

RECENT AMERICAN PATENT.

Pianoforte.—This invention consists in the employment of straight bridges throughout the whole scale of a pianoforte, whereby, besides allowing much more freedom of vibration to the board, the strings are enabled to be so arranged in overstrung tiers or sections through the middle of the board, and a more perfect scale as to the proportionate length of strings, and a progressively-increasing distance between the notes on the bridges toward the bass, are obtained. The latter result is of great importance, for as the strings of the lower notes require longer vibrations so they require greater distance or space of bridge uninterfered with by other notes. Another improvement consists in electrically isolating the case, sound-board and all that produces and adds to the tone of the instrument, from the iron frame or plate or mere sustaining portion, whereby the electricity that is generated or attracted by vibration in the strings, and which the inventor considers to be the source of sound, is all forced into and prevented from escaping in any way but through the sound-board. Another feature consists in making the case of the grand pianoforte narrower across the middle than at the rear end, and wider than usual at the rear end, the object being to make the case (which is a mere shell of wood and with a bottom sound-board) of a form approximating to that of the violin or guitar, which is the form best adapted for sound, and to obtain a greater width of sound-board in the lower or bass part of the instrument where greater vibration is necessary. A further improvement consists in providing an opening at the left-hand front corner of the sound-board of a grand pianoforte for the purpose of giving a better opportunity for the sound to come out from the instrument when a bottom sound-board is used. Spencer B. Driggs, of New York city, is the inventor of this improvement.



ISSUED FROM THE UNITED STATES PATENT-OFFICE FOR THE WEEK ENDING MARCH 22, 1864. Reported Officially for the Scientific American.

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- 41,968.—Construction of Explosive Shells.—Wm. B. Aitken, Philadelphia, Pa. Ante-dated March 4, 1864: I claim the mode of forming the cores of bomb shells, or other missiles, out of the pieces, a, shaped and arranged relatively to each other, and the outer case, E, substantially as described, the said pieces being held together in the manner specified or by equivalent means.
41,969.—Attachment of Buttons, &c.—Nathan Ames, Saugus Center, Mass.: I claim, as a new and useful improvement, the attachment of buttons, hooks and eyes and other analogous objects, the shank or shanks, d, prong or prongs, e, and shoulder or shoulders, c, substantially as and for the purpose described.
41,970.—Salinometer Case.—Edward H. Ashcroft, Lynn, Mass.: I claim the arrangement of the spray chamber, C, within the measuring cistern, A, substantially as described.
41,971.—Door Spring.—Willard Badger, Jr., North Chelsea, Mass. Ante-dated March 15, 1864: I claim, first, The vibrating spring-arm, E, arranged inside of the jamb and casing, and connected with the corner of the door by means of a metallic strip, G, or its equivalent, substantially as set forth, and for the purpose described.
41,972.—Lamp.—Marshall Burnett, South Boston, Mass.: I claim the connection, C, combined with the reservoir and burner, and made substantially as and for the purpose described.
41,973.—Broom.—Samuel Carpenter, Cedar Rapids, Iowa: I claim the combination of the handle, c, the braces, a a, and b b, the clasps, e and f, the screwbolts and nuts, g g g, and the wisps, i, in the manner and for the purpose set forth.
41,974.—Apparatus for making Extracts.—Wm. Class & Ernest Rubenon, Cincinnati, Ohio: We claim the arrangement of the pump, valves, and filtering

- medium, herein described and represented, between the inlet and exit passages, I, D, for the purpose of making coffee, tea, or other extracts, or for the purpose of filtering any liquid, as herein represented and set forth.
41,975.—Vapor Stove.—H. W. Dopp, Buffalo, N. Y.: I claim a heating tube, L, and conducting pipe, K, in combination with perforated distributing plate, A, for the purposes set forth.
41,976.—Match Box.—George Dowler, Birmingham, England. Patented in England Jan. 7, 1863: I claim the match box made with or having applied to it, the striker case or plate, x, provided with the opening, w, the same being as and for the purpose as hereinbefore more fully set forth.
41,977.—Pianoforte.—Spencer B. Driggs, New York City: I claim, first, The employment throughout the scale of a pianoforte of a system of straight bridges of different heights, whereby the strings are brought in overstrung tiers or sections over or as near as possible to the middle portion of the sound-board, substantially as herein described and other results hereinabove mentioned are obtained.
Second, Electrically isolating the case, the sound-board, and all that is instrumental in producing or developing the sound from the iron frame or mere sustaining portion of the pianoforte, substantially as and for the purpose herein specified.
Third, Constructing the case of the grand pianoforte of violin form, that is to say with both sides curved and with the rear portion wider than the middle portion, substantially as and for the purpose herein described.
Fourth, In combination with a bottom sound-board, C, in a grand pianoforte, I claim the opening, f, g, at the front left hand corner of the sound-board, B, substantially as and for the purpose herein specified.
41,978.—Soluble Silicate.—Samuel P. Duffield, Detroit, Mich.: I claim the above described silicate of potassa, as a new article of manufacture, the same being made directly from ashes and sand, substantially as described.
41,979.—Manufacture of Common Salt.—Samuel P. Duffield, Detroit, Mich.: I claim the above-described common salt or chloride of sodium, as a new article of manufacture, the same being made from salines containing the chlorides of calcium or magnesium, or both said salines being purified by the use of a silicate of potash or of soda, substantially as set forth.
41,980.—Manufacture and purifying of Common Salt.—Samuel P. Duffield, Detroit, Mich.: I claim the use of soluble alkaline silicates for the purpose of purifying the chlorides of calcium or magnesium, or both, substantially in the manner and for the purposes set forth.
41,981.—Gas Burner.—Whitman S. Dyer, Portland, Maine: I claim the gas burner constructed and operating in the manner described and represented as an improved new article of manufacture.
41,982.—Manufacture of Paper Pulp from Straw, &c.—A. K. Eaton, New York City: I claim, first, Preparing paper pulp from straw or other substances by subjecting it to a grinding process commencing with the early stages of the treatment with hot alkalies, and continuing the grinding in connection with the alkaline treatment, in the manner and for the purpose herein described.
Second, I claim purifying the alkali held in solution in the refuse liquor by passing it through a filter constructed substantially as above described, sufficiently to enable me to use it again, and completely reprecipitating it when necessary by making it into combustible cakes, as set forth.
41,983.—Plane-stock.—George Franklin Evans, Norway, Maine: I claim as my invention or improvement in the plane made with the spring face plate, the construction of the connecting rods, F F, and stock receiving the ends of the stock curved, substantially in manner and so as to operate together as specified.
41,984.—Breech-loading Ordnance.—George H. Ferris, Utica, N. Y. Ante-dated March 9, 1864: I claim, first, Closing and opening the chamber of a gun from the rear, by means of a screw-actuated and screw-encircled recoil-seat, or breech-piece, E, when said recoil-seat or breech-piece is received into a screw perforation in the breech of the gun and combined exteriorly with a supporting nut, D, or its equivalent, substantially in the manner and for the purpose herein set forth.
Second, When the chamber of a gun is rearwardly opened and closed by means of a screw-actuated recoil seat, E, I also claim combining a tubular shaped expandible double-ended cone, V, constructed as described with the inner face of said recoil seat, substantially in the manner and for the purpose herein set forth.
Third, When the chamber of a gun is closed and opened by a screw-encircled recoil-seat, or breech-piece, E, I also claim forming a longitudinal groove or slot, in the lower portion of the screw-cut portion of the opening in said chamber, to serve as a receptacle for the dirt that may accumulate in the screw-threads of the same, substantially in the manner herein set forth.
41,985.—Sealing Fruit Cans, &c.—Henry S. Fisher, Newburgh, Pa.: I claim the use of india-rubber or gutta-percha gaskets coated on both sides with a substance with a composition, such as specified, in combination with a preserve can or jar and cap, e, and retaining device, f, substantially as described.
41,986.—Wash-stand.—Zebina E. Fobes, Troy, N. Y.: I claim a portable wash-stand having a basin, B, and provided with a tubular shaped expandible double-ended cone, V, constructed as described with the inner face of said basin, and with cocks for controlling the supply and escape of the water, substantially as described.
41,987.—Corset Skirt-supporter.—Lavinia H. Foy, Worcester, Mass.: I claim, first, The mode of fastening the front by means of hooks, b, and eyelets, whereby the article can be either laced or hooked, substantially as set forth.
Second, I also claim making the bosom adjustable by means of the hooks and eyelets, substantially as set forth.
Third, I also claim in combination with the supporting rim, F, of a skirt-supporter, the hoop, E, shielded at its ends by metal caps, g, substantially as set forth.
Fourth, I also claim in combination with the supporting rim of a corset skirt-supporter of a hoop with its ends protected and covered by shields, additional to the case, for the purposes set forth.
41,988.—Nib for Scythe-snaths.—Pinckney Frost, Springfield, Vt.: I claim the nut fastening, g g', constructed and applied to the nib, B, substantially as and for the purposes herein described.
41,989.—Furnace for smelting Ores.—Eliza Jane Hall, San Francisco, Cal.: I claim, first, The combination of parts herein described for the reduction and saving of ores, viz:—
1st, The arrangement for a powerful draught. 2d, The peculiar egg-shaped form of the furnace. 3d, The gradually contracting flue going out from the back of the furnace. 4th, The peculiar construction of the condensing apparatus. 5th, The boiler on top of the furnace for economy of fuel. 6th, Introduction of steam above and near the bottom of the fire, for oxidation. 7th, Small fire-box in the boiler. 8th, Fan-blower or other power to supply the draught. 9th, Simple and cheap flues named. 10th, Charcoal for fuel. 11th, The peculiar construction of the bottom of the furnace herein described.
Second, I claim the condenser with the sieve at its top through which a continuous shower of cold water is kept pouring for the purpose of condensing and precipitating the volatile portions of the metals escaping with the draught, arranged and operating substantially as set forth.
Third, I claim the flue, s, within the condenser, and surmounted with the conical cap, to secure the condensation and precipitation of the volatile portions of the metals escaping with the draught.
41,990.—Horse Rake.—O. J. Hardgrove, Massillon, Ohio: I claim the combination with a vibrating rake, of a vibrating lever, C, constructed with a locking shoulder, s, pivoted arm, i, and vibrating arm, h, operating substantially as and for the purposes described.
41,991.—Mode of cancelling Revenue and other Stamps.—Emanuel Harmon, Washington, D. C.: I claim the method of cancelling revenue stamps, in combination with engraving thereon of the initials of the months of the year,

- and of figures or dots representing the days or a series of days or months, substantially as above described.
41,992.—Dove-tailing Machine.—S. E. Hartwell, New Albany, Ind.: I claim, first, The arrangement of the gang of conical dove-tailing bits, C K K' k', rotating on axes at right angles to the plane of motion of the bed, E, substantially as and for the purposes explained.
Second, The combination of the adjustable dovetailing bits, C K K' k' k' bed, E, e, sliding in a plane at right angles to the axes of the said bits, the clamps, H and I, and gage, G, the whole being arranged and operating substantially as set forth.
Third, I claim the dovetailing cutter, C K K' k', operated as represented in the foregoing specification.
41,993.—Chimney-flue.—Charles T. Harvey, Chicago, Ill.: I claim the combination and use of two or more longitudinal compartments surrounding (except as before stated) the smoke flue or chimney, when they are divided into distinct air flues and have independent currents of air passing through them for heating and ventilating purposes and as a protection against fire, substantially as shown.
I also claim the branch connection, T T, by which heat can be conveyed to or air drawn from the center or other part of a room or rooms, into and from the upright air flue in combination with the chimney described in the preceding clause of my claim, substantially as shown.
41,994.—Cleaner for Lamp Chimneys.—Ezra S. Hazeltine, Warren, Pa.: I claim the use of an elastic pad for the cleaning of lamp chimneys, or other glass tubes with curved or irregularly curved inner surfaces.
41,995.—Screw Wrench.—Henry Wheaton Hewet, New York City. Ante-dated Jan. 25, 1864: I claim the extending tube upon which the adjusting male screw is cut, so as to form a part of the handle, with its peculiar bearings or their equivalents, thereby rendering the shank-pindle quite inflexible, and allowing a coarse and powerful adjustment of the movable jaw, substantially as herein described.
41,996.—Invalid Bedstead.—John R. Hill, Goshen, Ohio: I claim, first, suspending the bottom of an invalid cradle by a frame, D, capable of elevation or depression at either or both ends, by windlasses, H I, or their equivalents, substantially as and for the purposes set forth.
Second, In the described combination with the suspended frame, D, of an invalid cradle, I claim the provision of standards, B, and clamps, C, for attachment to a common bedstead, as set forth.
Third, The arrangement of the parts, L O P N Q, for sustaining and laterally stretching the bottom, R, of an invalid cradle.
41,997.—Plow.—Wm. Hinds, Little Falls, N. Y.: I claim, first, A plow mold-board when constructed in accordance with the following conditions, viz: all lines on the face of the mold-board which are parallel to a surface upon which the plow rests when in its proper position for operation, to be straight, all said lines to intersect two circular arches described upon vertical planes, transverse to an axis from which said arcs are generated, said axis to be parallel to the before-mentioned horizontal surface. The radius of that arc which is nearest the rear end of the mold-board to be about double the radius of that arc which is nearest the front end of the mold-board. The distance between the vertical transverse planes upon which said arcs are described to be about equal to the radius of the smaller arc.
Second, In combination with a plow mold-board constructed as described in the preceding claim, a rim or flange, m, for the purpose of rendering the rear edge of the mold-board more durable.
Third, In combination with a plow mold-board constructed as claimed above, a sward cutter, V, attached to the plow-share, and secured to the standard by a removable bolt.
Fourth, In combination with a plow mold-board a cross bar constructed with feet as shown at Fig. 6, for the purpose of more rigidly attaching the rear end of the beam to the rear end of the mold-board.
Fifth, In combination with a plow mold-board a land-side arm, N, constructed in a trough like form and fitted to the land-side with a dovetailed joint, for the purpose of attaining greater security and facility of attachment.
41,998.—Wringing Machine.—G. R. Huntley, Taunton, Mass.: I claim the stands, N, with legs, L and M, lever, E, rollers, R, R, friction wheel, G, box, B, rod, A, flange, K, and spring, C, arranged in the manner described for the purpose set forth.
41,999.—Apparatus for preventing the Loss of Sugar during Evaporation.—Gustavus A. Jasper, Charlestown, Mass.: I claim the combination of the vessel, D, its float, F, and pipe, E, with the vacuum pan, A, its conduit, C, and the condenser, B, the whole being arranged substantially in manner and so as to operate as and for the purpose hereinbefore specified.
42,000.—Breech-loading Fire-arm.—Benjamin F. Joslyn, Stonington, Conn. Ante-dated March 11, 1864: I claim the sliding rod, H, arranged in respect to the metallic cartridge and operated by the movable breech of a breech-loading fire-arm, substantially as and for the purpose herein set forth.
42,001.—Washing Fluid.—Sylvester Kent, Providence, R. I.: I claim, as a new article of manufacture, with the within written name and title, substantially the within described combination of potash, sal ammoniac, and salts of tartar, in solution, as and for the purpose specified.
42,002.—Cooking Range.—William M. Kepler, Cincinnati, Ohio: I claim the arrangement of the hot air chambers, G G, at the sides of the fire box, and connecting them with the oven, B, by pipes that first pass out of the stove, and then return back into the oven, so as to heat said ovens, and offer facilities for connecting with the hot air chambers or passages, and for the purposes specified.
42,003.—Apparatus for shearing Metals.—Isaac Lamplugh, Springfield, Ill.: I claim, first, A tool-holding machine consisting of a bed, B, curved standards, C, lever, D, and longitudinal braces, F, in combination with the diagonal shears, e e', all arranged and operating substantially as described.
Second, A machine for shearing metal, &c, constructed and operating substantially as described.
42,004.—Apparatus for shearing, punching, and bending Metals.—Isaac Lamplugh, Springfield, Ill.: I claim, first, The single plate machine, composed of the perpendicular standards, A A', longitudinal brace, B, stationary jaw, C, and the movable jaw, D, with its guides, d d, all combined, constructed, and arranged, substantially as and for the purposes described.
Second, The application of the punching, shearing, or bending tools, to single plate jaws, C D, in combination with the guides, d d, substantially as set forth.
42,005.—Machine for rolling Knife-blades.—William P. Lathrop, Winchester, Conn.: I claim the combination of mechanism for making knife-blades economically, expeditiously, and in a way not now in use, as herein described, or by any other mode substantially the same.
42,006.—Treating and preparing Navassa Guano.—Gustav Adolph Liebig, Baltimore, Md.: I claim, first, The separating process herein indicated, for cleansing and purifying navassa guano.
Second, The separate articles herein described as articles of manufacture, made, or commerce, derivable from navassa guano, in the manner indicated or by other analogous means.
42,007.—Petroleum Stove.—Charles B. Loveless, Syracuse, N. Y.: I claim, first, The use, in vapor stoves, of a valve-seat and valve made of steel, in the pipes through which the supply of the fluid takes place, in commerce, derivable from the supplying and vaporizing pipes, substantially as above described.
Second, The return pipe, g, and vapor pipe, h, constructed, arranged, and operating substantially as set forth, in combination with the return, N.
Third, The additional vapor pipe, R, and burner, O, in combination with the protected vapor-pipe, h, for the purposes set forth.
Fourth, The deflector-plate, B, constructed and operating substantially as described, for the purpose of forming the hot-air chamber, I, and of forming the escape chamber, 2, as specified.
Fifth, The hot-air chamber, I, around the cylinder, B', constructed substantially as set forth.

sixth, The stove-plate, A, constructed substantially as described, with escape holes, a, in combination with the top-casing, C, arranged and operating as set forth.

Seventh, The annular air-heating or hot blast chamber, 4, surrounding the air-mixing chambers, 3, constructed and operating substantially in the manner and for the purposes specified.

Eighth, The cap, F, in combination with rods, b, for the purpose of securing the cylinders, D and E, to the underside of the base-plate.

Ninth, The valve, P, constructed, arranged, and operating, substantially as set forth, when in combination with the vapor-pipe, h, the whole operating substantially in the manner and for the purposes specified.

42,008.—Device for loading and unloading Corn-shocks.—Wm. M. Mason, Polo, Ill.:

I claim the combination of two or more tilting-frames with the horizontal bed-frame of a cart or wagon when constructed and arranged substantially in the manner described, for the purposes set forth.

42,009.—Harvester.—R. W. McClelland, Springfield, Ill.:

I claim, first, In combination with a shoulder at each end of the sickle bar, the square shanked rivets, d, and the sickle sections, B, with their holes and slots, for the purpose of holding said sections to the bar, in a direction transverse, as well as longitudinal, to said bar, and this claim whether the flange, h, and groove, i, be used or not, substantially as set forth.

I also claim in combination with a shouldered sickle bar the series of removable blades and the removable head secured thereto, substantially as and for the purpose described.

42,010.—Double-seaming Tin Can.—H. A. Meriam, Titusville, Pa.:

I claim the instrument, B, formed with the head, f, curve, h, and shank, g, substantially as described, when used for seaming a square or rectangular can, A, in the manner herein set forth.

42,011.—Drilling Machine.—William Morton, Woodhull, N. Y.:

I claim the arrangement and combination of the pressing lever, D, the adjustable hanging yoke, a, the regulating screw, v, with its socket, n, and a cone bolt, l, operating substantially in the manner as and for the purposes herein set forth.

42,012.—Paper-ruler.—David Munson, Indianapolis, Ind.:

I claim the adjustable ruler and paper-cutting when combined in one article and constructed substantially as shown and described for the purposes set forth.

42,013.—Barrel Churn.—Lucius H. Muzzey, Springfield, Ohio:

I claim the combination of the curb, the tightening screw-hoops, and the cover of the churn, when constructed, arranged, and operated, substantially in the manner described and for the purposes set forth.

42,014.—Potato Planter.—William Nevins, Irving, N. Y.:

I claim, first, The combination of a potato planter, E, or equivalent, with a cultivator provided with adjustable angular wings, B, B', by which a ridge is formed and the seed planted on the same, substantially as herein set forth.

Second, I also claim the combined construction and arrangement of the potato planter proper, consisting of the roller, K, provided with teeth, u, the spring, v, and endless chain, L, driven by the traction wheel, M, and the shield, z, vibrated by means of the roller teeth, so as to shake down the potatoes in the hopper, the whole operating substantially as herein specified.

42,015.—Saddle.—Barak T. Nichols, Newark, N. J.:

I claim, first, The fender or swinging flap, B, when the stirrup is dependent to the bottom thereof, substantially as described, and thereby dispensing with the long stirrup straps.

Second, I claim the combination of the said fender, B, with the girth, D, in such a manner as that when a downward pressure is applied to the fender it will have the effect to tighten on the girth, substantially as described.

42,016.—Office Desk and Chair combined.—Marcus P. Norton, Troy, N. Y.:

I claim the employment of the track frame, C, hinged to the desk, A, in the manner, substantially as and for the purposes herein described and set forth.

I also claim the combination of an office chair with an office desk by means of the track, D, D, or its equivalent, substantially as and for the purposes herein described and set forth.

42,017.—Bee-hive.—Harrison Ogborn, Richmond, Ind.:

I claim, first, The convex pieces, N, in combination with the moth entrance, M, movable bottom board, H and G, moth drawer, E, and protector, J, when arranged together in the manner and for the purposes set forth.

Second, I claim the feed-box, F, entrance, I, and slide, U, in combination with groove, Q, wedge, R, cleat, O, movable bottom, H and G, when arranged, combined, and operated as herein set forth.

42,018.—Burial Case.—John Peak and F. S. Pinkhand, Boston, Mass.:

We claim, first, Combining an outer case of wood with an inner airtight casing of sheet metal, having a channel for cement projecting from its upper edge to receive a lip on the cover, all as set forth.

We also claim the forming the self-sealing joint by means of the groove or channel in the receptacle and the peculiar-shaped lip on the lid or cover, in conjunction with a proper cement, as described.

42,019.—Mode of securing a Desirable Color to Tobacco.—F. M. Pearl, Daviess County, Ky.:

I claim the adaptation of the instrument to the deadening of tobacco in the field, as heretofore described, by belting or cutting around the stalk and piercing the stalk in or near the belt or cut, to secure a desirable color, less labor, &c.

42,020.—Saddlers' Stitching-horse.—John H. Pitzel, Three Rivers, Mich.:

I claim, first, The combination of fixed and pivoted jaws, C, D, with the toggle joints, J, J, treadle, N, and strap connection, S, constructed and operating substantially as described.

Second, Hinging the movable jaw, D, to a jaw, C, which has an extension arm, C', in combination with toggle levers constructed and operating substantially as described.

Third, Providing for attaching the two jaws, C, D, to the seat by a single fastening, substantially as described.

Fourth, The two extended arms of jaws, C, D, in combination with the toggles, J, J, strap connection, S, treadle, N, toothed plate, m, catch plate, j, and spring, L, all operating substantially as described.

42,021.—Soap Cup.—Daniel Reed, Derby, Conn.:

I claim the combination and arrangement described of the elastic handle, C, curved adjuster, D, with a cup, A, for the purpose substantially as specified.

42,022.—Pavement-driver.—Henry Sandhop, New York City:

I claim a rammer so constructed as to be alternately raised and dropped by the action of a continuously-revolving shaft, substantially as described and for the purpose set forth, when the whole mechanism is mounted on a carriage, substantially as set forth.

I also claim a conical drum having a movable flange, for the purpose of holding a rope upon the drum, and subsequently permitting it to slip off, substantially as describe.

42,023.—Apparatus for regulating the Pressure of Gas.—Warren A. Simonds and Albert H. Silvester, Boston, Mass., and Charles Caldwell, Chelsea, Mass.:

We claim a regulator with a double leverage connected to the rod of the valve, n, as herein described.

We also claim the connection of a chain to the end of lever, 5, near ball 7, also to the center of the oval top, L, to be operated substantially as and for the purpose herein set forth.

We also claim the attachment of a leaden ball to one end of lever, 5, for the purpose as herein specified.

We also claim the attachment of the diaphragm, F, to the rim of top, L, and to the screw ring, a, the same to operate as herein set forth.

42,024.—Indicating Funnel.—John D. Smedley, Chicago, Ill.:

I claim, first, In combination with a fluid-filling funnel, A, and conduit, B, and side passages, C, and floor, s, any air-tight packing, P, at the base of the funnel, as described, and a tube, T, with a contraction at the top or in any part thereof, so constructed as to make a distinct sound when the air from the cask is conducted up through it, as described.

Second, The combination of air-tight packing at the base of a fun-

nel, and a tube through the conduit of a funnel, by which the air displaced by the liquid when entering the cask escapes, substantially as described.

42,025.—Mode of preserving Animal and Vegetable Substances.—Lewis H. Spear, Braintree, Vt.:

I claim the use of sulphate of soda or other alkaline sulphites for preserving vegetables, fruits, jellies, meats, oysters or other fish, substantially as described.

42,026.—Composition for Stove Polish.—Charles M. Spooner, New Bedford, Mass.:

I claim the composition or stove polish, made of the ingredients and in manner substantially as hereinbefore specified.

42,027.—Huller and Screen.—George Stephenson, Zionsville, Ind., and John J. Crider, of Greensfield, Ind.:

We claim, first, The revolving breaker, C, armed with pins, g', in combination with pins, g, projecting from the central shaft b, and slats or bars, c, substantially as described.

Second, Operating the breaker, C, by the fixed sheave, D, core, k, and sheave h, substantially as described.

42,028.—Coal-oil Lamp.—U. D. Taylor, Fort Madison, Iowa:

I claim the use of glass-ground stopple, A, in connection with a glass lamp, as and for the purpose substantially as herein set forth.

42,029.—Churn.—James Thompson, Vevay, Ind.:

I claim, first, The cupping chamber, C, in the described combination with the metallic floor, B, wooden bottom, A', and cover, c, all constructed, arranged and applied in the manner and for the purposes herein specified.

Second, The manner of attaching and detaching the metallic floor, B, by means of the devices, a a' b' b', d, as herein shown and explained.

Third, The dasher, consisting of an octagonal or other prismatic shaft, G, with chambered straight-sided boards, H H H, applied one to each face of the shaft, and overlapping each other, all as represented and described.

Fourth, The combination with the retractable shaft, M, bridge, S, and stuffing-box, P, of the tapering ring, T, formed and applied in the manner and for the purposes herein specified.

Fifth, The arrangement of a single rotary dasher, G, H, journaled eccentrically within the tub, as described.

42,030.—Barrel Churn.—Pelatiah Thompson, Springfield, Ohio:

I claim the hoop, c, provided at each end with a hook, D, in combination with a handle, having a large orifice in its side, substantially as described and for the purpose set forth.

The coming, F, in combination with the hoop, c, and hook, D, substantially as described.

42,031.—Pocket Knife.—Homer Twitchell, Naugatuck, Conn.:

I claim the combination of the handle, spring and blade, when the whole is constructed and fitted to operate, substantially as herein described.

42,032.—Gas Alarm.—Peter H. Vander Weyde, New York City:

I claim the construction of a gas alarm, for the protection of property, in the manner and for the purpose above specified.

42,033.—Wardrobe Hook.—A. J. Walker, New York City:

I claim a series of pendant wardrobe hooks arranged on a sustaining bar or series of sustaining links, forming a portable clothes-hanging apparatus that will take up but little space when packed, as set forth.

42,034.—Saw for felling Trees.—Sheldon Warner, Enfield, Mass.:

I claim the combination of the dogs, D, D, the struts, C, C, and the hangers, B', B', as arranged and to be applied together and to a saw, and a tree, substantially as and for the purpose as specified.

42,035.—Envelope.—S. Lloyd Wiegand, of Philadelphia, Pa. Ante-dated March 9, 1864:

I claim the form of envelope blank, or the equivalent thereof, when constructed with the extensions, D and D', and used substantially as hereinbefore set forth, represented and described.

I also claim the forming of the narrow lateral flaps, C and C', on the back of envelopes having lapelles formed on the front opposite side thereof, in the manner hereinbefore set forth and described.

42,036.—Sewing Machine.—Charles H. Willcox, New York City. Patented in England May 13, 1862:

I claim, first, The application and use of leather or other sound-elastic material interposed between these parts of the feed mechanism of sewing machines which strike against or come in contact with each other when at work, with a view to the prevention of noise, as hereinbefore described.

Second, The method herein described of forming the pad or buffer, E, by cutting strips of the form described and introducing the same into the feed-bar slot, substantially as set forth.

42,037.—Axle Box for Railroad Cars.—D. S. Wood, Albany, N. Y.:

I claim the combination of the pressure bolt, i, with the cover, B, and cam, d, arranged and operating substantially in the manner and for the purpose set forth.

I also claim, in combination with the spring pressure bolt, i, and cover, B, the cap or enlargement, g, for protecting the bolt from dirt or other obstructions, substantially as described.

42,038.—Pile-driver.—John Wood, Brooklyn, N. Y.:

I claim a steam cylinder and hammer fitted in slides and connected by ropes or chains with the pile, substantially as specified, so that the cylinder is lowered by the act of driving the pile, and maintains a position sufficiently near the top of the pile to cause the hammer to be operative thereon, as set forth.

42,039.—Street Railroad.—A. Ely Beach, Stratford, Conn.:

I claim the track, having the rail or track upon which the car-wheels run, so grooved, made or arranged, whether in one or more parts, that the said rail or track shall form a receptacle or protection for the propelling cable, substantially as herein shown and described.

Second, The combination with one or both of the rails of a railroad track, of a propelling cable in the manner substantially as herein shown and described.

Third, The arrangement between the bottom of the car and the propelling cable, of the connecting device H, or its equivalent mechanism, operating substantially as herein shown and described.

Fourth, The combination of the cable-connecting devices, or their equivalent mechanisms, with the axles or truck parts of the car, so that the said cable-connecting devices will not be affected by the movement of the car body upon its springs, substantially as herein shown and described.

Fifth, The combination of the cable-connecting device with the brake of the car, so that on the movement of the brake, the cable-connecting device will be operated, and vice versa, substantially as herein shown and described.

Sixth, The combination of the cable-connecting device with the ordinary brake lever or shaft P, which operates the brake, so that the said shaft will serve the double function of operating the brakes and also the cable-connecting device, substantially as set forth.

Seventh, The employment for the propulsion of street cars of a cable composed of jointed bars, having heads of larger size than the body of the bars, substantially as herein shown and described.

Eighth, The arrangement or construction of the propelling cable with friction rollers in or upon it, substantially as herein shown and described.

Ninth, The construction of the links of the cable in the form of torsion springs, substantially as herein shown and described.

42,040.—Machine for covering Wires for Telegraphs.—J. A. Bailey, Brooklyn, N. Y., and Jno. J. Speed, Gorham, Maine. Patented in England, December 14, 1863:

We claim the compression, longitudinally, in conjunction with the winding spirally upon the wire, of any fibrous material, such as flax, hemp, lute, cotton, or other substance capable of being made into cordage, and whether saturated or unsaturated with any non-conducting substance, for the purposes set forth.

We also claim the screw-shaped cylinder C, in combination with the receiving cylinder D, or their equivalent, for the purpose of winding and compressing the cordage upon the wire for the purposes set forth.

42,041.—Car Coupling.—Henry Blackmore (assignor to himself and Adam Apple), Pittsburgh, Pa.:

I claim the use, in combination with a coupling box, of a hinged pin, so constructed substantially as described, that the draught bar will push the hinge-piece of the pin back when it enters the coupling box, and that so soon as the draught bar has entered the cavity of the coupling box, the movable part of the coupling pin will drop down into the draught bar or link, thus securely locking it in place.

42,042.—Washing Machine.—Leander W. Boynton, Hampton, Conn., (assignor to himself and Levi L. Tower, Cambridgeport, Mass.):

I claim the improved washing and wringing machine, made substantially as described, viz., with two rollers so combined with their tub as to be capable of being moved vertically within the same, so as to enable them to be employed either for washing clothes in the tub, or subsequently expressing their fluid contents from them substantially as specified.

42,043.—Gathering Mechanism for Sewing-machines.—Henry S. Brown, New York City, (assignor to Alfred Arnold, Jersey City, N. J.):

I claim, first, The making of gathers by the action of the needle and thread in the manner and by the devices herein described.

Second, The gathering of a piece of cloth and fastening the gathers in place by the action of the stitching apparatus of a sewing-machine, when the feeding mechanism is arranged and operated relatively to the stitching apparatus, substantially as herein described.

Third, The gathering of a piece of cloth, or its equivalent, substantially as herein described, and for the purpose herein specified.

42,044.—Water Injector.—John B. Collen (assignor to himself, A. Rex, and J. T. Rowand), Philadelphia, Pa.:

I claim, first, The combination of an injector constructed substantially as described with a cock K, or its equivalent for the purpose specified.

Second, The combination of the valve chest F, with a valve I, rod J, and the cock K.

42,045.—Cone and Chimney Elevator.—William R. P. Cross (assignor to himself, Samuel Adams, Jr., and C. H. Bred), Portland, Maine:

I claim, first, The curved sliding, hinged arm g, in combination with a lamp cone d, and hinged supporting arms i, substantially as, and for the purpose described.

Second, So forming and applying the arm g, to the burner and cone that it serves the two-fold purpose of a support and a lifter for the cone substantially as described.

42,046.—Baling Press.—Caleb B. Fleetwood, Edward W. Morten, Vincennes, Ind.:

We claim, first, The arrangement of main frame A, B, C, D, E, removable tramper frame K, and reversible driver Y, the whole contributing a provision for converting a vertical into a horizontal press, and vice versa.

Second, The combination of the tramper N, and hooks L, R, with the stirrups O, O, adapted to spring outward so as to be clear of the tramper in the act of beating as set forth.

Third, The provision of the hooked bars or clamps H, H', upon the doors G, G', to keep the press from "spreading" during the pressing action as set forth.

42,047.—Gunpowder, Mining Powder, &c.—H. Hochstatter, Grand Duchy, Germany, assignor to Isaac R. Diller, Springfield, Ill.:

I claim the manufacture of an explosive compound or composition of the materials and in the manner substantially as herein set forth and described.

42,048.—Self-acting Mule.—Robert Lakin, Ardwick, England, John Wain, Manchester, England, assignors to Matthew Curtis, Manchester, England. Patented in England, December 24, 1862:

We claim, in combination with the radial arm B, and screw A', of a mule or twiner, the shaft D, the drum, with the spiral threads D', the screw D, and skew wheel C, with working parts for regulating the winding on, substantially as herein described.

Second, We claim the combination, in a mule or twiner, of the loose pulley F, the bevil wheel I, the shaft I', the bevil wheel J, the friction box K, L, the bevil wheel L, the shaft J, the bevil wheel J', the pinion J', the wheel J', the shaft G, the scroll shaft H, and wheel H', substantially as herein described.

Third, We claim the combination of the bracket or instrumental a (on the framing K) and the spring brake b (on the mule carriage) with the wheel or gear d, of the mule carriage, the same being to operate as and for the purpose, substantially as herein described.

Fourthly, We claim the combination and arrangement of the change shaft G, of a mule, the worm M, the shaft O, the wheel P, the clutch box Q, the spring S, the hoop u, the small R, the plate U, the incline s, the stud x, the plate n, and the brackets V and N, for moving a mule carriage substantially as herein described.

42,049.—Damper.—J. W. Martin, (assignor to himself Jonathan A. Martin), Milton, Mass.:

I claim the improved draft regulator consisting of the pipe B, the damper D, and the screw or helical partition C, as arranged together and within a smoke-pipe substantially as described.

42,050.—Carriage Jack.—Calvin H. Paine (assignor to Charles S. Horton), Providence, R. I.:

I claim the above described improved carriage jack, as not only constructed with its notched lifter B, arranged with and applied to its standard, A, so as to be capable of being slid either upward or downward thereon, but as provided with an operating lever C, and a roller D, or their equivalents, arranged together, and with respect to the standard and lifter and applied thereto in manner and so as to operate substantially as explained.

And I also claim the improved jack, as so made and as provided with the series of holes m, m, and the adjustable pin o, (or the mechanical equivalents thereof) arranged or applied to the notched lifter as specified.

42,051.—Machine for straightening Iron Bars.—George H. Sellers, (assignor to Phoenix Iron Company), Phoenixville, Pa.:

I claim the straightening of plates, beams, or bars, as they come hot from the rolls by means of a movable carriage working over, or in connection with a straightening plate, and having vertical or horizontal rollers, for forcing the plate, beam, or bar up against or between straight edges, substantially as described.

42,052.—Letter-box.—Joseph H. Springer, (assignor to himself and W. F. Weaver) Philadelphia, Pa. Ante-dated March 9, 1863:

I claim a box furnished with a suitable door and having in the interior the three inclined or curved plates D, E, F, arranged in respect to the opening for the insertion of letters, &c., and for the purpose herein set forth.

42,053.—Spring for Furniture.—Felix Tylee (assignor to himself and Josiah S. Pond) Cleveland, Ohio:

I claim the tension cords, D, D, the same being secured to the base on which the spring is supported and extending up through, so as to connect with the cap or disc, B, which by turning the disc twisting the cords together the elasticity of the spring is varied and regulated in the manner, and for the purposes herein specified.

42,054.—Spike and Nail.—Wm. Watts, Fenn Willcox, and Daniel F. Tompkins, Newark, N. J.:

We claim the combination of the flanges a, a, in figure 1, with the twisted spike, figures 1, 2, 3, substantially in the manner and for the purposes described.

42,055.—Clay Mill.—Charles Webster, Wm. Camp, and S. L. Stall, Akron, Ohio:

We claim, first, The application of the entire solid bed plate A, in combination with the reversible crushing rollers B, and F, when arranged and operating in the manner, and for the purpose set forth.

Second, We claim the yokes C, P, and adjustable blades or scrapers, arranged substantially as set forth, in combination with a clay m' for the purpose specified.

Third, We claim the combination of the friction box, u, and key, v, provided with a nut and screw, when arranged and applied to the purpose described.

Fourth, We claim the adjustable gauge rods l, the open corner blocks L', in combination with the cross bar, m', and springs, n', substantially as set forth.

42,056.—Gunpowder, &c.—Charles M. Wetherill, Lafayette, Ind., assignor to Isaac R. Diller, Springfield, Ill.:

I claim the invention of a mixture of an oxygen compound of chlorine, capable of giving off its oxygen by heat, with a carbonaceous body or bodies, in such a proportion that oxygen given off by the former, shall be the total carbon contained in the latter, as eight parts by weight, to six parts, with a view of forming carbonic oxide, or as sixteen parts by weight to six parts by weight with a view of forming carbonic acid; or in some intermediate proportion to form a mixture of the two aforesaid gases.

I also claim by the proper selection of the kind of carbonaceous matter, or by the addition of the peroxide of manganese, or its equivalent to obtain at pleasure a quicker or slower burning powder.

Furthermore I claim by the addition of a sufficient amount of dextrine or other equivalent gum and with or without the subsequent operations of pounding, or pressing and granulating the manufacture of a grained powder having valuable properties.

And I claim by the use of oil of vitrol or any body acting similarly upon the aforesaid chlorine compound, and brought in contact with it by appropriate devices at the proper moment, to effect the explosion of the powder in shells, at or soon after striking an object; or by similar devices, the explosion of mines, torpedoes or the like under or against an enemy.

42,057.—Apparatus for the Manufacture of Gunpowder.—Charles M. Wetherill, Lafayette, Ind., assignor to Isaac R. Diller, Springfield, Ill.:

I claim the use of this drying apparatus for completing, if it be needed, the desiccation of the aforesaid explosive or degrading compound after it shall have left the aforesaid boiling or evaporating pan.

42,058.—Fastening for Dock and Side Lights of Vessels.—Herman Winter, Boston, Mass., assignor to James Gregory, New York City:

I claim the collar, g, applied to the shank of the fastening screw of a deck or sidelight in combination with the recess, h, in the frame carrying the glass for the purpose and as specified.

42,059.—Petroleum Stove.—George L. Witsill (assignor to himself, Charles M. Rhodes and C. W. Oldenberg), Philadelphia, Pa.:

I claim, first, the combination of the disk C, base plate A, its openings, h, and plate, E, or its equivalents.

Second, the combination of the disk C, dome, D, and disk D', constructed and arranged within a stove or heater substantially as and for the purpose herein set forth.

RE-ISSUE.

1,640.—Horse Rake.—Gideon Pierce, Ercildoum, Pa. Patented November 29, 1859:

I claim the arrangement and combination of the axle a, cog wheel b, rack c, lever I, frame d, bar G, standard g, and teeth f, operating substantially as and for the purpose set forth.

DESIGN.

1,925.—Carpet Pattern.—Elemir J. Ney (assignor to the Lowell Manufacturing Company), Lowell, Mass.



PATENTS GRANTED FOR SEVENTEEN YEARS!

MUNN & COMPANY,

In connection with the publication of the SCIENTIFIC AMERICAN, have acted as Solicitors and Attorneys for procuring "Letters Patent" for new inventions in the United States and in all foreign countries during the past seventeen years. Statistics show that nearly ONE-THIRD of all the applications made for patents in the United States are solicited through this office; while nearly THREE-FOURTHS of all the patents taken in foreign countries are procured through the same source. It is almost needless to add that, after seventeen years' experience in preparing specifications and drawings for the United States Patent Office, the proprietors of the SCIENTIFIC AMERICAN are perfectly conversant with the preparation of applications in the best manner, and the transaction of all business before the Patent Office; but they take pleasure in presenting the annexed testimonials from the three past ex-Commissioners of Patents:—

Messrs. MUNN & Co. :—I take pleasure in stating that, while I held the office of Commissioner of Patents, MORE THAN ONE-FOURTH OF ALL THE BUSINESS OF THE OFFICE CAME THROUGH YOUR HANDS. I have no doubt that the public confidence thus indicated has been fully deserved, as I have always observed, in all your intercourse with the office, a marked degree of promptness, skill, and fidelity to the interests of your employers. Yours very truly, CHAS. MASON.

Judge Mason was succeeded by that eminent patriot and statesman, Hon. Joseph Holt, whose administration of the Patent Office was so distinguished that, upon the death of Gov. Brown, he was appointed to the office of Postmaster-General of the United States. Soon after entering upon his new duties, in March, 1859, he addressed to us the following very gratifying letter:

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

Hon. Wm. D. Bishop, late Member of Congress from Connecticut, succeeded Mr. Holt as Commissioner of Patents. Upon resigning the office he wrote to us as follows:

Messrs. MUNN & Co. :—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, your obedient servant, Wm. D. BISHOP.

THE EXAMINATION OF INVENTIONS.

Persons having conceived an idea which they think may be patentable, are advised to make a sketch or model of their invention, and submit it to us, with a full description, for advice. The points of novelty are carefully examined, and a written reply, corresponding with the facts, is promptly sent, free of charge. Address MUNN & CO., No. 37 Park Row, New York.

As an evidence of the confidence reposed in their Agency by inventors throughout the country, Messrs. MUNN & CO. would state that they have acted as agents for more than TWENTY THOUSAND inventors! In fact, the publishers of this paper have become identified with the whole brotherhood of inventors and patentees, at home and abroad. Thousands of inventors for whom they have taken out patents have addressed to them most flattering testimonials for the services rendered them; and the wealth which has inured to the individuals whose patents were secured through this office, and afterwards illustrated in the SCIENTIFIC AMERICAN, would amount to many millions of dollars! Messrs. MUNN & CO. would state that they never had a more efficient Corps of Draughtsmen and Specification

Writers than those employed at present in their extensive offices, and that they are prepared to attend to patent business of all kinds in the quickest time and on the most liberal terms.

PRELIMINARY EXAMINATIONS AT THE PATENT OFFICE.

The service which Messrs. MUNN & CO. 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 they may acquire of a similar invention from the records in their Home Office. But for a fee of \$5, accompanied with a model, or drawing and description, they 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 the Branch Office of Messrs. MUNN & CO., corner of F. and Seventh streets, Washington, by experienced and competent persons. Many thousands of such examinations have been made through this office, and it is a very wise course for every inventor to pursue. Address MUNN & CO., No. 37 Park Row, New York.

HOW TO MAKE AN APPLICATION FOR A PATENT.

Every applicant for a patent must furnish a model of his invention if susceptible of one; or, if the invention is a chemical production, he must furnish samples of the ingredients of which his composition consists, for the Patent Office. These should be securely packed, the inventor's name marked on them, and sent, with the Government fees, by express. The express charge should be pre-paid. Small models from a distance can often be sent cheaper by mail. The safest way to remit money is by a draft on New York, payable to the order of Messrs. 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.

Patents are now granted for SEVENTEEN years, and the Government fee required on filing an application for a patent is \$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.....	\$20
On application for extension of Patent.....	\$50
On granting the Extension.....	\$50
On filing a Disclaimer.....	\$10
On filing application for Design (three and a half years).....	\$10
On filing application for Design (seven years).....	\$15
On filing application for Design (fourteen years).....	\$30

The 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 law abolishes discrimination in fees required of foreigners, excepting natives of such countries as discriminate against citizens of the United States—thus allowing Austrian, French, Belgian, English, Russian, Spanish and all other foreigners, except the Canadians, to enjoy all the privileges of our patent system (except in cases of designs on the above terms. Foreigners cannot secure their inventions by filing a caveat; to citizens only is this privilege accorded.

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 is \$10. A pamphlet of advice regarding applications for patents and caveats is furnished gratis, on application by mail. Address MUNN & CO., No. 37 Park Row New York.

EXTENSION OF PATENTS.

Many valuable patents are annually expiring which might readily be extended, and if extended, might prove the source of wealth to their fortunate possessors. Messrs. MUNN & CO. are persuaded that very many patents are suffered to expire without any effort at extension, owing to want of proper information on the part of the patentees, their relatives or assigns, as to the law and the mode of procedure in order to obtain a renewed grant. Some of the most valuable grants now existing are *extended patents*. Patentees, or, if deceased, their heirs, may apply for the extension of patents, but should give ninety days' notice of their intention. Patents may be extended and preliminary advice obtained, by consulting or writing to MUNN & CO., No. 37 Park Row, New York.

REJECTED APPLICATIONS.

Messrs. MUNN & CO. are prepared to undertake the investigation and prosecution of rejected cases, on reasonable terms. The close proximity of their Washington Agency to the Patent Office affords their rare opportunities for the examination and comparison of references, models, drawings, documents, &c. Their success in the prosecution of rejected cases has been very great. The principal portion of their 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 MUNN & CO., on the subject, giving a brief history of the case, inclosing the official letters, &c.

FOREIGN PATENTS.

Messrs. MUNN & CO., are very extensively engaged in the preparation and securing of patents in the various European countries. For the transaction of this business they have offices at Nos. 66 Chancery lane, London; 29 Boulevard St. Martin, Paris; and 26 Rue des Eperonniers, Brussels. They think they can safely say that THREE-FOURTHS of all the European Patents secured to American citizens are procured through their 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 MUNN & CO.'S Agency, the requirements of different Government Patent Offices, &c., may be had, gratis, upon application at the principal office, No. 37 Park Row, New York, or any of the branch offices.

SEARCHES OF THE RECORDS.

Having access to all the official records at Washington, pertaining to the sale and transfer of patents, MESSRS. MUNN & CO., are at all times ready to make examinations as to titles, ownership, or assignments of patents. Fees moderate.

INVITATION TO INVENTORS.

Inventors who come to New York should not fail to pay a visit to the extensive offices of MUNN & CO. They will find a large collection of models (several hundred) of various inventions, which will afford

them much interest. The whole establishment is one of great interest to inventors, and is undoubtedly the most spacious and best arranged in the world.

MUNN & CO. wish it to be distinctly understood that they do not speculate or traffic in patents, under any circumstances; but that they devote their whole time and energies to the interests of their clients.

COPIES OF PATENT CLAIMS.

MESSRS. MUNN & CO., having access to all the patents granted since the rebuilding of the Patent Office, after the fire of 1836, can furnish the claims of any patent granted since that date, for \$1.

THE VALIDITY OF PATENTS.

Persons who are about purchasing patent property, or patentees who are about erecting extensive works for manufacturing under their patents, should have their claims examined carefully by competent attorneys, to see if they are not likely to infringe some existing patent, before making large investments. Written opinions on the validity of patents, after careful examination into the facts, can be had for a reasonable remuneration. The price for such services is always settled upon in advance, after knowing the nature of the invention and being informed of the points on which an opinion is so solicited. For further particulars address MUNN & CO., No. 37 Park Row New York.

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



H. A. C., of Pa.—We know of no work which contains statements of the amount of friction of air in passing through pipes. We have seen some brief mention of experiments to determine this having recently been made by the accomplished engineer of the Philadelphia gas works, and should be pleased to obtain the results for publication. A pneumatic tube for the transmission of the mails has been in practical operation in London for two years or more. It has proved so successful that it is to be extended. For currents of air without much pressure a centrifugal fan, like that of winnowing mills, is in general use, but where any considerable pressure is required a cylinder and piston must be employed.

J. J. S., of Mass.—You say that in your experiment in boiling potatoes, those which were boiled fast were cooked in 23 minutes, and those that were boiled slow were cooked in 38. When you put a large quantity of cold potatoes into a small quantity of boiling water, the temperature of the water will be considerably reduced, and a hot fire will raise it again to the boiling point more quickly than a slow fire. If you try the experiment fairly, you will find that water boiling slowly will cook any kind of food just as quickly as water boiling with the greatest fury.

C. H. W., of N. Y.—There is no way at present known of protecting india-rubber from the action of oil if the two substances are brought in contact; nor are we acquainted with any substance possessing the properties of india-rubber which will resist the action of oil.

C. W., of Mass.—We know of no better plan for preventing stoves from rusting when not in use than to oil them with the heaviest portion of petroleum. As petroleum contains no oxygen and absorbs none, it is peculiarly adapted for preserving iron from rust. But as the light portion soon evaporates, the heavy portion only is suitable for this purpose.

A. S., of Nova Scotia.—We give but a small portion of our space to agricultural matters, and in making selections for this space we prefer to take the facts established by experience rather than to enter upon the discussion of unsettled questions.

J. F. T., of Pa.—Septimus Piesse's work is the best yet published on perfumery. It is an English work, but you may be able to get it at some of your bookstores.

C. Bradley, of Ohio.—The long-stroke engine would not require so much repair as the one with a short stroke. Engines that run at high speeds are generally costly to keep in order.

J. B. W., of Pa.—The "American Railway Times" is still published in Boston. The part between the eye of the crank and the shaft is called the "web." We do not know what you mean by "the duplex steam boiler and duplex safety valve."

Subscriber, of Pa.—You will find the best treatise on steam in Lardner's treatise on the Steam Engine. There is no other more lucid or intelligible.

L. R. F., of Ind.—You will find the information you require in "Notes and Queries," No. 14, current volume, under the initials "M. A. A." If correspondents would look in the paper first, and then write to us for what they cannot find, it would save time and trouble to all concerned. We have published the receipts for making black japan varnish an infinite number of times.

E. C., of Mich.—After eighteen centuries had passed the nineteenth century began. As soon as a man is 65 years old his 66th year begins.

J. O. L., of Ill.—The trouble you refer to in your pump is a very common one with the class it belongs to, and is an objection to its use. You should inject a little oil once in a while. Impure water and sand or grit also get in and cause the plunger to cut and scratch.