

Recent American Inventions.

The following inventions are among the most useful improvements lately patented:—

POWER LOOM.

This invention consists in a novel system of cones of pulleys for supporting and operating the harness, whereby several important advantages are obtained. It also consists in certain means of producing a slower movement of the harness at the time of crossing the sheds as compared with the greater portion of its movement, whereby the loom is enabled to be driven at a higher velocity; that is to say, to make a greater number of picks per minute, without liability to injury to the warp at the time of crossing the shed. The patentee of this invention is Benjamin F. Knowles, of Providence, R. I.

FIRE BRICK OVEN.

This invention consists in a novel arrangement of a furnace, heating flues and escape flues, in combination with a chamber of arched form, whereby a great saving of time and fuel is effected in the baking process, and, by a quick baking at a regular but not too intense heat, fire bricks or other articles of better than usual quality are produced. Louis Auguste Boisson, of Lyons, France, is the patentee of this invention.

TIRE HEATER.

This invention consists in the employment of a cylindrical furnace with a movable top, having two or more concentric chambers in it for receiving tires of different diameters, and furnished with dampers or valves, whereby the draught of the furnace may be conducted through either one of the concentric chambers from a door in the outer box to an escape pipe diametrically opposite to this door. The credit of this contrivance is due to Alfred Ingalls, of Independence, Iowa.

HOISTING APPARATUS.

The object of this invention is to obtain a simple apparatus which is easy of manipulation, by which barrels or any unwieldy cylindrical vessel may be tiered with very little labor. The invention consists in the employment of a derrick with a movable jointed leg, in combination with a prop, whereby the barrels, &c., will be raised perpendicularly to the desired height and then rolled over on the first tier with a comparatively short derrick. This invention is patented by G. B. Vroom, of Jersey City, N. J., and Solomon Kenzie, of Brooklyn, N. Y.

MACHINE FOR SEWING BOOTS AND SHOES.

The object of these improvements for making stitched boots or shoes by mechanism is to hold the work done on the table or bed plate of the machine as near the awl and needle as possible, and to keep the channel formed on the outside of the outer sole, open, so that the seam will follow closely in this channel, that the raised lip of the channel may be pressed down after the shoe is finished, and present a neat appearance, as if the stitching had been done by hand. The invention also provides for stitching the shanks of the boot or shoe, in which operation the work can be presented to the awl and needle with great facility; and it further provides for keeping the upper from the needle, and for guiding the channel to receive the seam, through the machine; and for sewing light or heavy, large or small work. The patentee of this invention is Francis D. Ballou, of Abington, Mass.

Tempering Steel.

From the large number of inquiries that we have recently received in regard to tempering steel, we think many of our readers will be interested in the following table, which was prepared several years ago by Mr. Stoddart, of England. The steel is to be hardened in the usual way, by heating it to a cherry red, and plunging it in cold water. The temper is then to be drawn by moderately heating the steel again. Different tempers are required for different purposes, and the degree of heat for each of these, with the corresponding color, is given in the table.

Table with 2 columns: Color and Description. Includes items like 'Very pale straw yellow', 'The temper required for lancets', 'Swords and watch springs', etc.



ISSUED FROM THE UNITED STATES PATENT OFFICE

FOR THE WEEK ENDING JANUARY 22, 1861.

Reported Officially for the Scientific American.

* * Pamphlets giving full particulars of the mode of applying for patents, 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.

140.—P. J. Ackerman, of Paterson, N. J., for an Improved Combination of Cooking Stove and Air-heating Furnace: I claim the combination and arrangement of the ovens, C C, fire-pot, B, and chambers, E H, as and for the purpose set forth.

[The object of this invention is to obtain a combined cooking stove and air-heating furnace by a very simple and economical arrangement of parts which renders the stove more desirable than the ordinary ones, while all the advantages of an air-heater is obtained. The invention consists in placing the fire-pot of the stove within the ovens, or having the former in direct communication with the latter, and having the ovens communicate with hot-air pipes.]

141.—Wm. R. Axé, of Beloit, Wis., for an Improved Clamping Machine for Carpenters: I claim the employment of the ratchet bars, E E, in combination with the rock shaft, B, actuated by a suitable lever, and the clamping jaws, I, and G, the former being provided with suitable pawls for engagement with the bars, E, and the whole arranged and operating as described for the purposes set forth.

142.—Louis Bauhoefer, of Philadelphia, Pa., for an Improvement in Gum Shoes and Boots: I claim the combining of pieces of cork with the heel or sole both of a gum shoe or boot, substantially in the manner set forth for the purpose specified.

143.—A. John Bell, of Ashland, Ky., for an Improvement in Steamboat Staging: I claim the arrangement of the staging, C, power winch, E F G H I, and supporting apparatus, J K L, the whole being constructed and operating together, substantially as and for the objects set forth.

144.—G. Bennett and R. Dalzell, of Waddington, N. Y., for an Improved Machine for Tapping Nuts and Cutting Screws: We claim the combination of the expanding die-box, the revolving plate or blank holder and expanding bolt holder, when the same are arranged and constructed, as shown, for the purpose of cutting screws and tapping nuts by the same machine, as specified.

145.—A. E. Blood and J. B. Blood, of Lynn, Mass., for an Improvement in Sieves: We claim the arrangement of the shaft, N, and the supports or bearings, c, c, of the sieve with respect to such sieve and its case, when the shaft, N, is constructed substantially as described and represented.

146.—L. A. Boisson, of Lyons, France, for an Improvement in Ovens for Baking Fire Bricks: I claim the arrangement of the furnace or furnaces, B B, heating flues C C, and escape flues, D D, with respect to each other, and the arched chamber, A, whereby the heat is first conducted beneath the hearth of the oven, and thence through the oven, all substantially as described.

147.—Wm. Chesterman, of Peosta, Iowa, for an Improvement in Apparatuses for Evaporating Saccharine Juices: I claim, first, The arrangement of the train of pans, A B C, the continuous flue, E, running under the whole in succession, and a chimney at the end of each furthest from the fire, substantially as described.

Second, The arrangement of a water vessel, I, float, J, and lever, K, with the pans, flues, and chimney dampers of a sugar evaporator, in the manner substantially as shown and described.

[This invention consists in a certain arrangement of a train of pans in combination with a single continuous flue running under the whole of them, and a separate chimney for each pan, and in a certain system of dampers operated by an automatic regulator applied in connection with the said arrangement of pans, flue and chimneys, whereby a very effective and economical apparatus for evaporating and concentrating cane juice or other saccharine liquids is obtained.]

148.—G. F. J. Colburn, of Newark, N. J., for an Improved Evaporator for Hot Air Pipes: I claim, first, The arrangement of the reflector, C, in combination with the evaporating vessel, A, and hot air pipe, B, as described, for the purpose of facilitating the evaporation, and to prevent the dust rising into the apartment.

Second, Constructing the vessel, A, of two parts, a and b, the part, a, to be made of porous material, and the part, b, to contain a lamp wick or its equivalent, substantially as and for the purpose set forth.

149.—George Cooper, of Thompsonville, Conn., for an Improvement in Needles: I claim, as a new article of manufacture, the sewing needle described in the specification, and represented in the drawing.

150.—Reuben Daniels, of Woodstock, Vt., for an Improvement in Machines for Reducing Fibrous Material: I claim providing the working face of each with pointed teeth, a and c, or their equivalents, secured thereto, and set substantially in the manner described, when operated with a current of fluid passing freely through and towards the periphery, to separate worn out cloths and fibrous material, to reproduce (and not destroy) the longest possible staple in a suitable state for carding, these wheels being made adjustable to, and with each other, substantially as described and for the purposes set forth.

151.—N. E. Doane, of Hannibal, Mo., for an Improvement in Weighing Carts or Wagons: I claim the lever frames, G G, rod, H, parallel bars, D D, levers, I J, graduated beam, K, and frame, L, combined, arranged and applied to a cart or wagon, as and for the purpose set forth.

[The object of this invention is to obtain a simple weighing attachment for carts and wagons, one that may be applied at a very moderate cost, and enable loads to be weighed very accurately and with great facility.]

152.—Thomas Earle, of Worcester, Mass., for an Improvement in Sewing Machines: I claim, first, The combination of the feeding hand and nippers with a connecting adjustable link, constructed and arranged as described, whereby a positive lateral vibratory motion is communicated directly from the nippers to the feeding hand.

Second, The combination of the feeding hand, constructed and arranged substantially as described, with an in-let spring so arranged as to act on the hand to draw it down in line with its center of motion.

Third, The combination of the pressure pad with the interior spring and sliding rod and stops, the whole arranged substantially as described for the purpose set forth.

153.—Lewis Eikenberry, of Easton, Pa., for an Improvement in Iron Bridges: I claim, first, A side frame for a bridge having its diagonal braces or diagonals and uprights constructed of angle iron, substantially as and for the purposes set forth.

Second, The combination of double angle iron or U-shaped braces with single angle iron uprights or diagonals, substantially as and for the purposes set forth.

Third, A side frame for a bridge which has its uprights or diagonals constructed of U-shaped or double angle iron, substantially as described.

154.—George Esterly, of White Water, Wis., for an Improvement in Harvesters: I claim, first, The combination with the joint, e d, which allows the flange, beam, E, to be adjusted in the path of a vertical circle of a curved slotted wheel, G, I, the driving apparatus and a set screw, k, substantially as and for the purposes set forth.

Second, The combination of the angular adjustable bar, M, curved slots, x, x, and axial pivots, S3 and y and a, hinged platform, K, substantially in the manner and for the purpose described.

Third, The combination with the slotted curved brackets of the angular supporting bar, M, of a bracket, P, a thrust screw, Q, a pivoted lever, H, and the divider, F, substantially as and for the purposes set forth.

Fourth, The employment of the said pivoted lever, H, in combination with the divider, F, and the axle, S3, of the grain wheel, I, arranged substantially as and for the purposes set forth.

Fifth, The employment of the vertical pendant tension rod, S2, in combination with the reel bearer, S, divider, F, and the grain wheel axle, S3, substantially as and for the purposes set forth.

Sixth, The combination with the divider, F G, and inner adjustable wing, J, of an outer adjustable wing, J', arranged substantially as and for the purposes set forth.

Seventh, The combination of the short angular platform, K, with the continuation, L, and raker support, L', facing the platform laterally; the continuation, L, forming the outer end and being located between the front of the driving frame, the driving wheel and the axle thereof, and otherwise constructed so that the raker shall be located between the front sill, A', and the axle of the driving wheel, and be supported by the connections which support the platform, substantially as and for the purposes set forth.

Eighth, The combination with the finger beam, E, and a platform, K, hinged on hinges, V V, of an adjusting screw rod, M, which forms a hinge connection, one or more knife edge bearings or pivots, Z, one or more screws or bolts, x' x', and a thrust plate or bar, N', substantially as and for the purposes set forth.

155.—George Esterly, of White Water, Wis., for an Improvement in Harvesters: I claim, first, The arrangement of the reel and cutting apparatus obliquely to the side of the driving wheel frame and platform, M P N, when the rear line of the platform is oblique to the driving wheel frame, and its inner corner terminates near the axle of the driving wheel, substantially as and for the purposes set forth.

Second, The arrangement of the thrust or screw rod, I, and curved brace, J, with the driving apparatus, grain wheel axle, e, and reel support, a, substantially as and for the purposes set forth.

156.—O. C. Evans, of New York City, for an Improvement in Lamps: I claim, first, The combination and arrangement of the gas chamber, A, constructed with horns, t, t, and slitted openings, as described, with the openings of the wick tube, e, at a2 a3, &c.

Second, In combination with the gas chamber and openings in the wick tube of the guards, c, c, and petticoat cone, D, the same being arranged in the manner and for the purposes set forth.

157.—I. N. Felch, of Hollis, Maine, for an Improvement in Hub Machines: I claim the combination of the attachment, the arrangement of the reciprocating knife frame, and the vibrating feed frame, in the manner and for the purposes set forth, and boring the hub while it is being turned by pressing up the auger through the hollow spindle.

158.—F. F. Fowler, of Crane Township, Ohio, for an Improvement in Machines for Gathering Hay: I claim the arrangement of runners, F, braced, as described, with the revolving rake, R, tongue, T, shaft, r, and braces, f, when the several parts have the loose connection described, whereby the machine may conform to the inequalities of the surface passed over, the construction and operation being as set forth.

159.—E. W. Fuller, of Martinsville, La., for an Improvement in Cultivators: I claim the arrangement of the adjustable bars, E E, plows, G, rotary harrow, B, and roller, C, with the adjustable bars, D D, transverse bars, a, and frame, A, all in the manner and for the purpose shown and described.

[The object of this invention is to obtain an implement of simple construction that will admit of the plows being adjusted both vertically and laterally, and, at the same time, admit of the use of either ordinary wheels or of a roller and revolving harrow, and a seed-distributing attachment, when required; the whole forming a very compact, efficient and economical implement.]

160.—G. G. Gabriel and N. B. Whitney, of Copenhagen, N. Y., for an Improved Stave Jointer: We claim the combination of the planes, 1 and 2, secured in the frame, 4, and made adjustable, in the manner described, with the carriage, 7, sliding on the rod or shaft, 6, all being constructed, arranged and operated substantially as set forth.

161.—John Griffin, of Louisville, Ky., for an Improvement in Cotton Pickers: I claim the arrangement for joint operation of the tubes, A F I, valves, C 4, and pipes, 1, m, essentially as and for the purpose set forth.

[This invention relates to certain improvements in cotton picking crops, for which Letters Patent were granted to this inventor, bearing date March 8 and Nov. 22, 1859.]

163.—Robert Henage, of Buffalo, N. Y., for an Improvement in Hemp Breaks: I claim the arrangement of the secondary brake, F, with the brakes, C C', in combination with the dressers, G G', and the gearing for reversing the motion of the machine, so that the parcel of hemp, as it passes through the brakes, will be bent at right angles (or nearly so) and directed downward to the dressers, the brakes operating and holding on to the parcel of hemp while the dressers are performing their work, substantially as set forth.

164.—C. L. Herring, of St. Louis, Mo., for an Improvement in Gas Regulators: I claim the application of the curved plates, a, a, to the flexible diaphragm, C, substantially as described, for the purpose specified.

165.—Edward Holmes and Britain Holmes, of Buffalo, N. Y., for an Improvement in Stave Machines: We claim, first, The endless revolving iron bed, A, constructed of jointed links, and having stops, a', in combination with cams, whose velocity must be increased or diminished according to the length of the stave to be dressed.

Second, The arrangement of the jointers in frame, L, said frame being operated by levers which have a connection to a cam, which cam has a horizontal adjustable movement upon its shaft, so that the revolution of the cam (through the arrangement of the levers) will communicate a reciprocating movement to the jointers, for the purposes set forth.

Third, The combination of the adjustable lever, n, with the frame, L, and hook or rest, v, for the purpose of giving different widths to staves, substantially as described.

Fourth, The arrangement of the frame, R, including the cutter, T, with the other parts of the machine, substantially as described, so that the said frame will have a periodical movement which will cause the stave to be chesed thinner in the middle portions thereof than it is at the ends.

Fifth, The arrangement of the gages, 1 2 3 4, &c., in combination with the lever, u, and rest, v, for the purpose of locating the rest, v, in the proper place to bring the lever, h, to its proper angle, to give the required width of stave.

166.—Alfred Ingalls, of Independence, Iowa, for an Improved Tire Heater: I claim combining with the horizontal circular furnace described, the inside concentric partitions, D D, movable covers, C C C, the dampers, e e and g, and supporting rods, p p p p, all arranged substantially as and for the purposes described.

167.—Charles Irwin, of Buffalo, N. Y., for an Improvement in Sewing Machines: I claim the adjustable arm, b, on the front end of the shuttle carrier, in combination with the spring, f, for guiding and protecting the needle and its thread, as set forth.

168.—William Jarrell, of Trenton, Tenn., for an Improvement in Plows: I claim the combination of the landside, B, sockets, d and f, belt, e, and nut, g, constructed, arranged and operating in the manner and for the purposes set forth.

[This invention consists in a peculiar manner of securing the landside of a plow, the advantages being facility in casting, perfect security when in position, and ease of removal for repair or substitution.]

212.—J. W. Sprague, of Rochester, N. Y., assignor to himself, G. B. Redfield, trustee (for the benefit of C. Gates), James Jones and A. W. Tyrrell, of same place, for an Improvement in Fire-escapes:

I claim, first, The braces, C, C, combined with the levers, A, A, and struts, B, B, when the same are constructed and operated substantially as described for the purpose aforesaid.

RE-ISSUES.

25.—Samuel Barley and J. H. Barley, of Longwood, Mo., for an Improvement in Harvesters:

I claim, first, The arrangement of the oblique bars, a', a'', of the frame, the latter bar, a'', extending over or within a vertical line with the shoe or lower part, b', of the frame, D, in connection with the long axle, B, with the driving and grain wheels, A, A', on either end, and as for the purpose set forth.

26.—Willis Humiston, of Troy, N. Y., for an Improvement in Machines for Molding Candles:

I claim, first, The combination of the candle tip mold, a, with the drive rod, D, as and for the purposes described and set forth.

27.—Willis Humiston, of Troy, N. Y., for an Improvement in Apparatuses for Molding Candles:

I claim, first, The wicking the candle molds, A, by means of the grippers or pinchers, D, in connection with the reel or spool containing the wick below, as described and set forth.



S. A. W., of Mass.—We thank you for the list of names you send us. We do not think your hand power attached to a churn, or any other domestic machine like a washing or sewing machine, is patentable; but if you desire it, we can have an examination made at the Patent Office, and thus be able to give you more satisfactory advice.

R. R. T., of N. Y.—India-rubber varnish, made by dissolving india-rubber in benzole, is suitable, we think, for protecting the seams of glass door plates and preventing the entrance of moisture.

A. T., of Canada.—Your plan for superseding the negro minstrels by a band of singers dressed in burlesque costume to represent different nations, we have no doubt would be a very profitable enterprise if well managed.

J. V. B., of Ind.—We did not receive your plan of a school house. The water raised by an Archimedes screw discharged upon a water wheel would not turn the wheel with sufficient force to work the sewer.

P. D. G., of Minn.—To harden a steel plowshare without having it twist, prepare a bath of naphtha heated to 200° Fah., and after heating your steel, as usual, to a cherry red, plunge it into the bath till the naphtha boils, then withdraw it and plunge it into cold water.

J. S., of Pa.—You can buy steel punches with letters on their ends, for making stamps, at William Ward's, 47 Chatham-street, this city, for 18 cents apiece.

J. M. L., of Ind.—You can make the india-rubber cement, yourself, for shoe soles, by dissolving shreds of india-rubber in refined turpentine, or what is better, in good naphtha.

C. W., of N. Y.—A horse power is a power which will raise 33,000 lbs. one foot high in one minute.

S. C., of Ind.—Boiled linseed oil is the best substance known to us for making waterproof tarpaulins.

R. M. G., of N. Y.—Large numbers of envelopes are manufactured with business cards in water lines upon their face.

G. W. T., of Del.—A continuous motive power cannot be obtained from a permanent magnet.

N. S. B., of Ill., and J. W. H., of Iowa.—Our opinion coincides fully with yours in regard to the economy of working steam expansively in high pressure engines.

J. F. W., of Wis.—Your plan for superseding flat belts with ropes, for driving machinery is objectionable on account of the increased friction.

W. P. K., of Mass.—The light to which mercury would rise in a thermometer tube 1/4 inch bore, subjected to a temperature of 12° Fah., would depend on the size of the bulb.

E. B., of Pa.—Glass blowers split up long cylinders of glass by first drawing a reel rod of iron along each cylinder on the line in which it is to be divided.

A. McB., of N. Y.—We really do not know how you can unite cast iron with wrought iron "perfectly" in a mold, by pouring the cast around the wrought iron, unless the latter is heated to about the welding temperature.

J. M. G., of Ohio.—No power is lost by yoking the cranks of two piston rods in line with the shaft of a saw mill.

T. B., of Ind.—We believe that a patent may be obtained for treating molds for gold castings, as you have described, if it is found to be an improvement on the common modes of casting.

A. M. O., of Wis.—The substance which you send us is clay colored with peroxide of iron. It is worthless except, perhaps, for making brick.

H. M. H., of Pa.—We are not able to give you the names of the principal operators at the oil mills at Franklin.

S. T. R., of N. Y.—The aerophon is essentially the same instrument as the calique. It consists of a series of steam whistles, of different sizes.

M. Q. P., of Mass.—The old way of polishing cabinet work, without varnish, was by rubbing over its surface with a little sweet oil, then rubbing down vigorously with a cushion of silk.

A. J. B., of Kansas.—The pencil point which you have sent us appears to be composed of tin and lead.

Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, Jan. 26, 1861:—

- H. & N. H., of N. Y., \$30; T. D. I., of Mich., \$55; S. F., of Pa., \$55; R. & McC., of N. Y., \$40; T. B. G., of Wis., \$100; E. C., of Conn., \$32; M. S., of N. Y., \$55; A. M., of N. Y., \$150; C. T. S., of N. Y., \$30; J. A. M., of Mo., \$30; A. R., of Mich., \$25; S. & R. W. C., of Ohio, \$25; J. E. T., of N. Y., \$150; N. & S., of Conn., \$10; D. K., of Pa., \$25; L. M., of Wis., \$55; J. M. R., of Ky., \$30; J. S. S., of N. Y., \$55; O. S., Jr., of Va., \$25; F. C. T., of N. Y., \$25; S. McL., of N. Y., \$30; D. M. C., of Ind., \$20; A. L. W., of N. Y., \$20; T. C., of N. Y., \$48; J. O. Jr., of N. H., \$20; S. & S., of N. Y., \$30; E. P., of Conn., \$55; L. R., of Conn., \$64; S. & R., of N. Y., \$30; A. D. B., of Mass., \$25; S. T. B., of R. I., \$100; A. M., of Maine, \$35; F. D., of Ohio, \$25; T. & E., of Pa., \$30; J. M. W., of N. Y., \$40; J. E., of Maine, \$30; B. R., of N. Y., \$30; J. & D. B., of N. J., \$25; C. C., of N. Y., \$25; S. McL., of N. Y., \$25; G. S. T., of Mich., \$25; J. S., of Texas, \$25; B. R., of N. Y., \$21; R. & T. S., of Cal., \$250; W. N. M., of Mass., \$30; W. F. S., of Ohio, \$25; C. G. D., of N. Y., \$25; I. D. S., of N. Y., \$30; E. T. C., of Mass., \$25; S. K. W., of N. Y., \$10; P. D. B., of Mass., \$25; W. H., of Iowa, \$21; L. & M., of N. Y., 25.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Jan. 26, 1861:—

- R. & McC., of N. Y.; L. P., of Conn. (2 cases); D. K., of Pa.; H. D., of Ohio; A. M., of Maine; A. D. B., of Mass.; J. M. R., of Ky.; T. C., Jr., of N. Y.; S. & R. W. C., of Ohio; R. S., of N. J.; J. & D. B., of N. J.; E. P., of Conn.; J. S. S., of N. Y.; J. R. R., of Mass. (3 cases); J. & A. J. R., of Mich.; O. S., Jr., of Va.; J. M. P., of Ohio; C. C., of N. Y.; W. F. S., of Ohio; E. T. C., of Mass.; S. McL., of N. Y.; T. & L., of Mich.; B. R., of N. Y.; J. S., of Texas; W. W. V., of Cal.

New Books and Periodicals Received.

NEGROES AND NEGRO "SLAVERY." The first an inferior Race; the latter its Normal Condition. By J. H. Van Eyck, M. D. The above work has been received from the publishers, Van Eyck, Horton & Co., No. 162 Nassau-street, New York.

THE ATLANTIC MONTHLY, for February.—Published by Ticknor & Fields, Boston.

In the "Professor's Story," Dr. Holmes gives this opinion of a kiss: "So Mr. Bernard thanked Helen for her interest without the aid of the twenty-seventh letter of the alphabet—the love labial—the lipping consonant which it takes two to speak plain."

THE AMERICAN JOURNAL OF PHOTOGRAPHY.—Edited and published by Charles A. Seeley, No. 424 Broadway, New York.

The editor's thorough mastery of the art and science of photography, as well as the kindred sciences, gives a peculiar reliability to the statements of this journal.

BIBLIOTHECA SACRA AND BIBLICAL REPOSITORY.—Published by Warren F. Draper, Andover, Mass.

This is a theological and classical quarterly, the organ of what is called "New England Theology." It is edited by Professors Park and Taylor, and has a world-wide reputation for learning. The number for the present quarter contains an able article on the philosophy of Sir William Hamilton and his recent theological teachings.

Important Hints to Our Readers.

BACK NUMBERS AND VOLUMES OF THE SCIENTIFIC AMERICAN.—Volumes I, II, and III (bound or unbound) may be had at this office and from all periodical dealers. Price, bound, \$1.50 per volume by mail, \$3.—which includes postage. Price in sheets, \$1. Every mechanic, inventor or artisan in the United States should have a complete set of this publication for reference. Subscribers should not fail to preserve their numbers for binding.

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and enclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1853, in accordance with the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

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IMPORTANT TO INVENTORS.

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Consultation may be had with the firm, between nine and four o'clock, daily, at No. 37 PARK ROW, NEW YORK. We have also 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 attorneys may visit Washington, having business at the Patent Office, are cordially invited to call at their office.

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