing illustrated. Such a plan will never be carried out; it would destroy the street.

D. E. R., of Mich. & J. H. D., of Mass.—We do not now remember the address of the parties to whom you wish to communicate. We often answer inquiries through our columns to correspondents whose letters being of no further importance, are not preserved. You could doubtless, reach the parties by inserting a short advertisement in our columns.

F. A. St. P., of N. Y.—If you are convinced that your invention is capable of being successfully applied to destroy the rebel iron-clads, you should explain it to those who are in authority and who can assist you to apply it, before making it public. We have had a great number of plans proposed to us for destroying enemy's ships, some of which were plausible, others quite impracticable.

A. S., of Conn.—The sulphate of lime is employed to keep ciders sweet. One quarter of an ounce of it is used for each gallon of cider. You will find the method of applying it described on page 260, Vol. V. (new series) SCIENTIFIC AMERICAN, and the reaction which occur in its use are explained on page 281, same volume.

W. W. D., of Mass.—There is much room for speculation respecting the forces of nature and the cause of light, but such speculations, apart from experiments and long-continued observations, are very unsatisfactory. It is believed that the sun has a luminous atmosphere, and that it is an incandescent body. Its luminous atmosphere is due to its incandescence, just as the flame of a candle is the result of burning.

H. W., of Canada.—Wood when subjected to a high heat in a vacuum becomes charred, because it contains oxygen and by drogen as well as carbon.

A. D. S., of Pa.—Experiments have been made with falling bodies, with reference to proving the axial motion of the earth. A bullet dropped from the top of St. Paul's in London has struck one inch east of the point described by a plumb line. It occupied 4 1/2 seconds in its descent. This is due to the axial motion of the earth.

H. M. J., of Ohio.—Pencil marks on paper are simply portions of the black lead lead by abrasion in writing, and india rubber removes these by mechanical action. You will find the cause of the falling of the mercury in a barometer before a storm described in any good book on natural philosophy.

H. E. C., of New Orleans.—The cheapest and best material for street side-walks known to us, is good Kingston stone flagging. We have seen composition pavements laid down in this city, all of which proved failures. Tin is the next best roofing material to slate. As you desire a fire and water-proof roofing material, suitable for your climate, of course we cannot recommend an inflammable composition made of asphalt and tar.

R. C., of C. W.—You say you sent us a slip in March last cut from a British paper in reference to the cost of the Russian war and desire us to return it, that you may paste it into your scrap-book. We should be most happy to comply with your request, but we have no such paper in our possession. You will readily see that we cannot take to preserve and return such contributions.

E. L., of N. J.—It is scarcely possible to become a good chemist at the present day, without going through a regular course of instruction, combined with study and personal experimenting. "Well's Chemistry" and "Miller's Elements of Chemistry" are good works for you to study.

Money Received

At the Scientific American Office on account of Patent Office business, from Wednesday, November 5, to Wednesday, November 12, 1862:—

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