



ISSUED FROM THE UNITED STATES PATENT OFFICE FOR THE WEEK ENDING DECEMBER 18, 1860.

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* * 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.

0,905.—John Allen, of Union, N. Y., for an Improvement in Harrows :

I claim the combination and arrangement of the vertical oblong links, g, and horizontal oblong hook links, h, substantially as described, whereby the double advantage of allowing a free vertical and horizontal play to the sections of the harrow, and a very efficient and convenient means of connecting and disconnecting them readily is secured at the same time.

0,906.—E. C. Atkins, of Indianapolis, Ind., for an Improved Method of Attaching the Handle to Saws :

I claim the attachment of the ear or tang to cross-cut saws by means of a screw and open slot passing in at the end, or on the edge of the saw ear the end.

0,907.—E. G. Atwood, of Derby, Conn., for an Improvement in Skeleton Skirts :

I claim the combination of a series of hoops to form the skirt, with a series of flattened spiral springs extending from the waist band or upper hoop to the bottom of the skirt, crossing the intermediate hoop and attached by any well-known means for the purpose set forth.

0,908.—L. P. Brady, of Mount Joy, Pa., for an Improvement in Rakes for Harvesting Machines :

I claim the overlapping plate, F, on the rake handle, E, and the guide, G, on its side, in combination with the slotted swivel, C, and perpendicular crank pin, H, when combined and arranged in the manner described for the purpose specified.

0,909.—Lysander Button and Robert Blake, of Waterford, N. Y., for an Improved Coupling for Hose Pipe :

I claim the folding handle lever or levers attached to a part or parts of each coupling for hose and pipes as required a rotary movement of said part or parts in the act of setting up, as set forth.

0,910.—Cyrus Chambers, Jr., of Philadelphia, Pa., for an Improvement in Paper Folding Machines :

I claim, first, Sliding or moving the paper on or between bars or their equivalents, by means of revolving wheels or rollers, whose surfaces come in contact with the paper as and for the purpose specified. Second, The combination of revolving surfaces with bars and stops, or their equivalents, arranged substantially as and for the purpose described.

0,911.—J. W. Church, of Cold Water, Mich., for an Improved Fastening for Hame Tugs :

I claim the combination of the self-locking perforated slide with the perforated bed piece, in the manner and for the purposes substantially shown and described.

0,912.—John Ende, of Buffalo, N. Y., for an Improvement in Horse Collars :

I claim the manner in which the clips, G G, Fig. 4, and hold-backs, D D, Fig. 1, are attached, as described and for the purpose set forth.

I also claim the peculiar construction of the lock, H I, Fig. 1, and Fig. 2, in the manner and for the purpose specified. I also claim the arrangement of the welt seamed in with the pad, and a seam covered by the hames, as described and for the purpose set forth.

0,913.—John Durham, of Cherry Grove, Ohio, for an Improved Boot Jack :

I claim the combination of the frame, A, with the folding indented notch, B b b', and the lid, C c, adapted to hold the crotch to its open position, and to cover it in closed position, substantially as set forth.

0,914.—G. N. Fairchild and Thomas Joyce, of New York City, for an Improvement in Collimators :

We claim the combination of the two wires, c d, with each other and with the mirror, D, as shown and described.

[The object of this invention is to produce a simple, cheap and reliable instrument with which straight lines, running from one point to another, at a great or small distance, and running in a horizontal, a vertical or an inclined direction, can be determined in an easy and ready manner.]

0,915.—J. P. Fisher, of Rochester, N. Y., for an Improvement in Carriage Wheels :

I claim the combination of the binding rods, c, with the hollow spokes hub, H, and felloes, f, in the manner shown and described.

[This invention consists in the construction of an entirely metallic wheel and axle for common carriages, and which will afford the greatest possible strength with no more weight than that of wooden ones.]

0,916.—E. F. M. Fletcher, of Georgia Plains, Vt., for an Improvement in Water Wheels :

I claim the combination of the two hemispherical hubs, D D, shaft B, nave and tapering buckets, d d, and springs, E, the whole being connected and arranged and operating in the manner and for the purposes set forth.

This invention consists in the employment or use of wheels formed having spiral buckets attached to central hubs, and also used in connection with the buckets springs so applied to the wheels as to regulate the capacity of the issues, according to the force or supply of water, so that the wheel will always work economically, or, in other words, give out the maximum power of the head under varying heights of the same.]

0,917.—Cornelius Godfrey, of Brooklyn, N. Y., for an Improvement in Boilers :

I claim the arrangement of boiler and furnace or furnaces with the steam chamber, as described and for the purpose set forth.

0,918.—Joseph Grice, of New York City, and R. H. Long, of Philadelphia, Pa., for an Improvement in City Railroad Cars :

We claim, first, The employment in combination with the rear end of the frame or car body, A, of a truck pivoted in advance of the axle or wheels, and so constructed and arranged with an arc, d, and suitable spring plate and friction rolls as to have the entire weight supported by the truck brought on the said arc, d, substantially as described, for the purpose set forth.

Second, We claim the employment of two trucks in combination with the frame, A, when the two trucks are each constructed with a single c, d, which sustains the entire weight of the car, and both pivoted at points lying between the axle, substantially as described, for the purpose set forth.

Third, We claim the combination of the spring shaft device, e f s, with a double inverted incline, one frame, A, the whole arranged and operating as specified for the purpose set forth.

Fourth, We claim extending the frame of the truck from the platform, d forming thereon a pole holder, m, as and for the purpose described.

30,919.—J. F. Hammond, of Lynn, Masss., for an Improved Cement for Roofing :

I claim the combination of the within-mentioned ingredients, or their equivalents, in substantially the proportions specified.

30,920.—Jacob Hiney, of Hartford, Conn., for an Improvement in Faucets for Bottles :

I claim the conical and pointed valve, h, its stem, i, and the hollow tube, e, with the screw portion, c, in combination with the screw stem, a, substantially as and for the purpose set forth.

[This invention consists in applying to a faucet constructed in a peculiar manner, a pointed valve which will allow the stem of the faucet to be passed through a bottle cork while it is in the bottle, and which will also serve as a valve for opening and closing the orifice in the stem of the faucet.]

30,921.—R. W. Hix, of New York City, for an Improvement in Railroad Car Brakes :

I claim the combination with the brake shaft, B, of the geared cap, J, geared wheels, G, and pinion, H, in the manner and for the purposes shown and described.

[This invention consists in applying to the ordinary brake shafts, instead of the hand wheel at present used, a circular box with a movable cap, which box contains three or more spur wheels having stationary bearings and which engage with the teeth of a pinion that is keyed to the brake shaft, and also with inside gearing on the movable cap, so that by turning the cap the motion will be transmitted to the brake shaft and multiplied according to the size of the central pinion.]

30,922.—Jedediah Holcomb, of Brandon, Vt., for an Improvement in Platform Scales :

I claim, first, The combination of the jointed rods, c2, connected by the link, D, and six links, B, for supporting the same, with the frame, A, and weighing levers, E, of a platform scale, for the purposes set forth.

Second, I also claim the use of the extension case, R, in combination with the stationary case, P, weighing levers, E, and scale beam, T, for the purposes set forth.

30,923.—J. R. Jacob, of Elizabethtown, Ky., for an Improved Valve Gear for Steam Engines :

I claim the combination of the forked independent rocker, K, working on the valve rockshaft, the two arms, I J, with their studs, c d, rigidly attached to the said rockshaft, and the spring, F; the whole applied in relation to each other and operating substantially as set forth.

[This invention is more especially designed for a direct-acting engines, such as are used for pumping and other purposes for which a rotary motion is unnecessary. It may, however, be applied to an engine with a rotary shaft. It consists of a forked rocker worked upon, but independently of, an ordinary valve rockshaft by a connection with the piston rod or other reciprocating portion of the engines, and operating upon an ordinary valve rockshaft, in combination with a spring acting upon another arm thereof, to cause the valve to be first moved gradually to a position to close the steam port at either end of the cylinder, as the piston approaches the other end, and then to be moved suddenly sufficiently further to give a full opening to the steam port at the last-mentioned end, to admit steam to move the piston in the opposite direction.]

30,924.—John Jameson, of Gateshead, England, for an Improved Apparatus for Expanding and Compressing Elastic Fluids. Patented in England June 11th, 1860.

I claim the combination of the apparatus to produce those actions which I have called "borrowing and lending," with the apparatus for performing the functions of what I have called the "compressing apparatus, substantially as described.

30,925.—F. C. Leyoldt, of Philadelphia, Pa., for an Improvement in Apparatus for Cutting Button Holes :

I claim an instrument for cutting button holes, combining the levers, A and C, when arranged and joined in the manner described, and actuating the cutter, B, substantially as and for the purpose set forth.

30,926.—Isaac Miers, of Clay Lick, Ohio, for an Improvement in Cultivators :

I claim the arrangement of the longitudinally adjustable side beams, C, D, straps, a a', of a plow, with the center beam, B, plows, E, F, G, handles, H, and standards, y y, all as shown and described, for the purposes set forth.

[This invention consists in the arrangement of the center shovel or plow, in three-toothed cultivators, in the rear of the side plows. It also consists in making the side beams adjustable longitudinally. By means of the said arrangement of the center plow it divides the ridge of mold formed by the combined inner furrows of the side plows and throws it up each way, from the center towards theroots of the corn, in addition to the ridge thrown up to the rows by each of the side plows.]

30,927.—P. P. Mills, of Washington, Ohio, for an Improvement in Sugar Cane Leaf Stripper :

I claim the described leaf stripper for sorghum or sugar cane, consisting of two or more elastic blades, D E, and the semi-circular plates, E, the whole being arranged and combined on a block or frame, A, for the purpose and in the manner set forth and explained.

30,928.—D. K. Nixon, of Sandyville, Ohio, for an Improved Device for Preventing Hogs from Rooting :

I claim the combination of the metallic part, A, having the opening, B, with two or more pins or wires, substantially as and for the purposes set forth.

I also claim the curved or projecting points, C C, with the lower part of A, as set forth.

I further claim bending the lower ends of the pins in, as shown at c, for the purposes set forth.

30,929.—W. H. Pease, of Dayton, Ohio, for an Improvement in Tobacco Cutters :

I claim, in connection with the endless belts, C C', arranged as described, and the throat, d, the revolving knives, E F, and screw thread, G, the same being arranged and made to operate substantially as and for the purpose specified.

30,930.—John Pike, of Syracuse, N. Y., for an Improved Churn :

I claim the combination and arrangement of the adjustable convex dish, D, concavo-convex dish, E, with the radial beaters on each, as described, together with the wings, d d, shaft, C, and dashers, x x, &c., when used for the purposes specified.

30,931.—Robert Plews, of Smithfield, R. I., for Improved Cylinders for Spinning Frames :

I claim the improvement in the process of manufacturing tin plate cylinders described, consisting in perforating the edge of each plate of which the several sections of the cylinder are composed with a series of holes, whereby, on the application of heat, the air is expelled and the soldering metal is permitted to flow over the entire surfaces in contact.

30,932.—F. W. Robinson, of Richmond, Ind., for an Improvement in Grain Separators :

I claim, first, Obtaining a separate and independent discharge of grain from the grain carrier, D, and straw carrier, E, by means of a division board, a, and the inclined bottom board, G, the upper line of the straw carrier, E, being arranged below the plane of the cellular grain carrier, D, so as to obtain a fall between the carriers, substantially as specified.

Second, I claim the deflecting plate or board, m, arranged in relation to the shoe, F, and fans, L, as set forth, to effect the object stated.

[This invention consists in arranging endless carriers on an inclined plane, one of which conducts the grain and straw from the threshing cylinder and delivers the straw on the other endless carrier, separating the grain and chaff from the straw and depositing it on the shoe; while the second carrier (which is open) conveys off the straw and conducts the grain, &c., left by the first carrier down into the shoe, where it is submitted to the operations of blast and screening. The invention further consists in arranging a stationary or adjustable inclined deflecting plate or board, in such relation to the shoe and jaws that the blast of

air is turned downwards into the shoe and drives the partially threshed heads back, and they are elevated and again submitted to the threshing operation, while the chaff and other impurities pass out over the back end of the shoe.]

30,933.—J. S. Royce, of Cuylerville, N. Y., for an Improvement in Harvesting Machines :

I claim, first, The downward curved, arched, metallic frame, A, constructed as described, in combination with the driving wheel, D, the pinion or pitman shaft, S, and its rod, the cutting apparatus and the wheel, W, for the purpose set forth and substantially as set forth.

Second, The arched projection of the frame, F', in combination with the adjustable cross piece, C', and its friction wheel, W', and the rod, r, for the purpose set forth, and substantially as described.

30,934.—G. M. Selden, of Troy, N. Y., for an Improvement in Eave Troughs :

I claim the combination and arrangement, substantially as described, of the air passages or true spaces with an eave's trough and its conductor, located upon a building, as usual, and with a warm air apartment or hot air furnace, for the purpose of preventing the damage which ordinarily results to the building from the freezing within, and consequent overflowing of the conductor and eave's trough by the water which sometimes runs from melting snow or ice on the roof in freezing weather.

30,935.—S. A. Skinner, of West Berkshire, Vt., for an Improvement in Fountain Pens :

I claim the combination and arrangement of a valve, f, separate from the agitator, H, with a spring pen-carrier, B, arranged with respect to the agitator, h, and the branch, e, provided with a valve opening and extending from the ink fountain, as described.

I also claim the improved mode of making the spring tongue, k, viz., with corrugations, the same being for the purpose described.

30,936.—J. J. Slocum, of New York City, for an Improved Rotary Engine :

I claim, first, The arrangement of the rotary winged abutment, F, in combination with the rotary piston, A, constructed and operating as and for the purpose specified.

Second, The combination and arrangement of the notched disk, I, with the spring catch, J, plate, H, with the rollers, b and e, and rotary abutment, constructed and operating substantially as and for the purpose set forth.

[This invention consists in the employment of a rotary winged abutment, in combination with a rotary piston, in such a manner that, by imparting to said abutment a rotary motion at certain intervals, the piston is allowed to pass by unobstructed. It also consists in arranging on the shaft of the piston a notched disk with a spring catch, in combination with two sets of rollers, attached at different distances from the center of a plate that is screwed to the axle of the rotary abutment in such a manner that, by the action of the notched disk on the outer set of rollers, the abutment is kept perfectly stationary, until, by the combined action of the spring catch and the two sets of rollers, the abutment is partially rotated.]

30,937.—E. N. Steere, of Providence, R. I., for an Improvement in Oiling Spindles :

I claim the tube, B, or its equivalent, constructed and arranged, with the step and bolster of a spindle, substantially as described, for the purpose specified.

30,938.—S. M. Stone, of New Haven, Conn., for an Improved Means for Ventilating Buildings :

I claim the use of the pure air passage A, in combination with the passage, E E, and smoke pipe, G, when the whole is constructed, arranged and fitted to produce the result as described.

30,939.—Claude Sturel, of New York City, for an Improvement in Fire Escapes :

I claim the arrangement of the platforms, D, alternately on opposite sides of the framework, and holding them rigidly parallel to the deck of the wagon in all conditions of the frame, by means of the bars, d, or their equivalents, substantially as and for the purpose set forth.

30,940.—Horace Tupper, of Buffalo, N. Y., for an Improvement in Turnouts for Street Railroads :

I claim the inclined wave or swell, D, in combination with the rails, A B and F, operating in the manner and for the purposes set forth.

30,941.—D. T. Ward, of Mansfield, Ohio, for an Improved Churn :

I claim the disk or wheel, C, constructed as described, and, in connection therewith, the rim or collar, D, arranged in the manner and for the purpose specified.

30,942.—Seth Wheeler, of Albany, N. Y., for an Improvement in Ash Sifters :

I claim the use of lever, G, treadle, F, and spring, E, when used in combination with the sieve, B, substantially and for the purpose specified.

30,943.—C. K. Hostetter, of East Donegal Township, Pa., assignor to J. R. Koffer, of Mount Joy, Pa., for an Improved Bag Holder and Conveyer :

I claim the sliding frame, E, held and operated by the cord, H, friction and ratchet pulley, I, spring ball, J, and cord-tightener, L, together with the bag rest, B, the whole mounted on wheels, D, substantially as described.

30,944.—Hirsch Heinemann and John Buser, of New York City, assignors to Hirsch Heinemann aforesaid, for an Improvement in Machines for Covering Cord :

We claim, first, The arrangement of the revolving reel, f, to twist the strands, with a revolving carrier plate, e, for laying the silk or other fibers upon the outside of said strand, when each has a separate revolving motion, so as to make different sizes and characters of strands, as set forth.

Second, We claim the construction of the cap, l, and jaws, o o, in combination, to guide the strand so that the covering material may be laid evenly thereon, as set forth.

Third, We claim the revolving bobbin, t, and fly frame, acting as specified, in combination with the covering apparatus, to twist in a cord or cut the strand as it passes from the covering apparatus, as set forth.

30,945.—Xavier Karcheski (assignor to L. T. Valentine), of New York City, for an Improvement in the Manufacture of Vegetable Parchment :

I claim the application, to certain parts of the paper, of starch or some other gelatinous substance, either plain or colored, substantially as set forth, for the purpose of producing in the parchment an indelible water-mark.

[The object of this invention is to produce vegetable parchment equal, or nearly so, in strength to the animal parchment, and of a uniform transparency, with indelible water-marks, in such a manner that the same can be used with particular advantage for bankbills and other papers of the same character.]

30,946.—Peter Keffer, of Read ng, Pa., assignor to himself and D. A. Ulrich, of Berks county, Pa., for an Improvement in Car Brakes :

I claim, first, The spring sliding rod and its projection, q, in combination with the slotted arms, T and T', and the frame, X, with its roller, e, the said arms being operated and motion being communicated from the said frame to the brake bars by the devices described, or their equivalents.

Second, The levers, K and K', hung to the pin, I, on which the truck turns, in combination with the rods, L and L', and rods, M and M'—the whole being arranged and operated as and for the purpose specified.

30,947.—J. L. Mahan (assignor to D. Stuart and R. Peterson), of Philadelphia, Pa., for an Improvement in Gas Stoves :

I claim the inner chamber, D, diminishing in size toward its mouth, d, the outer chamber, c, the plain plate, F, the plate, m, of wire gauze, or its equivalent, and the hot air passage, i, when the said plain plate, forms a continuation of the wire gauze and when the whole of the above named parts are arranged, in respect to each other, as and for the purpose set forth.

30,948.—Andrew Parkinson, of Norwich, Conn., assignor to James Parkinson, of Newark, N. J., for an Improvement in Looms :

I claim the employment of a comb, substantially such as described, in combination with the lay of a loom, substantially as and for the purpose specified.

30,949.—C. P. S. Wardwell, of Lake Village, N. H., assignor to S. H. Dotem, of Plymouth, Mass., for an Improved Comb Cleaner.

I claim, as a new article of manufacture, a comb cleaner, constructed substantially as described and set forth.

30,950.—Parker Wells, of Middleton, Mass., assignor to E. Townsend and William Wells, of Boston, Mass., for an Improvement in Pegging Machines.

I claim changing the supply of pegs of one length for others of a different length, by substantially the means described for changing the position of the peg wood channels, v. v.

Also the described arrangement of the awl and driver bars, h and g, which consists in permitting them to oscillate in the top of the head, a, when they are connected with a slide, l, which is made to reciprocate substantially as and by the means described.

Also the arrangement shown and described of the shaft, e, both with regard to its direction of rotation and position by which the usual gage on the pegging lead, n, is kept pressed against the edge of the sole.

And I claim also the arrangement described by which the whole of the peg-driving mechanism is changed in its position relative to the pinion, h, which actuates the foot or shoe carrier, for the purpose of altering the angle at which the pegs are set in the work.

30,951.—C. E. Bertrand, of New York City, for an Improvement in Tanks for Crystallizing Sugar.

In the manufacture and refining of sugar, I claim the method described of extracting the crystallizable sugar from the secondary products or drainings of ordinary sugar molds, by the employment of a capacious tank, having combined with it a perforated discharge tube and plug or stopper, both or either capable of rotation, the whole being constructed and arranged substantially as set forth and operated in the manner and for the purposes specified.

30,952.—Levi Bissell, of North Bergen, N. Y., for an Improvement in Stove Pipes.

I claim the heads of the safe as constructed in combination with registers and inside pipes, g, z, when said pipes are provided with ventilating holes, and all arranged as and for the purpose set forth.

30,953.—John Blue, of Covert, N. Y., for an Improvement in Harvesters.

I claim the combination of the knee joint, i, with the reel standard, f, shaft, B, and bearings, k k', when these several parts are arranged for operation in the manner described, for the purpose specified.

30,954.—Gabriel Boos, of New York City, for an Improvement in Machines for Enameling Moldings.

I claim the arrangement and construction of the front piece, A, and side frames, C C, in combination with the guide pieces, J J, for the purpose of changing the machine easily to any width of molding as well as to make thereby the surface of the molding to act as guide for the machine, substantially as described.

30,955.—E. D. Bootman, of Janesville, Wis., for an Improvement in Automatic Attachment to Keyed Musical Instruments.

I claim, first, The use and application of the spherical balls, l, or their equivalents, when used substantially as described and for the purpose described.

Second, I claim the construction and use of a cylinder made of any suitable material, with a continuous spiral groove cut around the cylinder similar to a screw, which groove is crossed at proper distances by like grooves running parallel with the shaft or axis of the cylinder, thereby forming at the crossings of the grooves proper receptacles for the balls, l, substantially as described and for the purpose set forth.

Third, The employing a belt or cloth, v, in combination with rollers to keep the balls, l, in their places on the cylinder, and to propel the cylinder in performing music, substantially as described, or any arrangement accomplishing substantially the same object.

Fourth, The side or lateral movement of the sliding carriage, C, in combination with the ways, X X, substantially as and for the purpose set forth.

Fifth, The combination of the keys or levers, k k, grooves, l l, pins, t t, cups, J, and conductors, K, or their equivalents, when used substantially as shown and described, or any arrangement accomplishing substantially the same thing.

Sixth, I claim the arrangement of the compound levers, M, in connection with the oscillating lever, K, or their equivalents, substantially as shown and for the purpose described.

Seventh, The use and application of the screw, x, and slide, t, or their equivalents, when used in connection with a cylinder to give a longitudinal motion to the same as it revolves, substantially as and for the purpose described.

Eighth, The arrangement and combination of the lever, P, with the connecting lever, m, spring catch, n, weight, o, and pulley, X, substantially as described and for the purpose set forth.

Ninth, I claim the manner of raising the hammer, U, to strike the strings or keys of a piano, substantially as described, or any arrangement, substantially the same.

Tenth, I claim the method described of pressing down the keys upon the organ or melodeon by means of the levers, v and w, pins, t t, wheel, m, or any arrangement accomplishing the same thing.

Eleventh, I claim the application and use of the devices composing my attachment, substantially as described, in combination with an organ, piano, melodeon or other instruments to which it may be applied to produce or perform music.

The remainder of this week's Claims will be given in our next.

J. H. A., of Md.—Conical rifle balls are both molded and stamped from the solid metal. Some of the machinery we have for accomplishing this latter purpose is quite complicated.

D. P. F., of Mass.—The edition of the patent laws which we announced, last week, as being in press, is now out, and you can be supplied with a copy on receipt of seven three-cent stamps.

C. C., of N. Y.—We cannot tell you the amount of sulphur that is in the iron ore which you have sent us, without an analysis of it; but from inspection, we consider it worth working if you find it in abundance as good as the specimen (No. 2) in the package.

J. T., of N. Y.—Multiply the quantity of water in pounds which passes in one minute into the vertical height of your fall and divide the product by 33,000. This will give you the power of the fall, from which deduct one-third, and you will have the actual power of your overshot wheel.

J. R., of Pa.—The beautiful, glossy, black varnish for iron work may be made by fusing one pound of amber in an iron vessel and adding, while hot, one quart of boiled linseed oil and three ounces each of dark rosin and asphaltum, in powder. When the whole is thoroughly incorporated take it off, and, when cool, add about one pint of turpentine. Several coats of this varnish are put on, and the articles are dried, after each application, in a warm oven.

E. R., of Ill.—The cheapest gas that you can use as an explosive agent, when mixed with air, is carburated hydrogen—that used for illumination. Water, when decomposed into its elementary gases, is highly explosive, but no vapor known to us will explode unless mixed with air or oxygen. An explosive gas engine, per se, is not patentable, but some of your arrangements may possess novel and patentable features. You will find sulphuric acid cheaper than hydrochloric for obtaining hydrogen gas, by decomposing water with zinc.

L. C. G., of Cal.—"Hitchcock's Geology" is a little old, but you will find it instructive. Hugh Miller's "Old Red Sandstone" is interesting. By the time you have read these, perhaps Dr. Stevens' work on the geology of the United States will be out, and this will give you the information you need.

J. R., of Ga.—We do not know of any stimulant offered for sale here as a substitute for tobacco. If the use of the weed is injuring your health, regard it as an enemy and treat it accordingly. A substitute might prove to be a remedy worse than the disease.

J. B. C., of Ill.—We do not know of any other State but Virginia that has a special law against the free introduction and sale of patents. The design of it was to subserve the purposes of domestic peace. Its constitutionality has never been tested.

C. P. P., of Ala.—So long as you can take oath that you are a citizen of the United States, so long will you be entitled to apply for a patent on the payment of a fee of \$30. We cannot say what is the ultimate result of the present state of things; we hope it will come out right in the end.

To SOUTHERN INVENTORS.—We are in receipt by every mail of letters from our Southern clients, asking "in what relation they stand to the Patent Office in case their respective States should secede from the Union? We answered this inquiry fully in our issue of the 15th ult. We will now state, however, in brief, that so long as an applicant can swear that he is a citizen of the United States, he will be required to pay only \$30. The matter is therefore one that must be settled by the conviction which the applicant himself entertains on this point.

C. W. S., of Oregon.—We suppose that when a bird, at a great height, appears to float without motion upon the air, he is really slowly falling through it.

J. S. B., of N. Y.—We have published but one article with the caption "Does a Red Hot Stove Burn the Air?" You will find it on page 21, Vol. II. (new series). There are other articles relating to the same subject; one entitled "A South-east Rain," on page 226, and one, headed "A Hint in Regard to Steam Pipes and Furnaces," on page 415, Vol. I. (new series).

A. D. W., of Miss.—Smee says that in electro-plating, gold is best reduced from the auro-cyanide of potassium, and silver from the argento-cyanide of potassium. But the proper solution to be used depends upon the material on which it is to be deposited. Your only safe course is to get practical instructions from some one experienced in the art; otherwise you are not only liable to destroy your materials but to blow yourself up with some fulminating metal.

J. W. G., of Mass.—You can neither make, use, nor sell any patented article without becoming liable to the patentee for infringement of his patent. There are patent blowers which you may use as a substitute for a blacksmith's bellows. Dimpfel's patent blower is manufactured at the Novelty Works, this city. Perhaps your blower is an improvement, but we cannot tell without being furnished with a more minute description.

T. H., of Pa.—We do not understand what you mean by a machine for "pointing iron." If you mean a spike cutting machine, there are several of these machines which have been patented, and some have been described in former volumes of this journal. The rule for calculating the pressure which a boiler made of good American iron will sustain, is to take the tensile strain which one square inch of the iron will bear, divide it by 3 (for the weakening effect of riveting), and by the diameter of the boiler in inches. The tensile strength of boiler plate is 60,000 pounds. A long boiler is weaker than a short one.

J. D., of N. Y.—You are perfectly right in stating that a great amount of gas escapes in an unconsumed state from common burners, thus entailing a great loss, and, at the same time, polluting the atmosphere of rooms. Your remedy for this is of great importance.

Money Received

At the Scientific American Office on account of Patent Office business, for the week ending Saturday, Dec. 22, 1860:—

- G. N. B., of Conn., \$25; J. R. A., of Ind., \$30; G. W. C., of Ga., \$30; A. J., of Iowa, \$25; O. S., of Conn., \$25; K. T. C., of N. Y., \$250; S. W., of Ga., \$25; A. & L., of Conn., \$63; A. B. & E. D. J., of Texas, \$30; J. & D. B., of N. J., \$30; R. R. C., of N. Y., \$55; W. B., of N. J., \$30; J. H., of Ill., \$15; J. C. A., of Md., \$25; N. E. D., of Mo., \$25; S. & R., of N. Y., \$30; D. C., of N. Y., \$30; S. S. M., of S. C., \$35; L. C., of Cuba, \$25; C. G., of N. Y., \$10; W. & S. B. H., of Mass., \$0; Z. F., of Mo., \$30; W. S. W., of Conn., \$25; O. C. T., of Pa., \$50; M. B., of N. Y., \$30; C. H. D., of Ill., \$30; J. L., of Mass., \$25; S. R. B., of Pa., \$35; J. P. A., of Ga., \$25; E. C., of Conn., \$30; H. & M., of Ga., \$25; F. W. S., of N. Y., \$30; C. O. L., of Vt., \$25; J. H., of Conn., \$25; P. T., of Va., \$25; A. & D., of N. H., \$10; A. R., of N. Y., \$25; M. A. McL., of La., \$35; J. T., of Cal., \$30; W. F. G., of N. Y., \$25; L. F., of Mass., \$25; A. R. T., of La., \$25; W. H. D., of Ill., \$25; H. P. De G., of N. Y., \$30; W. G. R., of Mo., \$10; D. W. S. R., of Ill., \$45; G. P. R., of Mass., \$15; S. & A., of Iowa, \$18; L. C., of N. Y., \$25; A. M. B., of N. J., \$30; J. B. B., of Iowa, \$25; J. J. C. S., of Pa., \$10; T. S., of N. J., \$55; B. & B., of N. Y., \$30; A. L. F., of N. Y., \$50; E. L. G., of Conn., \$25.

Specifications, drawings and models belonging to parties with the following initials have been forwarded to the Patent Office during the week ending Dec. 22, 1860:—

- G. N. B., of Conn.; A. J., of Iowa; O. S., of Conn.; W. H. D., of Ill.; J. P. A., of Ga.; S. W., of Ga.; E. G., of N. Y.; J. K. S., of N. J.; D. W. S., of N. Y.; J. H., of Ill.; E. L. G., of Conn.; J. H., of Conn.; J. B. B., of Iowa; W. S. W., of Conn.; J. T., of Cal.; O. C. T., of Pa. (2 cases); T. S., of N. J.; A. R. T., of La.; R. R. L., of N. Y.; C. W. S. H., of Ill.; A. F., of Ill.; G. P. R., of Mass.; E. & H., of N. Y.; B. & N. E. D., of Mo.; R. R. C., of N. Y.; W. F. G., of N. Y.; C. L. B., of Mass.; L. F., of Mass.; S. S. M., of S. C.; J. L., of Mass.; E. M., of N. Y.; R. E., of N. Y.; D. S. W. R., of Ill.; P. H. T., of Va.; C. O. L., of Vt.; J. C. A., of Md.; A. R., of N. Y.

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Messrs. MUNN & Co.:—(Continued.) 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, W. M. D. BISHOP.

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[A card from Elias Howe, Jr.] All persons are cautioned not to make, deal in, or use any sewing machines which sew from two spools and make the stitch known as the Grover & Baker stitch, unless the same are purchased from the Grover & Baker Sewing Machine Company, or their agents, or licensees, and stamped under my patent of September 10, 1846. Said company, and their licensees, alone, are legally authorized under their own patents, and my said patent, during the extended term thereof, to make and sell this kind of sewing machine, and all others are pirates upon my said patent, and will be dealt with accordingly wherever found. ELIAS HOWE, Jr., New York.

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