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42,453.—Hardening Cast Iron.—Thomas Allin, New York City.

I claim the process, substantially as above described, of hardening cast iron by plunging it in a bath of acid and water when it is about a blood-red heat, substantially as set forth.

42,454.—Rake for Harvesters.—N. Allstatter, Hamilton, Ohio.

I claim the rake-shaft, C, provided with a crank, c, in connection with the sliding clutch thimble, I, provided with the arms, m, m', oblique plates, n, n', on the segment plate, E, and the curved plates, K, K', all arranged for joint operation as and for the purpose herein set forth.

In combination with the parts specified in the foregoing claim, I further claim the flexible or jointed rake-head, arranged to operate substantially in the manner as and for the purpose herein set forth.

[This invention relates to a new and improved raking attachment for harvesters of that class in which the rake is made to move or sweep forward and backward over the platform in the arc of a circle. The invention consists in the peculiar means employed for operating or giving motion to the rake, whereby, it is believed, that a very simple, efficient, and durable rake-operating mechanism is obtained, and one which may be driven by a moderate application of power, and economically constructed and applied.]

42,455.—Coal-oil Lamp.—Joshua C. Ambrose, Jersey City, N. J.

I claim in combination with the burner constructed as shown and composed of the parts, E, G, H, H², L, and M, the use or employment of the cone, N and N², fount, B, and chimney, Q, R, for the purpose or purposes herein fully described.

42,456.—Picker for Looms.—James Bardsley & Allen W. Gordon, Williamantic, Conn.

I claim the picker-faster constructed with a slanting portion, b, and fitted with a set screw, D, operating substantially as herein specified.

[This invention consists in a novel and very simple device for attaching the picker to its staff, which provides for its adjustment to the proper height, add which strengthens the staff, instead of weakening it like the ordinary mode of attachment.]

42,457.—Japanning Corset Steels, &c.—Charles H. Bassett, Derby, Conn.

I claim the method, substantially as described, of japanning or coating steels and other articles by dipping them into the japanning solution and withdrawing them, at a velocity less than that at which the japan flows off of the article.

42,458.—Destroying Forts, &c., by means of Inflammable Liquids.—Alfred Berney, Jersey City, N. J. Antedated April 19, 1864.

I claim the above-described means of inflicting injury upon an enemy, by employing the liquid referred to, or any equivalent thereof possessing the properties above enumerated, in combination with suitable machinery for projecting the same to a distance, substantially as set forth.

I also claim using only the said crude petroleum, or said oil, or any other inflammable oil, for the purpose specified, after flame has been originated in the manner substantially as set forth.

42,459.—Drum Stove or Radiator.—O. B. Buttles, Milwaukee, Wis.

I claim the arrangement of the inclined or roof-shaped deflectors in the flue space of a radiating cylinder, for the purpose and in the manner herein described and represented.

42,460.—Corset.—Smith Collins, New Haven, Conn.

I claim a corset having the diagonal stays, D, arranged relatively to the stays, B, C, and the busks, c, c, inserted and secured in the manner described, and for the purpose specified.

42,461.—Let-off for Looms.—George Crompton, Worcester, Mass.

I claim the combination of the tension and friction rollers or bars, and their respective frames, the tension weight, and warp beam, with the warp as described.

The combination of the tension and friction framed levers and rollers, or bars therein, and the tension weight, with friction on the beam head or heads, as described.

The combination of the weighted tension framed lever and roller, or bar therein, with the warp beam, as described, for the purpose of producing tension on the warp and friction on the beam.

Diminishing or increasing the pressure of the tension frame roller or bar, through the warp, upon the friction frame roller or bar, by the tension weight, for the purpose of relieving or holding the friction on the warp beam.

42,462.—Mode of attaching Single-trees.—Peter Conover, Franklin, Ohio.

I claim the combination of the lugs, G, G, and the plates, D, E, flanges, H, H, shaft-bar, A, single-tree, B, and king-bolt, C, when the said parts are all constructed and arranged and operate in the manner and for the purposes herein specified.

42,463.—Flour-packer.—Isaac Cook, St. Louis, Mo.

I claim the weighted lever, F, hooked rod, P, and stop, u, in combination with the tappet, v, on the platform, B, and with the sliding box, s, of the driving shaft, constructed and operating in the manner and for the purpose substantially as set forth.

[This invention consists in a flour-packer, the spout of which is made of wood, and provided at its bottom end with an auger chamber and auger rotating on a vertical shaft in combination with a ring and falling barrel-platform, which is forced up by a weight, and the strain exerted by this weight on the platform is regulated according to the increasing quantity of flour in the barrel by means of a sliding weight and friction-brake, in such a manner that the flour throughout the whole barrel is compressed with uniform density by the automatic action of the packer.]

42,464.—Apparatus for disinfecting Vessels.—E. Hall Covel, New York City.

I claim disinfecting vessels, chambers, &c., by forcing the highly heated air into and circulating it through them, substantially as herein set forth.

42,465.—Capstan.—Henry Davies, Portsmouth, Ohio.

I claim the pair of rollers, A, A, inclined obliquely from the perpendicular in opposite directions, each of the said rollers being provided with a series of parallel latitudinal V-shaped grooves, in the described combination with the spindle, C, wheel, D, and cap, E, all constructed, arranged, and operating in the manner and for the purposes herein specified.

42,466.—Hay-loader.—Wm. H. Elliot, Plattsburgh, N. Y.

I claim, first, The employment of a crane in combination with a hay-rack and hay-fork, for the purpose herein specified.

Second, The employment of swing cord, t, in combination with a hay-fork when said cord is attached to some fixed point above, and operated in the manner and for the purpose herein set forth.

Third, The employment of swing cord, t, and a hay-fork in combination with a crane the arm of which may be locked at certain points, as and for the purpose herein specified.

Fourth, So constructing the locking devices that they will lock the arm of the crane in certain position while the weight of the fork load is acting upon the swing, t, and will unlock the arm and leave it at liberty to swing around freely, when there is no load upon the fork, herein set forth.

42,467.—Stave-jointing Machine.—Felix A. Finn, New York City.

I claim the endless chain of beds, substantially as described, in combination with the circular bevelling saw, substantially as and for the purpose set forth.

42,468.—Self-acting Brake.—Willis Glaze, Rochester, Ind.

I claim the combination of the hook, h, rods, M and K, projection, f, guides, e, e, levers, L, c, shaft, J, chains, g, g, and whiffle-trees, H, all constructed, and operating in the manner and for the purpose specified.

[This invention consists in connecting the brake-bar with the whiffle-trees of the vehicle, and also with the breast straps or neck yoke of the team in such a manner that the brakes will be applied to the wheels when the vehicle is passing down or over descending ground, or whenever the speed of the team is checked or "reined in," to stop or retard the movement of the vehicle; and the brakes instantly moved or thrown off from the wheels whenever the draught power of the team is applied to the vehicle.]

42,469.—Apparatus for vaporizing Hydro-carbon Liquids for Illuminating.—Jonathan Griffin, Meriden, Conn.

I claim the submerger-perforated chamber, B, for the purpose of more equally and quickly diffusing the atmospheric air through the whole of the liquid, substantially as and for the purpose described.

I also claim in combination with the submerged perforated chamber, B, the submerged plate, C, to prevent bubbling or agitation of the liquid, substantially as described.

I also claim the interposition of a bright metal condensing plate, C, between the liquid and the apparatus and the regulator or equalizer for the purpose of collecting and returning the impurities and drip, substantially as herein described and represented.

I also claim in combination with a vaporizing apparatus, a dome or chamber located between the liquid hydro-carbon, and the lights or burners, said dome containing an elastic porous substance that will contract and expand under the varying force of the passing volume of vapor or vaporized air through it, and thus act as an equalizer of the flow of gas, substantially as described.

42,470.—Smelting Furnace.—Eliphalet Hall, Moriah, N. Y.

I claim, first, In combination with the furnace, A, the fuel department or oven, B, containing a feeding chain, c, the whole being constructed and arranged to operate substantially in the manner therein set forth.

Second, In combination with the oven, B, constructed with double walls in the manner described, I claim the pipe, E, and tongue, E³, adapted to be employed in connection with a blast of air to convey the escape heat to the oven, B, for the purpose set forth.

Third, I claim forcing into the smelting furnace, A, the gas eliminated from the wood, and the heated air conveyed from the stack, E, by the employment of the tuyere, E, and pipe, F', substantially as and for the purposes explained.

42,471.—Breech-loading Fire-arm.—George Hancock, Providence, R. I.

I claim, first, So hanging the chamber block that it will partially rotate within the recess in the breech on a fixed pin passing through the lower portion of said block in combination with the peculiar spring and wedge, r, substantially as described for the purpose specified.

Second, I claim forming the breech-pin with a bevelled shoulder in continuation with a bevelled surface at the bottom of the chamber, a spring, s, and a projecting nut, w, arranged substantially as described to effect the purpose specified.

42,472.—Skate-fastening.—John Harrar, Philadelphia, Pa.

I claim the combination of a metallic cylinder, Fig. 3, screwthread, t, notches, v, v, and cavity, c, which were employed instead of the flat plate, shown at Fig. 1, but having a like elongated aperture, d, adapted to receive the skate, c, will obtain for the said elongated aperture a more ready adjustment, readjustment, removal, and require less space, substantially for the purpose described.

42,473.—Crutch.—John Hartman, Jr., Philadelphia, Pa. Antedated Dec. 22, 1863.

I claim, first, Constructing and combining with the staff or frame of the crutch, a tube of gutta-percha, or other equivalent substance to form a yielding and easy rest for the arm-pit, substantially as described.

Second, The combination of the tube, A, with the jaws, B, B, by means of the conical screws, C, C, or their equivalent, substantially in the manner and for the purpose above set forth.

42,474.—Apparatus for arranging and distributing Screw Blanks.—H. A. Harvey, New York City.

I claim an apparatus, substantially such as herein described, whereby blanks deposited in a pan may be arranged and forwarded or supplied to various machines for operating thereon; said apparatus consisting of a pan, a series of vibrating arrangers, and a series of forwarding ways, constructed, combined, and acting together, substantially as herein set forth.

42,475.—Wood Screw.—H. A. Harvey, New York City.

I claim, first, A bulbous-pointed screw, substantially such as is herein described.

Second, A bulbous-pointed screw with the thread projecting unequally, so that its periphery will occupy the same position that it would in a screw of the ordinary form of barrel, substantially as described.

Third, A bulbous-pointed ratchet-headed screw, constructed and having the mode of operation herein set forth.

Fourth, A bulbous-pointed screw provided with a center point, without any thread on the extremity thereof, substantially such as is herein specified.

42,476.—Apparatus for arranging and distributing Screw Blanks.—H. A. Harvey, New York City.

I claim, first, A receptacle having an inclined bottom composed of a series of ribs in combination with a sweep, the two being constructed and operating substantially as described, and constituting an arranging apparatus.

Second, I claim in combination with an arranging apparatus, operating as described, a plate arranged as described for discharging unarranged blanks and preventing them from obstructing the operations of the apparatus as specified.

Third, In combination with an arranging apparatus constructed and operating substantially as described, I claim an oscillating, receiving, and distributing apparatus acting substantially as set forth.

Fourth, I claim imparting proper motions to an oscillating, distributing apparatus by means of a spring, or its equivalent, an impelling roller, and cams, the whole acting as a combined contrivance substantially as set forth.

Fifth, I claim in combination with an arranging apparatus, substantially such as described, a series of forwarding ways, the combination being and operating substantially as described.

Sixth, I claim mounting an arranging apparatus whose bottom is composed of inclined ribs in such manner, substantially as described, that the inclination thereof may be varied for the purposes described.

Seventh, I claim in combination forwarding ways, or a set or series thereof, an oscillating, receiving, and distributing apparatus and an arranging apparatus, all operating substantially as described, whereby blanks may be arranged and distributed to several machines

for performing useful operations thereon, substantially as hereinbefore set forth.

42,477.—Apparatus for arranging and distributing Screw Blanks.—H. A. Harvey, New York City.

I claim, first, The combination of a pan having the distinguishing characteristics substantially as specified, with revolving sweeps, operating substantially as described.

Second, The combination of a pan and sweeps constituting an arranging apparatus operating substantially as set forth, with a receiving and distributing apparatus having a mode of operation substantially as herein described.

Third, The combination of a set or series of inclined forwarding ways with a receiving and distributing apparatus, the combination operating substantially as described.

Fourth, I claim an arranging mechanism for arranging screw blanks in rows in combination with a distributing apparatus and a set or series of forwarding ways when the combination operates substantially as described, whereby a single arranging apparatus can arrange blanks and forward them to several machines, performing useful operations on the blanks forwarded by said ways.

42,478.—Governor for Steam Engines.—J. L. Hastings, To wanda, Pa.

I claim resting and supporting the wheel, pulley, or its equivalent, upon the belt that drives the governor, so that if said belt should part, break, or slip off from its pulleys, the dropping of said wheel and its connected arm, will disengage the valve rod from the governor, and thus avoid any injury incident to such casualty, substantially as herein described.

I also claim in combination with the arm, g, and the connecting rod, M, the chain, T, for moving the valve and closing or partially closing the ports when said rod, M, is disconnected from the governor for the purpose of stopping or checking the engine, substantially as described.

42,479.—Floor-cloth.—Samuel Haworth, Doncaster, England.

I claim the new manufacture of floor-cloth herein described, composed of a base fabric of consolidated fibrous material and of a surfacing material combined, substantially as set forth.

42,480.—Railroad Chair.—Wells Hendershott, Batavia, N. Y.

I claim, first, Making a rail chair and coupling for railroads, connected by a hinge or hinges at the bottom, with the inclined planes, b, b and f, so that the pressure and weight of the cars will firmly hold the rails, and when the weights is removed the hold will be relaxed and allow the rails to expand and contract for the purposes described, and in the manner as, substantially set forth.

Second, I claim the inclined planes in combination with the hinge, for the purposes described and as set forth.

Third, I claim the hinge connecting the two parts of the chair and coupling for the purposes described, and substantially as set forth.

Fourth, I claim the inclined planes for the purposes described and as set forth.

Fifth, I claim in combination with said rail chair and coupling a rail that may be turned over, with both the top and bottom sides alike.

Sixth, I claim in combination with said rail chair and coupling the support for the middle of the rail, constructed in the manner and for the purposes described.

Seventh, I claim the projections, d, d, extending below the chair into the opening, c, in the bottom of the box upon which the chair rests, for the purposes described and substantially as set forth.

Eighth, I claim the box, a, a, in which the chair or coupling is placed, for the purposes described and substantially as set forth.

42,481.—Churn.—A. E. Hewett, Homer, N. Y.

I claim the blades, b, attached to the shaft, a, obliquely in pairs and provided with concentric curved slots, c, having their inner sides, c', inclined, and the upper and lower parts of the blades having curved surfaces, d, e, f, substantially as shown to form a new and improved churn-dasher, as set forth.

I further claim the vertical ribs, i, at the inner side of the churn-box, a, in combination with the rotary dasher, B, for the purpose set forth, constructed and operating as above described.

[This invention relates to a new and useful improvement in the dasher of the churn, which dasher is of the rotary spiral class. The invention has for its object the forcing of the cream in a vertical current downward or near the edges of the dasher, and upward at the side of the churn-box, the cream at the same time being prevented from rotating with the dasher, and caused to move outward from the dasher shaft, where the dasher has but little effect, to the edges of the dasher, the latter being also so constructed as to admit of being adapted to the weight of the cream in the churn, and capable of being used with great advantage for gathering butter as well as for expeditiously producing the same from the cream.]

42,482.—Sheet Tobacco Press.—Edward Holbrook, Jr., Louisville, Ky.

I claim, first, The movable walls, A, A', in combination with the upper wall, A, and follower, A², arranged and operating in any manner substantially as specified.

Second, I claim the rolls, G, G, adapted to ascend with the follower, A², and brace the walls, A', A', substantially as and for the purpose set forth.

Third, I claim the combination of the follower, A², and receiver, F, when employed in connection with the press, A', A', as and for the purpose explained.

Fourth, I claim the right and left screws, C, C, employed in connection with the crank, D, to open and close the walls, A', A', as described.

Fifth, In combination with the follower, A², I claim the self-adjusting wheels or rollers, a, arranged and operating substantially as and for the purpose set forth.

42,483.—Sheet Tobacco-cutter.—Edward Holbrook, Jr., Louisville, Ky.

First, I claim the combination with the knife, B, of the rolls, D, D, the latter being covered with felt or analogous material to adapt the knife to be lubricated substantially as and for the purpose set forth.

Second, I claim the combination of the arms, E, crank wheels, F, wheel, G, and gearing, H, I, constructed and arranged as herein shown and described, and employed to operate the knife in the manner specified.

Third, I claim the roll, J, employed in connection with the roll, K, for feeding the tobacco to the action of the knife, substantially as set forth.

Fourth, In combination with the cutting apparatus, I claim the cams, M, M, adapted to assist the feeding of the tobacco substantially as described.

Fifth, In combination with the table, A, I claim the wheels or casters, a, arranged and operating substantially as and for the purpose specified.

42,484.—Lump Tobacco-cutter.—Edward Holbrook, Jr., Louisville, Ky.

First, I claim the roll, C, provided with knives or cutter, c, and operating in connection with the roll, E, substantially as and for the purpose specified.

Second, I claim the lubricating of the knives, c, in manner substantially as herein described and for the purpose set forth.

Third, In combination with the rolls, C, E, I claim the inclined slotted table, B', and roll, F, to prevent the adhesion of the gummy matter of the tobacco, as explained.

42,485.—Lump Tobacco Machine.—Edward Holbrook, Jr., Louisville, Ky.

First, I claim forming tobacco sheets from the leaves by laying the leaves in flat form between moveable boards or plates and pressing, substantially as set forth.

Second, I claim a feeding table formed in two or more sections, A, A', arranged at different heights substantially as and for the purpose explained.

Third, I claim the wheels or rollers, a, in combination with the table, A, A', adapted for use substantially as and for the purposes described.

Fourth, In combination with the aforesaid feeding table, I claim one or more adjustable gauges, E², employed in the manner described to regulate the introduction of the press.

42,486.—Wringing Machine.—E. S. Howell, Hope, N. J.

I claim, first, The two wedge, C, C, placed one over the other connected with a lever, F, arranged relatively with the roller, B, and with or without the spring, E, to operate substantially as and for the purpose herein set forth.

Second, The uprights G, G', beveled at their inner sides and connected to the frame of the frame of the machine as shown, in com-

bination with the lever, J, all arranged to operate substantially in the manner as and for the purpose herein set forth.

[This invention relates to certain improvements in that class of clothes-wringing machines in which pressure rollers are employed. The invention consists in a novel and improved means for graduating the pressure of the rollers, so that the machine may be readily adapted for wringing different kinds of clothes, and it also consists in an improved means employed for securing the machine to the tub as hereinafter fully set forth.]

42,487.—Stove.—Felix Hoyos, Paris, France. Patented in England, March 16, 1863.

I claim the herein described improved construction arrangement and operation of stove or fire-grates whereby the air is caused to descend and pass through the fire therein and then upwards and escape through the centre of the stove thus effectually consuming the smoke and rendering the stove available for various useful purposes.

42,488.—Rake for Harvesters.—William H. H. Hunter, Versailles, Ind.:

I claim, first, The combination of screw M, and Nut, O, with shafts, L and K' by toggle joint in the manner and for the purpose herein described.

Second, Also, the combination of the wrists with their springs, N, nut, O, and tubular rake head, P, arranged and operating with the mechanism for lifting the rake teeth, substantially as and for the purpose described.

Third, Also, the combination of the stirrup lever, U, with the auxiliary shaft K', slotted rest A', gears, b', and gear wheels on shafts, J, K, arranged connected and operating as described for the purpose set forth.

42,489.—Pipe Wrench.—John Charles Johnson, Oil City, Pa.:

I claim constructing gas tongs substantially as described, by pivoting the hook or movable jaws directly to a nut, screwed into the handle, the upper part of which, above the nut forms the other jaws of the tongs.

Also in combination with the gas tongs constructed as described in the first claim, making the face of the jaw at the end of the handle inclined towards the point of the hook, so as to enable the tongs to be adapted to holding tapering surfaces.

42,490.—Washing Machine.—Josee Johnson, New York City:

I claim the combination of two pounders, E', E2, and washboards, C, e2, arranged to operate in combination with the vibrating frame, C, and with a suitable tub or vessel, substantially in the manner and for the purpose herein set forth.

42,491.—Molding Artificial Teeth.—Henry D. Justi, Philadelphia, Pa.:

I claim molding the cavities, c, required in the blocks of porcelain teeth and gums by means of cores, b, constructed and applied substantially in the manner described and set forth, for the purpose specified.

I also claim in combination with each of the said cavities, c, the tapering curved projection, e, around the same as described and set forth, for the purpose specified.

42,492.—Lamp.—Martin R. Kenyon, Providence, R. I.:

I claim the combination of the aforesaid hinged cone and chimney holder, the thumb-piece or lifter, S, and the two-coil spring, t, when the whole are constructed and used for the purpose and effect herein described and set forth.

42,493.—Brake Block for Car Brakes.—John P. Swan, Altoona, Pa.:

I claim the construction, arrangement and combination of the block and shoe, with their devices, G E J H and L, as constructed and arranged and so rolling as that one half of both sides or wings shall remain parallel with the face or top of the pile until very nearly reduced to its proper thickness, when by passing it through a plain rectangular groove in said rolls the wings or sides shall be turned up and finished with the grain conformable to the layers of the original bar.

[This invention consists in the employment or use, in rolling angle iron, of rollers with flat faces and a central triangular ridge or groove in such a manner that the bar from which the angle iron is to be rolled can be introduced between the rollers flat instead of cornerwise, and both sides of the angle iron when finished, run parallel to the layers of the original bar, and not cross-wise as is inevitably the case with one side of angle iron rolled in the ordinary manner.]

42,496.—Chimney Caps.—Thomas A. Mann, West Greenville, Pa.:

I claim the ornamental chimney top as herein described and for the purposes set forth as an article of manufacture.

42,497.—Preparing Mica for making Reflectors, Mirrors, &c.—William M. Marshall, Philadelphia, Pa.:

I claim the use of mica for the purpose of making reflectors, when it is coated with a metallic surface adhering thereto, or the placing it over any metallic surface used for a reflector for the purpose of protecting it.

42,498.—Raking Attachment to Harvesters.—William G. Merrell, Auburn, N. Y.:

I claim the combination of the slotted crank arm, S, bevel pinion, T, and cam wheel, U, substantially in the manner and for the purposes described.

I also claim providing the cam wheel, U, with the legs, h, in combination with the recess, i, in pinion, T, for the purpose of carrying the cam wheel over the dead points substantially in the manner and for the purposes described.

I also claim the combination of the cam wheel, U, pinion, T, pivoted cam wheel shaft, V, centre shaft, W, and rake arm supporter, X, substantially in the manner and for the purpose described.

I also claim securing the rake head, Z, to the rake arm, Y, by means of pivot-joint plates k and n, having circular bearings, l, and m, and constructed and arranged substantially in the manner and for the purpose described.

I also claim the lug, w, on shaft, W, in combination with the lip on shaft V, substantially as and for the purpose set forth.

I also claim the combination of the adjustable frame, D, with the base plate, C, attached to the platform, A, in the manner shown and described and for the purposes set forth.

42,499.—Stove-pipe Elbow.—J. F. Murdock, Wareham, Mass.:

I claim the stove pipe elbow, B, B, made of cast iron substantially as shown and described as a new article of manufacture.

42,500.—Fruit Ladder.—A. W. Olds, Green Oak, Mich.:

I claim the compound braces, F, G, in connection with the universal joint, E, arranged and operating as and for the purpose specified.

Second, I claim the platform, E, rods, I, J, and end-pieces, K, L, arranged and operating as set forth.

42,501.—Lime Kiln.—C. D. Page, Grand Rapids, Mich.:

I claim the herein-described fire chambers, G G, with spiral flues, which are so arranged upon each side of the cupola, that the flame is caused to penetrate every part of the interior in a spiral curve, as and for the purpose specified.

Second, I claim the drop slide, E, for discharging the burnt lime stone, and keeping the cupola tightly closed when not being discharged, the same being constructed, arranged and operating as and for the purpose specified.

Third, I claim the car, F, in combination with the drop slide and kiln, arranged and operating as set forth.

42,502.—Sewing Machine.—Charles Parham, Philadelphia, Pa.:

I claim, first, the looper, u, constructed and operating in connection with the needle and shuttle thread substantially as herein described and represented to form a button-hole stitch.

I also claim a gate or cut-off, placed in the race of the machine, for shutting off the shuttle from the needle-loop, to prevent the former from passing through the loop of the latter, at every alternate throw substantially as and for the purpose described.

I also claim the opening of the gate or cut-off by the action of the hook whilst it is closed by a separate mechanism substantially as described.

I also claim in combination with the looper, the wheel, z, with its ratchet and elevations and depressions for operating and holding at intervals said looper, substantially as described.

I also claim hanging the feed wheel in a pivoted frame, so that the wheel and frame may be moved towards and from the needle or sewing line, to form a button-hole, substantially as described.

I also claim in combination with the feed wheel and its pivoted frame, the rod, B', and spring, p, for giving them their lateral and adjusting movement or for suspending their movement substantially as described.

I also claim in combination with the feed wheel and its pivoted frame susceptible of a lateral movement towards and from the needle or sewing line, an independent mechanism such as described for turning said feed wheel at stated intervals, upon its journals or axle to feed the material along substantially as described.

I also claim a rotary feed wheel that has two motions communicated to it at one and the same time, viz, a rotary motion around its axis and a laterally reciprocating motion around a pivoted point substantially as and for the purpose herein described.

I also claim the arrangement of the gears, G, H, and double cam I, so that there shall be two actions of the needle to one action of the lateral feed, and for getting the correct time and movements of the lateral feed, as herein described and represented.

42,503.—Wind-wheel Pump.—Edward Pepple, New Carlisle, Ind.:

I claim the combination and arrangement of the shaft, M, wheel, M, brake arm, P, and brake, N, in the manner and for the purpose set forth.

I also claim the general arrangement of the pump and wind wheel, substantially as described.

42,504.—Machine for cutting Tapering Forms.—Luther E. Phillips, Bristol, N. Y.:

I claim the conical tube, c, when constructed with strengthening and balancing bars, d, in combination with the arrangement of the feeding carriage, H, and its holding device when constructed to operate as and for the purpose substantially as set forth.

42,505.—Sawing Machine.—Charles L. Pierce, Buffalo, N. Y.:

I claim the compound friction wheel, R K', shaft, L, and pinion, L', in combination with the friction wheel, N, shaft, N', pulley, P, and shifting lever, O, for the purposes substantially as described.

Second, I claim the bar, P, and finger bar, J, connected together by a joint, j, as shown and the former attached to the pendant, g, of the frame, A, by a joint, f, in combination with the two driving wheels, B, D, and the frame, A, all constructed and arranged in the manner and for the purposes set forth.

42,507.—Ivory-covered Books.—Julius H. Pratt, New York City:

I claim, first, Applying seamless or unbroken sheets of scroll-cut ivory to the mill-board covers of books, in combination with the clamping binding, e, e, substantially as and for the purposes described.

Second, I claim the scroll-cutting and binding processes combined, substantially as described for the purposes described.

Third, I claim the method substantially as set forth, of manufacturing seamless covers for books from scroll-cut ivory.

Fourth, I claim as a new article of manufacture, a seamless scroll-cut ivory covered book, substantially as described.

42,508.—Apps for making Brush Hats.—J. C. Raake, Brooklyn, N. Y.:

I claim a brushing mechanism constructed substantially as described and operating in hot water in the manner and for the purpose set forth.

42,509.—Pneumatic Railway.—Thomas Webster Rammell, London, England. Patented in England on Feb. 10, 1860:

I claim, first, A pneumatic railway or tube in which the carriages are placed inside the tunnel or tube, but are independent of the tunnel or tube, and are wholly supported and in their motion are guided and directed by two or more rails, grooves, or trams, and in which the pneumatic pressure is applied over the whole or transverse area of the carriage.

Second, The contrivance for filling up with soft material the space between the interior of the tunnel or tube and the outside of the carriage, as applied to pneumatic railways and tubes, as above described.

Third, The use of several smaller or branch air passages leading into the tube at different points, either with or without self-acting valves, so as gradually to reduce the velocity of the carriage as applied to pneumatic railways and tubes, as above described.

42,510.—Fluted Ruffles.—Thomas Robjohn, New York City:

I claim a fluted ruffle in which the flutes are retained in place with out the use of an adhesion thread by pressing them flat along any portion of the width of the ruffle, substantially as herein specified.

42,511.—Stirrup.—Cyrus W. Saladee, Paducah, Ky.:

I claim the combination and arrangement of the stirrup, A, guard, B, toe-piece, C, screw, D, and shoulder plate, E, the whole being constructed, arranged, and operating in the manner hereinbefore specified.

42,512.—Stirrup.—Cyrus W. Saladee, Paducah, Ky.:

As a new article of manufacture I claim the guard, B, constructed, operating, and attached substantially as set forth.

42,513.—Cultivator.—S. W. Slocumb & E. Phillips, Fulton City, Ill.:

I claim, first, The stirrups, h, h, arranged as herein described and employed to enable the operator to move the inner plows steadily and independently by the direct application of his feet, as specified.

Second, In combination with the loosely shackled standards, F F', F F', constructed and arranged as herein described, the chains, G G', and the eyes, H H', H H', and thumb-nuts, a2, as and for the purpose set forth.

[This invention relates to an improvement in that class of cultivators which straddle the rows and pass over the growing plants, the shovels being so arranged that they can be readily adjusted to cut deeper or shallower, or that they can be thrown out of the ground at pleasure.]

42,514.—Cultivator.—J. D. Smith, Peoria, Ill.:

I claim the combination of the carriage swinging frame, b, b, driver's seat, A, hinged shovel carrying frame, d, vibrating shovel standards, g, g, (connected to rock-shafts), stop-pins, p, p, adjusting chain, n, when the frame, d, with the shovels is entirely forward of the axle of the frame, b, b, and the standards of the shovels are connected together at their upper extended ends by an adjustable bar, h, and operated by the single pivoted handle, c, from the driver's seat; all in the manner and for the purpose herein described.

Second, The arrangement of the rear wheeled frame, b, b, front cultivator frame, d, seat, A, shovels, g, g, rock-shafts, g' g', bar, h, lever, C, stop-pins, p, p, chain, n, tongue, B, and oblique laterally adjustable guards, D, all for united use in a machine adapted for cultivating green crops, as set forth.

Third, The arrangement of the chain connection, n, stop-pins, p, p, in combination with the hinged forward shovel frame, and the rear wheeled frame, when the said frames are constructed and operated in the manner herein described, and all adapted for the purpose set forth.

42,515.—Artificial Arm.—Edward Spellerberg, Philadelphia, Pa.:

I claim, first, The described method of actuating the hand mechanism by a pressure pad, attached to the inner side of the arm beneath the shoulder joint, and deriving its action from pressure of the

upper arm against the side, substantially as and for the purpose specified.

Second, The employment of a bell crank, M, at the elbow-joint, for transmitting motion from the pad to the hand mechanism and vice versa; the fulcrum pin or pins, l, of said bell crank being confined in slots, m, in the elbow-piece, B, the whole operating substantially in the manner and for the purpose set forth.

Third, I claim disconnecting the pressure pad from the hand mechanism by means of the latch, n, operating as described, or in any manner equivalent thereto, for the purpose set forth.

42,516.—Exercising Machine.—Charles F. Taylor, New York City:

I claim the sliding bars, B, B, connected with weights or their equivalents to offer a resistance to the action of the feet of the patient, in combination with a couch or lounge, A, all arranged to operate in the manner substantially as and for the purpose herein set forth.

42,517.—Lacing Shoes.—Charles F. Spencer, Rochester, N. Y.:

I claim the combination of a lacing cord or cords, E, with bearings, D, D, or equivalent, and the sides, C, C, of the slit, B, of a shoe, said cord or cords passing alternately from side to side around the bearings, and closing the slit by a single drawing action at the top, substantially as herein set forth.

I also claim the construction and arrangement of the stem, a, sheare, b, and shoulders or flanges, c, c', when the same are combined with the leather, C, in such a manner as to allow the sheare a free turning action, and to secure the device firmly to the leather, as herein specified.

42,518.—Portable Piano-forte.—Maurice Vergnes, New York City:

I claim, first, Producing the tone of a sonorous body by the stroke of a hammer thrown by its momentum, in the manner described.

Second, Attaching the damper firmly to the key in the manner described.

42,519.—Car Spring.—Ulysses B. Vidal, Philadelphia, Pa.:

I claim the arrangement of the pyramidal springs, B B', to stand in alternate inverted positions, in the manner and for the purpose herein shown and described.

I also claim having one side of the box divided into as many separate movable parts, A' A', as there are tiers of springs, as and for the purpose herein shown and described.

42,520.—Lantern-guard.—Wm. Westlake, Milwaukee, Wis.:

I claim attaching the lantern-guard to the lantern so that as a whole, and without any hinging or separating of its parts, it may readily and speedily be removed from the lantern, substantially as herein set forth.

42,521.—Raking Attachment to Harvesters.—Cyrus Wheeler, Jr., Poplar Ridge, N. Y.:

I claim in combination with a platform having a hinged connection with the main frame so connecting the rake to vibrating plate, G, and mounting it on plate, I, rigidly connected to the main frame, the rake in sweeping across the platform shall follow its surface and deliver the grain in the rear of the main frame, and in a position nearly at right angles to that in which it falls upon the platform, substantially as described.

I also claim in combination with the rake; spring, G, and chain, Z, so arranged as to give the rake increased force as it falls, and hold it firmly to the platform during the first part of its sweep, substantially as described.

I also claim in combination with the catch-piece, b', for sustaining the rake when elevated, the stop, R, controlled by the operator for releasing rake at pleasure, substantially as described.

I also claim the combination and arrangement of the self-acting devices for throwing the rake out of gear and stopping it in an elevated position, after removing the grain, substantially as described.

I also claim the combination of the device for stopping the movements of the rake, with the devices for releasing the catch-piece, b', which supports the rake when elevated and so arranged as to be under the control of the operator, substantially as described.

42,522.—Stove-cover Lifter.—Joseph P. Williams, Somerville, Mass.:

I claim the combination of the perforated insulator, C, with the handle, B, and the prong, A, the same being arranged and constructed substantially as described.

I also claim the combination of the perforated insulator, C, with the handle, B, the prong, A, and the shank or screw-rod, f, or its equivalent, as specified.

I also claim the prong as channelled or grooved, and made with the lateral opening or passage, the same being as explained.

42,523.—Device for operating Blinds.—Oren Williams, Gouverneur, N. Y.:

I claim the semispherical socket, a, provided with teeth, a', and the screw, b, attached to the shaft, E, or other equivalent gearing for turning the blind, the pinion, G, on said shaft and the lever, H, attached at one end to the slat rod, I, of the blind, B, and provided at its opposite end with a segment rack, p, with which the pinion, G, gears the shaft, D, E, being connected and disconnected and the pinion, G, connected with and disconnected from the shaft, E, as shown and all arranged to operate substantially as and for the purpose specified.

[This invention consists in having the lever hinge of the blind formed of a semispherical socket provided with an internal gear into which a screw meshes or works, the screw being on a shaft which is fitted in a tubular shaft, the latter passing horizontally through the jamb of the window-frame and having a pinion upon it which gears into a segment rack at one end of a lever, the latter being attached to the slat rod of the blind, and all arranged in such a manner that the blind may be opened and closed from the inner side of the window without raising the sash, and the blind slats also opened and closed.]

42,524.—Photographic Camera.—Thomas E. Wood, Boston, Mass.:

I claim the construction of a thin piece of board, square or otherwise, with a circular or other opening for the purpose of admitting the lens or tube in which said board are cut two vertical dove-tailed notches, inserted in which dove-tailed notches are two vertical bars, which said vertical bars are fastened at top and bottom to two horizontal bars or pieces, and inserted in grooves so as to work or slide freely; said bars and board being so arranged as to be moved by means of pinions and racks in a continuous vertical or horizontal direction.

42,525.—Friction Clutch.—James S. Brown, Pawtucket, R. I., assignor to Joseph R. Brown & Lucian Sharpe, Providence, R. I.:

I claim the combination and arrangement of the segments, E E, the segment-plate, D, and levers, G G, with the wedge collar, F, and pulley, P, substantially as described for the purpose specified.

42,526.—Locomotive and Furnace Grates.—Myron E. Brown (assignor to himself and Frank O. Drullard and Amy C. Hubbard), Buffalo, N. Y.:

I claim the perforated dumping plate in combination with the oscillating grate, when the plate is placed in front of and transversely to the grate, substantially as described and for the purposes set forth.

42,527.—Direct-acting Engine.—Abraham Campbell & Charles B. Hardick (assignors to themselves and Albert B. Campbell), Brooklyn, N. Y.:

We claim the arrangement of the levers, l, link, k, and connecting rod, m, to the crank of the fly-wheel shaft, for the purposes and as specified.

We also claim the boxes, 2, 2, fitted in and forced together by the tapering jaws and confined by the screw, s, for the purposes and as specified.

42,528.—Cider Press.—Orlando Clarke (assignor to himself and Isaac Utter), Rockford, Ill.:

I claim the sectional curb or hoop, D, when fastened and released by the eccentric, and constructed, arranged, and operating substantially in the manner and for the purpose described.

42,529.—Breech-loading Fire-arm.—Jarvis Davis (assignor to Patrick Smith), Buffalo, N. Y.:

I claim the spring, A, constructed and operating upon the hinged abutment, F, substantially as herein described.

42,530.—Relief Printing Plates.—Benjamin Day, Hoboken, N. J., assignor to W. G. Lord, C. Ponomareff & J. S. Talbot, New York City :

I claim preparing a surface of chalk, clay, or similar material with an ink that does not penetrate but adheres to the said surface and protects the same while brushed or rubbed for producing a relief printing surface, as specified.

42,531.—Machine for punching and cutting Metal.—Nicholas de Telescheff, St. Petersburg, Russia, assignor to Ezra Jenks, London, England. British Patent dated Jan. 24, 1863 :

I claim the application to the construction of punching and cutting machinery, of the levers, f f', in combination with the slide bars, e e, and the screw, i i', the whole arranged and operated in connection with the auxiliary mechanism, in manner substantially as herein set forth.

42,532.—Harvester.—John H. Elward (assignor to himself and W. H. Cushman), Ottawa, Ill. :

I claim the application to harvesting machines of hinged finger-bar bent at right angles in which the horizontal part constitutes the finger-bar proper, while the vertical part serves the purpose of a lever and reel-stand, substantially in the manner and for the purposes described.

I also claim in combination with a bent finger-bar herein described, the shoe, F, when constructed with the rear flange, B', and with the standards, G, and bottom-plate, F, substantially in the manner herein described.

I also claim the method herein described of raising the inner end of the finger-bar within the standards, G, of the shoe, F, for the purpose of adjusting its position as well as to give it free play in passing over obstructions, substantially as herein described.

I also claim the application to harvesting machines of lozenge shaped hollow sickle blades having cutting edges at their front and rear, and provided with inner cutting edges, substantially in the manner herein described.

I also claim in combination with the hollow lozenge shaped cutter blades attached to the vibrating sickle bar, similar formed sickle blades attached to a stationary sickle bar, substantially in the manner and for the purposes herein described.

I also claim in combination with the vibrating and stationary sickle bars and sickles herein described, the guard-finger, n, closed at the top and having a hollow space at the lower part for the escape of the grass or other material which might choke the cutters, substantially in the manner herein described.

I also claim the screws, d, in combination with the flanges, e, of the shoe, L, and the finger-bar, D, for raising the outer end of the finger-bar, substantially in the manner herein described.

I also claim in combination with the shoe, F, substantially as herein described, the arms, G, and bracket, H, for the purpose of securing and adjusting the same to the frame, substantially in the manner and for the purposes herein described.

42,533.—Fabric manufactured from Caoutchouc, &c.—Oscar Falke and Philip Scrag, New York City, assignor to themselves and Thos. A. Jenckes, Providence, R. I. :

The new manufacture or substance hereinabove described, and possessing the substantial properties herein described, and composed of india-rubber, gutta-percha or other vulcanized gum and sulphur, in the proportions substantially as described, and when incorporated, subjected to a high degree of heat, as set forth, and whether other ingredients be or be not used in the preparation of the manufacture, as herein described.

42,534.—Lamp.—Caleb Goodwin (assignor to himself and J. C. W. Bailey), Chicago, Ill. :

I claim, first, The wick tube, B, either corrugated or otherwise, so constructed as to admit of sundry air passages extending from its lower part to the top, and discharging the air immediately at the base of the flame, substantially as and for the purposes set forth.

Second, The combination and arrangement of the wick tube, B, the open burners, C, and the cone, A, when constructed and operating substantially as and for the purpose herein described.

42,535.—Portable Baker.—J. H. Jackson, U.S.A., assignor to himself and Mahlon M. Wombough, Cincinnati, Ohio :

I claim the portable cooker and mess kit, composed of the exterior pan, A, having ears, D D' B', for convenient suspension and for attachment of a cover, F E B, the interior pan, G, insulated from the pan, A, by projections, H H' H'', I I' I'', and the interior elevated cover or catoply, J, the whole being combined and operating in the manner set forth.

42,536.—Fountain Pen.—G. J. Nolty (assignor to himself and D. Robertson), New York City :

I claim a fountain pen provided with a movable plug, C, which has a central channel, c, and groove, f, and works in the socket, B, against the partition, b, which is provided with a hole, e, substantially in the manner herein specified, so that by turning the plug in the socket the supply of ink in the pen can be regulated.

42,537.—Shoe-knife.—S. Richard (assignor to himself and W. C. Barnes), Southbridge, Mass. :

I claim the improved form of knife blade substantially as shown and described.

I also claim the manner of confining the knife to the handle and allowing it to be adjusted or removed by means of the slotted shank, as set forth.

42,538.—Feed-water Heater.—John R. Sees, New York City, assignor to W. F. Weaver, Philadelphia, Pa. :

I claim the corrugated diaphragm feed-water heater attached in the manner and for the purposes herein set forth.

42,539.—Feed-water Heater for Locomotives.—John R. Sees, New York City, assignor to Wm. F. Weaver, Philadelphia, Pa. :

I claim surrounding portions of the feed-water heater with the annular bands, as and for the purposes herein set forth.

42,540.—Steam Gage.—John R. Sees, New York City, assignor to Wm. F. Weaver, Philadelphia, Pa. :

I claim, first, Constructing the steam or pressure chamber of the gage of the disks, said steam space or pressure chamber being free from solid substances therein, and the lever on the upper end thereof having both of its ends free, the parts being arranged substantially in the manner and operating as herein set forth.

Second, I claim the arrangement of the lever, i, and the other devices, as herein recited, for communicating and indicating the pressure.

Third, I claim the plate, t, and its arm, u, for adjusting the gage to high or low pressures.

42,541.—Check Valve.—John R. Sees, New York City, assignor to Wm. F. Weaver, Philadelphia, Pa. :

I claim the valve, g, with recessed ends, h and i, and with a groove or depression, j, and susceptible of being operated substantially as herein set forth.

And I further claim, in combination with a check valve constructed as herein described, the movable seat for the purposes herein recited.

42,542.—Breech-loading Fire-arm.—Isaac Smith (assignor to himself, C. B. Debaren and John B. Morrell), New York City :

I claim, first, The safety bolt, D, arranged as described, to work transversely to the hammer and operated by means of an eccentric wrist, f, on the rear end of the pin, b, of the breech-piece, substantially as herein specified.

Second, The cartridge-extractor, E, swinging horizontally about a pin, g, furnished with a tooth, j, and actuated by means of a hook, k, which is combined with a transversely swinging breech-piece, the whole arranged and operating substantially as herein specified.

[This invention consists in a novel mode of applying a safety bolt in combination with the movable breech-piece of a breech-loading fire-arm, for the purpose of preventing the hammer from coming down and firing the cartridge while the breech-piece is open. It also consists in a certain novel arrangement of an extractor for extracting discharged metallic cartridge shells from the barrel of a breech-loading fire-arm, and certain novel and simple means of operating the same.]

42,543.—Fastening for Flasks or Molds.—Orrin H. Burdick (assignor to himself and D. M. Osborne, Auburn, N. Y. :

I claim, first, Making the part, E, of a two-part fastening for flasks, convex substantially as and for the purpose described.

Second, In combination with the two parts, E and D, the recess in the end of the corresponding tongue in the other, substantially as and for the purpose described.

Third and lastly, The combination of the tongue, the corresponding recess and the key or pin for locking and holding together the different parts of a flask, substantially as and for the purposes described.

42,544.—Boot-leg Stiffener.—Nathaniel Gear, Indianapolis, Ind. :

I claim the application of jointed metallic bars or stiffeners to the legs of boots, so as to keep them up and prevent them from wrinkling, whilst they are free to conform to the joints of the wearer, making them very comfortable and easy, and avoiding chafing of the feet, substantially as described.

RE-ISSUES.

1,658.—Design for Back Combs.—Elias Brown (assignee of Abel Gray), Wappinger's Falls, N. Y. Patented Jan. 24, 1860 :

I claim the ornamental design for a comb, herein shown and described, which consists substantially in providing the upper part of the comb frame with a series of strings of spherically-shaped projections or balls of gradually diminishing diameter from the center toward the edges of the comb, as set forth.

1,659.—Flour-packer.—Nathan Kinman, Cambria, N. Y. Patented Oct. 30, 1864. Extended :

I claim, first, The packing of flour by means of inclined blades or spiral scrolls, substantially in the manner and for the purposes set forth.

Second, I claim the spout, b, conjointly with the blades, h, or spiral scrolls for directing the flour into the barrel and for holding the flour whilst the barrel is removed, substantially as set forth.

Third, I claim the hollow shaft, g, for the escape of the air as it is expelled from the barrel in packing flour.

Fourth, I claim the self-acting clutch in combination with the packing apparatus, in the manner above set forth.

1,660.—Eraser and Pencil-sharpener.—A. G. Shaver, New Haven, Conn. Patented March 8, 1859. Re-issued Aug. 30, 1859 :

I claim, first, An eraser with a convex or burnishing back, substantially as and for the purpose set forth.

Second, The application of one or more cutting edges, D, to the shank of an eraser.

Third, The serrated or file groove, E, for the purpose herein shown and described.

[This invention consists in giving to one side of the eraser a convex form in such a manner that the same can be conveniently used as a burnisher or polisher; it consists, further, in combining with this curved or waved eraser a pencil sharpener, by forming a cutting edge on one or both sides of the shank thereof. And it consists, finally, in the application to the surface of the blade or shank of the eraser of a serrated or roughened groove, for the purpose of finishing the point of the pencil or sharpening it after the wood has been cut away.]

1,661.—Tooth-pick.—Benj. F. Sturtevant, Boston, Mass. Patented June 2, 1863 :

I claim as a new article of manufacture, a machine-made tooth-pick cut from a band or strip, in such a manner that the form of the pick one way corresponds with the cross-section of the band, while its form the other way is determined by the shape of the cutter or cutters, and movement given to the strip, or to both.

I also claim making tooth-picks with bevels or chamfers at the opposite ends of each, from a blank or band chamfered at its opposite edges, substantially as specified.

DESIGN.

1,932.—Trade-mark.—Theodore Thurber, Auburn, N. Y.

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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:—

Table listing fees for patent applications: On filing each Caveat \$10, On filing each application for a Patent, except for a design \$15, On issuing each Original Patent \$30, On appeal to Commissioner of Patents \$20, On application for Re-issue \$30, On application for Extension of Patent \$50, On granting the Extension \$50, On filing 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 them 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.