



ISSUED FROM THE UNITED STATES PATENT-OFFICE FOR THE WEEK ENDING OCTOBER 18, 1864.

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44,698.—Evaporating Pan for Sugar.—H. F. Bartlett, La Grange, Mo.:

I claim the box shaped strainers, l, plates, l, and openings, k, arranged in combination with the pans, c, d, and gauges, f, g, in the manner and for the purpose substantially as specified.

44,699.—Knife, Fork, and Pie-crimper.—George D. Bayley, Boston, Mass.:

I claim a pastry knife, fork, and pie-crimper combined, and substantially as set forth.

44,700.—Baker attached to Coal-oil Lamp.—Wm. B. Billings, New York City:

I claim, first, The employment in connection with, or as an attachment to, the burner or burners of oil or gas lamps of a heater or oven for baking and other purposes, the same consisting of a vessel divided into compartments or sections by means of partitions, the whole being arranged for operation substantially as set forth. Second, In combination with a central flue or chimney of a coal-oil or other lamp I claim a heater oven, when divided into compartments as described, surrounding said flue or chimney, substantially as and for the purposes set forth.

Third, I claim the employment in combination with a heater or oven, divided into compartments as described, and surrounding the flue or chimney of a coal-oil or gas lamp, of perforated partition plates, whether stationary or removable, substantially as set forth.

Fourth, I claim the construction of the oven or heater to be used in connection with, and as attached to, a coal-oil or other lamp, in sections fitting one over the other, substantially as and for the purposes set forth.

44,701.—Sad-iron Heater.—Henry W. Bleyer, Buffalo, N. Y.:

I claim, first, In sad-iron heaters constructing the pits or receptacles, I, for the iron, by attaching removable dishes, K, to the plate or pan of the heater, so that the pits can be renewed, substantially as above described.

Second, I also claim the cover openers, A, constructed and operated substantially as above described.

Third, I further claim the combination of the pits, I, the openers, A, and the slotted covers, B, substantially as above described and shown.

[This invention consists in placing removable covered receptacles for sad-irons in a pan or stove-plate, and in causing the covers to open automatically when the sad-iron is being pushed into its receptacle.]

44,702.—Feed-water Regulator for Steam Boilers.—Richard E. Bond, Detroit, Mich.:

I claim the float, D, lever, C, and counterbalance, E, all within the boiler, in combination with the rock shaft, F, and its arms, J, G, the whole arranged substantially as herein described, to operate either upon a cock or throttle or other valve by which the operation of the pump or other feeder is controlled, or with a steam whistle, or with both such cock or valve and whistle, for the purpose herein set forth.

44,703.—Pipe Wrench.—James R. Brown, Boston, Mass.:

I claim my improved pipe wrench as constructed with its claw, d, and the shank, e, thereof applied and arranged relatively to the two jaws, b, b, and their combined prongs, a, a, substantially in manner and so as to operate therewith as specified.

44,704.—Coffee-roaster.—Jabez Burns, New York City:

I claim, first, The employment or use of the friction wheels, b, in combination with the flanged heads of the cylinder, A, constructed and operated substantially as and for the purpose described.

Second, I claim the application of the stationary feed box, B, to the rotating cylinder, A.

Third, The double spiral flanges, h, h', extending through the interior of the cylinder, A, and running in opposite directions, substantially as and for the purpose set forth.

Fourth, The slide or gate, j, applied in combination with apertures, i, flanges, h, h, and rotating cylinders, A, substantially as and for the purpose described.

44,705.—Meat and Vegetable-slicer.—Thomas Carpenter, Battle Creek, Mich.:

I claim the guide strip, D, arranged obliquely upon the slicer between the two knives, in combination therewith, substantially as and for the purpose herein specified.

44,706.—Die for making Bolts.—Wm. J. Clark, Southington, Conn.:

I claim the die herein described and represented for making bolts partly square and partly round out of round rods or bolt blocks, substantially as and for the purpose described.

44,707.—Bee Hive.—William R. Clark, Piqua, Ohio:

I claim, first, The sectional hive, a, when provided with the sloping platform, B, and secured together by the grooved clamps, A, substantially in the manner and for the purposes herein set forth.

Second, I claim the combined ventilator and shutter, F, F', constructed in the manner described, and employed to permit air to freely circulate throughout the hive in summer and to close in the same in winter, as explained.

Third, In combination with a hive, a, and its appurtenances, constructed as herein described, I claim the sectional honey box, g, held together by the bars, G', and having a shallow chamber, g, between its comb supporters, g', and the top of the hive, substantially as herein specified.

44,708.—Instrument for lighting Gas by Electricity.—Robert Cornelius, Philadelphia, Pa. Ante-dated Aug. 20, 1863.

I claim the combination of the Leyden jar and Electrophorus, substantially as above described, so as to generate electricity for the purpose of igniting gas or other inflammable materials, and for other purposes.

44,709.—Raking Attachment to Harvesters.—Hiram Curtis, New York City:

I claim, first, The elastic strap or springs, s, and loop, L, when used for the purpose set forth.

Second, I claim in combination with the endless bands or chains, B, B, rollers, R, R', and P, the elastic strap or spring, s, loop, L, coil spring, c, and cross bar, b, the whole operating substantially as set forth.

44,710.—Weed Eradicator.—George W. Davey, Groton, N. Y.:

I claim, first, The gages or guides, A, A, either as adjustable or stationary in this combination.

Second, I claim the share, G, either as stationary or adjustable when applied to a suitable frame in combination with the gages or guides, A, A, the whole being arranged and combined to operate as and for the purpose set forth.

44,711.—Mode of heating Stills.—H. G. Dayton, Maysville, Ky.:

I claim the annular cylinder, C, provided with steam supply pipe, b, and connecting through one or more pipes, a, with the steam jacket, B, in combination with the still, A, pipes, e, g, and helm, E, constructed and operating substantially as and for the purpose set forth.

[This invention relates particularly to an improvement in apparatus for heating mash in distilleries, and the invention consists in an annular cylinder which communicates with a steam or hot air pipe, and which is situated in the center of a still surrounded by a steam jacket, in combination with a series of pipes, in such a manner that when the still is charged with mash and steam is admitted to the steam jacket and to the annular cylinder, the mash is quickly heated with a comparatively small expenditure of steam, and the surplus steam, the condensed water, the low wine, and the slop can all be discharged through appropriate channels without trouble or loss of time.]

44,712.—Apparatus for cooling Liquids.—H. G. Dayton, Maysville, Ky.:

I claim the cooler, D, composed of two crescent-shaped hollow vessels, a, b, connected by serpentine pipes, c, in combination with the condensing coil, A, and tanks, B, E, constructed and operating substantially as and for the purpose herein shown and described.

[This invention consists in two crescent-shaped hollow vessels which are connected to each other by a series of serpentine pipes passing from the bottom of the upper vessel to the top of the lower one, in combination with an ordinary condensing coil, and with a tank through which a continuous flow of water passes in such a manner that the products of distillation, after passing from the still through the condensing coil, are brought in contact with the cold side of the upper crescent-shaped vessel from which the same ran down through the serpentine pipes to the lower crescent-shaped vessel, the bottom of which is kept quite cool by coming in direct contact with a continuous stream of water, and by these means said products of distillation are condensed and cooled without loss and without requiring any attention of the operative.]

44,713.—Loading Attachment for Hay Wagons.—L. M. Doudna, Elmira, N. Y.:

I claim the rotating standard, B, provided with the lever, C, and placed at the rear of the wagon, A, in combination with the hoisting rope, D, and drum, F, the latter being on an adjustable shaft, G, at the rear of the wagon, and connected with and disconnected from one of the wheels, K, of the wagon, as shown and all arranged substantially as and for the purpose set forth.

[This invention relates to an improved loading attachment to be applied to wagons, and arranged in such a manner that the wagon may be loaded as it is drawn along in the field. The invention is designed for loading wagons with hay, grain, fruit, potatoes, etc., gathered in cocks or piles at convenient distances apart in the field.]

44,714.—Folding-table and Toilet Glass.—Henry W. Eastman, Baltimore, Md.:

I claim the combination of the table and toilet glass, substantially as herein described for the purposes specified.

44,715.—Fan Blower.—William Farmer, New York City:

I claim the combination of a screw-formed impeller with a volatile case, substantially as set forth.

44,716.—Potato-digger.—Elias T. Ford, Stillwater, N. Y.:

I claim, first, The combination and arrangement of the two wheels formed with tubes, U, U, curved teeth, ax, ax, ax, rotating upon the center, T, T, nearly horizontal upon the dividers, D, D, divider, D, and being upon the angle in entering the ground as a whole, also the centers, T, T, tubes, U, U, dividers, D, D, or divider, D, with or without the colter, H, shaft, J, knives, g, g, pintles, j, also frame, C, C, sections of frame, ce, ce, ca, ca, and bars, D, D.

Second, I claim the arrangement of the gear, G, G, upon axle, F, bevel gear, V, V, shaft, R, bevel pinion, W, W, pitons, S, S, yoke, B, B, hinged to the sections, ce, ce, in front and below the axle, F, in combination with the clutch, K, ratchet, h, slide, Z, spring, b, or springs, b, b, and drive wheels, A, A, as for the purpose above described.

44,717.—Device for adjusting Reflectors.—Moses F. Gale, Boston, Mass.:

I claim the arrangement and combination of the hinge, m, the rib, h, the cam, g, the toothed annulus, f, and the pinion, i, and its shaft together and with the mirror, A, the tube, B, and the supporting plate or frame, C, substantially in manner and for the purpose as herein before specified.

44,718.—Car Brake.—Wm. D. Goodnow, Albany, N. Y.:

I claim extending the brake bars, F, F', over and beyond the jaw braces, F, F', and connecting them thereto by means of the yokes, i, i, or their equivalents, substantially as and for the purposes set forth.

I also claim in combination with the plank or hanger, frame, E, of the car body, and the brake bars, F, F', the guide and safety rods, k, k, arranged and operating substantially as and for the purposes set forth.

I also claim the combination and arrangement of the brake bars, F, F', lever, G, G', connecting bar, N, car-brake, E, and truck wheels, B, B, constructed and operating substantially in the manner and for the purposes shown and described.

44,719.—Base-burning Stove.—James Gray, Albany, N. Y.:

I claim, first, So constructing a base-burning stove that the products of combustion rising from the fire-chamber will be condensed towards the top of the stove through flues which are formed by cylinders, D, D, and E, and partitions, h, and which are arranged around an ascending warm air flue or flues, substantially as and for the purposes described.

Second, The outer case, c, constructed with horizontal openings, d, vertical openings, e, or arched openings, e', through it, substantially as and for the purposes described.

Third, The arrangement of the damper, g, in combination with the three vertical chambers, C, D, and E, and depressed fire-pot, B, substantially as and for the purposes described.

Fourth, The jacketed diaphragm, c1, c2, applied at the base of the coal supply chamber, substantially as described.

Fifth, The flues, b, e, e', in combination with the flues, b', i, and G, operating substantially as described.

Sixth, The case, c, in combination with the jacketed diaphragm, c1, c2, and supply chamber, C, substantially as described.

Seventh, The combination of the three cylinders, C, D, E, and escape pipes, J, and G, arranged and operating substantially as described.

Eighth, The combination of the two cylinders, C, D, with the jacketed diaphragm, c1, c2, openings, e', e', substantially as described.

44,720.—Sewing Machine.—M. C. Gritzner, Washington, D. C.:

I claim the transformation of single thread sewing machines into complete double thread sewing machines by means of a combination of two threads with one needle of a sewing machine, when the tension and friction apparatus for each one of the two threads is so arranged as to act independently of the other, while requiring only one adjustment to regulate the tension and friction of each, said combination of parts being applicable to single thread sewing machines as at present constructed, or to single thread sewing machines of new construction, without depriving them of their qualities as single thread machines.

44,721.—Animal Trap.—George L. and Herbert C. Hart, Unionville, Conn.:

We claim the combination and arrangement of the frame, a, jaws, b, pan, g, with its catch, m, and the spring, e, when the pan is set or held directly by the spring, and independently of the jaws, substantially as described.

44,722.—Pneumatic Drills.—Stuart Gwynn, of New-York City:

I claim, first, A machine for boring rocks, etc., operated by steam,

air, or other elastic fluid, consisting of a cylinder, piston, hollow piston rod and their appurtenances, rendering the same self-acting, under such an arrangement as that the blow shall be exerted upon a drill bar or its holder, loosely inserted in the hollow piston rod, allowing the drill to remain in contact with the rock, substantially as hereinbefore described.

Second, In pneumatic rock drills, operating as described, I claim the combination of a loose drill rod and hammer, with an automatic screw-feeding device, so as to follow up the drill as the work progresses, substantially as herein set forth.

Third, The method of securing the hollow screw to the hollow piston rod, by means of a reversible nut, constructed and operating in the manner and for the purposes set forth.

44,723.—Shaving the Heads of Wood Screws.—H. A. Harvey, of New York City:

First, I claim the revolving collar or socket, c, or its equivalent, when adapted to perform the double office of compressing the spring holder to gripe the screw blank, and communicating a rotary motion to the same, constructed and operating in the manner substantially as described.

Second, The combination of such revolving socket with a holder, h, or a series of similar holders, substantially as described.

Third, The combination of the revolving socket and holder, described with a cutting tool, whether revolving or otherwise, substantially as herein specified.

Fourth, The combination of the revolving socket and holder described with a yielding pressure finger or its equivalent, for pressing the blank home in the holder and keeping it in that position until it can be griped, substantially as described.

44,724.—Files.—H. A. Harvey, of New York City:

I claim making the teeth of files in segments of circles extending across the face, substantially as and for the purpose specified.

44,725.—Corn-Planter.—G. D. Haworth, of Springfield, Ill.:

I claim the relative arrangement of the rotary colters, F, curved mold boards, G, hoppers, E, dropping mechanism, a, b, c, and droppers seat, W, substantially as herein shown and described.

44,726.—Artificial Legs.—William Hinds, of Little Falls, N. Y. Ante-dated Oct. 6, 1864:

First, I claim constructing the inside half of the band securing the top of the socket, A, with a wide flange, as partly shown at d.

Second, I claim the band, b, with the hook, h, and ears, j, fitted to form the knee joint.

Third, I claim the ankle band, y and y', made with the ears, j, to hinge it to the foot, and shaped to form the ankle joint.

Fourth, I claim the heel piece, F, and rod, o, all of which is constructed substantially as and for the purpose set forth.

44,727.—Sleds.—H. C. Hunt, of Amboy, Ill.:

I claim, first, The two rear runners, B, B', provided with bolsters, D, D', provided respectively with a socket, E, and a tongue, F, fitted together and applied to the bed or platform, A, of the sled, substantially as and for the purpose herein set forth.

Second, The two front runners, G, G', provided with semi-circular plates, H, H, and secured to the bolster, I, by screws, f; the bolster, I, being provided with a rib, g, having ends to fit into recesses, H, and lap over the edges of said plates in the recesses, substantially as and for the purpose specified.

Third, The bar, J, composed of two equal longitudinal parts, h, h', connected together by screws, i, and applied to the front part of the runners, G, G', with the draught rope, K, fitted in, substantially as herein set forth.

[This invention relates to a new and improved sled for the use of children, and it consists in a novel application of the runners to the sled, whereby the same may be readily steered or guided through the medium of a rope, and at the same time a strong, durable, and economical sled obtained. The invention also relates to a new and improved brake for the purpose of stopping the sled or retarding its motion at any time; and it further relates to a new and improved foot rest applied to the front end of the sled.]

44,728.—Horse Rakes.—David G. Hussey, of Nantucket, Mass.:

I claim, first, Attaching the axle, D, to the frame by means of perforated pendant bars, C, C, plates, c, and screws, b, substantially as and for the purpose specified.

Second, The bar, J, of the lever, O, in different positions relative to the wheel, L, by means of the clump, P, provided with teeth, a, notches, p, in the side of the periphery of the wheel and the screw, r, passing through the slot, s, in wheel, L, with the nut, t, on its end, substantially as described.

Third, The attaching of the arms, h, to the shaft, G, by means of a lock composed of a slide, m, or other equivalent device, in connection with a socket formed of plates, i, i, substantially as shown, to admit of a vertical play or movement of the rakes, and also to admit of the elevating of the same by the turning of the shaft, G, as set forth.

Fourth, The attaching of the bearings, F, of the shaft, G, to curved notched bars, E, substantially as shown, to admit of the adjustment of shaft, G, and the rakes, L, as set forth.

Fifth, Securing the lines or teeth, g, to the arms, h, by means of the clump, B, and bolt, a, as herein described.

[This invention relates to a new and improved horse-hay rake for raking hay in the field, and it consists in the employment or use of a series of rakes, applied to a shaft in a novel way, and arranged and operated in such a manner that they will be under the complete control of the operator, and capable of being operated with the greatest facility. The invention also consists in a peculiar construction and arrangement of certain parts of the device, whereby different rakes and wheels of different diameters may be applied to the device.]

44,729.—Cultivator.—C. M. Jenne, of Young America, Ill.:

I claim the securing of the plow, I, to the device, by having its standards, H, attached to a bar, G, which is connected to the inner beams of each pair by pivots, d, substantially as and for the purpose specified.

[This invention relates to a new and improved cultivator for plowing or cultivating corn and other crops which are grown in hills or drills, and it consists in a novel construction and arrangement of parts, whereby the plows may be adjusted laterally and vertically with the greatest facility and at the same time a very strong and durable implement obtained for the purpose specified.]

44,730.—Sash Fastening.—Philip P. Joseff, of Chicago, Ill.:

I claim the latch or catch, D, in combination with the springs, E, F, and notch, G, and arranged within the case, C, and applied to the window frame and sash, to operate in the manner substantially as and for the purpose set forth.

44,731.—Atmosphere Cooler.—Moses J. Kelley, of Chicago, Ill.:

I claim the combination of the fanners, F, the system of tubes, T, T', etc., and the ice chest or depository in either of said forms, as and for the purpose shown and represented.

44,732.—Churn.—William W. Lapham, of Decatur, Ill.:

First, I claim the paddle, n, and plate, m, combined with a suitable staff, j, to form a dasher of superior efficacy, as specified.

Second, The arrangement and combination of the movable partition, B, cover, C, tub, A, removable dasher staffs, i, double crank shaft, e, and gear wheels, f, h, all constructed and operating in the manner and for the purpose herein set forth.

[This invention relates to an improvement in that class of churns in which the oscillating dashers are used, to which a reciprocating motion is imparted in opposite directions by the action of a double crank shaft.]

44,733.—Curd Cutter.—James H. Maydole, of Eaton, N. Y.:

I claim guiding and controlling the blades of a curd cutter by the

employment and use of auxiliary blades, said blades being jointed to the fixed blades at or near the points thereof, so as to enable the operator to move the opposite ends of said blades to any desired distance from each other, substantially as set forth.

44,734.—Machine for Pressing Watch Crystals.—Joseph Metzgar, of East Cambridge, Mass.:

First, I claim the removable or detachable die, M, in connection with a rising and falling or pressing die, P, and a cup or socket, J, rotary or stationary to hold and retain the die, M, substantially as and for the purpose herein set forth.

Second, The employment or use of jets of gas or other flames and blow pipes, when arranged and used in connection with dies, to operate substantially as and for the purpose set forth.

Third, The hooks, G, G', applied to the arbor, C, when used in connection with the removable or detachable die, M, for the purpose herein specified.

44,735.—Process for Removing the Mineral, Gummy and Resinous Substances from Vegetable Material.—Antonio Menocci, of Clifton, N. Y.:

I claim the process of treating a vegetable material in a wet state with the substances produced by the action of nitronitric acid upon carbonate of lime and iron, or their equivalents, and then subjecting the vegetable material to the action of a caustic alkali, substantially as set forth.

44,736.—Broom Head.—Charles E. Miller, of Amelia, Ohio:

I claim as a new article of manufacture the metallic broom head, composed of the devices, A, B, C, D, E, F, G, arranged and operating substantially as described.

44,737.—Manufacturing Cans and Boxes.—John W. Millett, of Batchellorsville, N. Y.:

I claim the use or employment of a hollow cylinder or its equivalent, into which a box or can is forced, for the purpose of drawing or pressing the rim of the box or can closely around the top or bottom for soldering or otherwise fastening.

44,738.—Adjustable Template.—William S. Nelson, of St. Louis, Mo.:

I claim, first, The adjustable perforated side bars, B, B', in combination with the shaped heads, A, A', of the central bar, A, substantially as and for the purpose herein specified.

Second, The adjustable slotted and perforated slides, E, E', and central slide, D, in combination with each other, and the central bar, A, substantially as and for the purpose herein set forth.

[The object of this invention is to enable the positions of the holes in the several series or courses of plates in a laminated turret in the laminated armor of vessels or in other laminated structures to be marked, and the holes to be drilled or punched in each plate separately in a drilling or punching machine instead of requiring the plate to be drilled through several courses of plates after they have been set up together, or of requiring the plates to be carried first to the turret or vessel thence to the drilling or punching machine, and thence back to the turret or vessel, thereby saving much labor; and to this end it consists in a template, composed of a perforated frame with adjustable sides and ends and independently adjustable arms.]

44,739.—Method of Attaching Steel to Iron.—Tertius S. Norton, of Chicopee, Mass.:

I claim my improved steel-facing process, the same being accomplished by brazing and hardening the steel under one and the same heating of the steel, which may be requisite for the effective melting of the brazing metal, as specified.

44,740.—Brakes for Hoisting Apparatus.—Charles R. Otis, of Yonkers, N. Y.:

I claim the combination and arrangement of levers and connections, substantially as herein described, whereby the brake is automatically applied, while the valve is closed, and withdrawn when the valve is open to set the apparatus in motion.

[This invention consists in so combining the brake of a hoisting machine with the stop valve of the hoisting engine that when the said valve is closed and the steam or other motive fluid shut off from the engine the brake is always in operation, and when the valve is open to admit the steam or other fluid to the engine the hoisting machine is relieved of the friction of the brake.]

44,741.—Rigging Screw for "Turning in" Deadeyes.—William A. Overton, of New York City:

I claim the clasp, D, composed of two or more posts, connected together by joints, C, in connection with the clamps, E, E', constructed to operate upon the clasp in the manner substantially as and for the purpose herein set forth.

44,742.—Fruit and Vegetable Press.—Charles Parham, of Philadelphia, Pa.:

I claim the combination of the box or holder, A, with a hinged elastic or yielding cover, F, as and for the purpose described.

I also claim, in combination with the above, corrugating, grooving or channeling the opposite faces of the receiver and the cover, as and for the purpose described.

44,743.—Valve Arrangements for Hose.—Robert A. Parrish, Jr., of Philadelphia, Pa.:

I claim the employment of the curvilinear flexure and elasticity of hose as a lever for opening and closing the branch pipe by the agency of any partition or valve, in the manner above described.

I also claim in combination therewith the truncation adjustment and packing of the branch pipe for about half its length with water-tight packing, as above set forth.

44,744.—Paper-pulp Hats.—Julius A. Pease, of New York City:

I claim, as an article of manufacture, a hat made of paper pulp, substantially as described.

44,745.—Plows.—Joshua Pierpont, of La Harpe, Ill.:

I claim the bent standard, E, applied to the plow, substantially as shown, so as to admit of the beam being a requisite distance above the mold board and to the left of the land slide, for the purpose herein set forth.

I further claim attaching the lower end of the standard to the land slide by means of a belt, B, passing through an oblong slot in the standard, for the purpose of adjusting the beam in a vertical plane, to regulate the depth of the penetration of the plow, as specified.

[The object of this invention is to obtain a plow of simple construction which will not admit of weeds and trash collecting and wedging in between the beam and mold board, a contingency of frequent occurrence in ordinary plows, and which occasions considerable difficulty and annoyance.]

44,746.—Punches for Attaching Buttons by Rivets.—Edward Pincus and George Rehfus, of Philadelphia, Pa.:

I claim the rod, A, or its equivalent, with a grinding projection, a, in combination with a die having cutting or indenting edges, all substantially as set forth and for the purpose specified.

44,747.—Cultivators.—Edward Pratt, of Grand Detour, Ill.:

I claim the two plow beams, A, A', connected together at a proper distance apart by means of bars, D or H, attached to the beams, A, by pivot bolts, a, to admit of an independent longitudinal movement of the beams, A, the latter being used either with or without the central bar, E, and its plow, G, and all arranged substantially as and for the purpose herein set forth.

[This invention relates to a new and improved cultivator designed for plowing corn and other crops grown in hills or drills, and also for loosening land, etc. The invention consists in connecting together two plow beams, arranged in such a manner that each beam will have an independent movement, or one to a certain extent independent of the other, whereby the implement is placed more under the control of the operator than usual, managed with less labor and with less fatigue to the team.]

44,748.—Horse-hay Forks.—Edmond Reynolds, of Corunna, Mich.:

I claim, first, The combination of the rotating box, D, to which the tines of the fork are rigidly secured, with stock, C, substantially as above described.

Second, Constructing the box, D, of two discs, between which are placed the sliding rack, the spring, I, the toothed lever and the pulley, b, for locking and unlocking the parts of the fork, substantially as above described.

[This hay fork belongs to that class which is intended for hoisting hay or straw and carrying the load by means of rope and pulley and a truck or other mechanical devices to a mow, when it is made to release its load, which is then deposited upon the mow or other place, over which the fork has been brought.]

44,749.—Rakes for Harvesters.—Asa B. Rodman, of Lyons, Iowa:

I claim the cam, F, in combination with the levers, I, K, the former being connected to the cam and rake head by the rods, M, N, and the latter arranged relatively with the cam, F, guide, g, and rake head, H, substantially as and for the purpose specified.

[This invention relates to a new and improved automatic raking attachment for harvesters, and it consists in the employment or use of a cam, a rising and falling arm and backward moving rake, a lever and connecting rods, all arranged in such a manner as to form a simple and efficient device for the intended purpose.]

44,750.—Saw Mills.—Jos. E. and Jos. C. Rogers, of Lewis Township, Pa.:

I claim the sliding bars, B, B', adjustable bars, a, (with thumb screws) and spring, C, C', in combination with the standards, C, C, C, and base plate, A, substantially in the manner and for the purpose herein set forth.

44,751.—Mode of Sinking Piles.—Samuel J. Seely, of New York City:

I claim, first, The use of a borer or excavator, constructed and operated substantially as above described, within a tubular pile, in order to facilitate the sinking of such pile by loosening, removing or pressing aside earthy material or gravel from beneath or about the foot of the pile, and then withdrawing the borer and leaving the pile in place for the purpose of forming pile foundations.

Second, The use of a screw borer, with an arm, B, resting on the pile or its equivalent, to facilitate the sinking of tubular piles, by applying the force generated by the rotation of the screw, to draw down the pile, substantially as above described.

Third, The formation of a cement or concrete or similar suitable foundations beneath or about the foot and sides of a tubular pile, by the application of a pressure to such cementing substance while in a soft state, so as to drive it through and out at the foot of the pile, substantially as above described.

44,752.—Preserve Jars.—John J. Squire, of Windsor Locks, Conn.:

I claim, first, Constructing a stopper or cover to a preserving jar or other vessel, so as to form a basin or cup in the neck or mouth thereof through which is made an ingress hole to allow liquid to flow into the jar, and an egress hole for the escape of air therefrom, substantially as and for the purpose above described.

Second, I also claim the cross-piece, C, in combination with the ingress and egress holes in the bottom of the cover, constructed and operated substantially as above described.

[This invention consists in constructing a casin on or at the top of preserving jars in a novel manner, so as to supply liquid thereto without admitting air, and also in a peculiar method of securing the ingress and egress holes in the basin.]

44,753.—Fastening the Covers of Ink Wells.—Henry M. Sherwood, of Chicago, Ill.:

I claim fastening on the covers of ink wells by means of inclined planes, g, g', on the under surface thereof, acting upon corresponding inclined planes on the upper surface of the well itself, in combination with the plane projections, f, f', on the cover, and the corresponding grooves, b, b', in the rim of the well, receiving the same, substantially as and for the purposes herein set forth.

44,754.—Securing Shoes to Horses Feet.—W. C. Stickney and H. B. Taylor, of Putnam, Ohio:

We claim the employment or use of flanges, a, a', a', attached to the plate, B, or directly to the shoe, F, in combination with the straps, C, C', and screw, E, when conducted and arranged substantially as and for the purpose set forth.

[This invention relates to a new and improved mode of attaching shoes to horses' feet or hoofs, whereby the use of nails for such purpose is entirely avoided, and the shoe at the same time firmly secured to the foot or hoof, and rendered capable of being easily adjusted to and detached therefrom without the aid of a smith or shoer.]

44,755.—Churn.—J. B. Sweetland, of Pontiac, Mich.:

I claim, first, A combination of box, H, shaft, D, and valve, I, constructed and operated substantially as herein set forth.

Second, The box, H, the pinions, n, and o, the cog wheels, P and R, the cylinder, S, balance wheel, F, lever, K, and churn, T, the whole arranged, constructed and operated substantially as herein described.

44,756.—Bark Mills.—William Tansley, of Salisbury Centre, N. Y.:

I claim, first, A bark mill which is constructed of a series of stationary grinding rings and a series of rotating grinders arranged in such relation to each other that the grinding and the discharge of the ground bark will take place at the circumference of each runner, substantially as described.

Second, In a bark mill, which is composed of a series of stationary and rotating grinding rings, I claim the employment of breaking teeth, arranged within the circumference of the grinding surfaces, in such manner as to prepare the bark for its reception between said surface, substantially as described.

Third, The combination of the bottomless runners, B, C, with the solid bottom runner, D, arranged and operated in conjunction with a series of discharging rings, substantially as described.

44,757.—Padlocks.—James E. Thomson, of Buffalo, N. Y.:

I claim a lock-holder, in combination with a lock, for the purposes and substantially as described.

44,758.—Seed Planters.—Hiram M. Tremble, of Mattoon, Ill. Ante-dated Nov. 2, 1861:

I claim the arrangement of pendulum beams, F, F', cross piece, G, seed boxes, H, H', furrowing plows, I, I', rocking shaft, L, operating valves, j, j', pedal, h, pivoted level, K, and wedges, J, all substantially as and for the purposes set forth.

44,759.—Buttons.—Barnett B. Whaley, Brooklyn, N. Y.:

I claim the combination and arrangement of the shank, g, and the disk or plate, a, with the button, f, and the cloth or garment, b, substantially as and for the purpose set forth.

44,760.—Horse Hay Fork.—Frank Wicks, Kansas, Ill.:

I claim the combination and hinged or pivoted connection of the trigger, E, with the brace, D, link, C, and shank, B, so that drawing upon the shank, B, will throw the brace out of its notch or recess, remove all contact or friction between it and the other parts of the fork and thus allow the tines to drop and discharge their load, substantially as herein described and represented.

44,761.—Hay Elevator or Stack Builder.—Frank Wicks, Kansas, Ill.:

I claim the combination of the permanent and braced inclined main beam, A, and the movable, vertical or upright beam, H, furnished respectively with metallic bearings or heads, E, G, for the purpose of making a firm structure, and a substantial turning support for the upper upon the lower beam, and for allowing the apparatus to come close up to the stack to be built, substantially as described.

I also claim in connection with the swinging beam and its end pulleys, C, the metallic frame, T, and its pulley, e, above said beam, for the purpose of bringing a portion of the strain more directly to the center of the beam, and to ease off the angle at which the rope would otherwise pass the pulleys, c, c, substantially as described.

I also claim the auxiliary post, M, made to be united to the head, E, for the purpose of enabling the user to place or displace and lower the swinging beam, when the apparatus is to be moved away or taken down, substantially as described.

44,762.—Corn Planter.—J. B. Woolsey, Bloomfield, Iowa:

I claim in combination with the seed-dropping device the adjustable lever, I, and the hand-lever, M, when constructed, arranged and connected with the working parts of the machine to operate the seed-side by machine or by hand, as herein shown and described.

I also claim in combination with the seed-dropping apparatus, the cross roof sharper scattering device, g, substantially as and for the purpose herein described.

44,763.—Animal Trap.—John Anns (assignor to himself and Norton Kelsey), Salva, Ill.:

I claim a trap for catching rats and other animals, composed of a box, A, divided into a series of compartments provided respectively with a treadle connected with a sliding door, a bait box and an animal reception box, having a conical wire entrance and provided with a glass to admit the light, all being arranged to operate in the manner substantially as and for the purpose herein specified.

44,764.—Apparatus for Trimming Paper Hangings.—Erastus Boothby, Saco, Maine, assignor to himself and Charles A. Shaw, Biddeford, Maine:

I claim, first, The combination of a rotating head-piece which revolves around a portion of the paper or article to be cut a knife for cutting the paper and a spring for actuating the knife, with the trough or body, K, and wheel, A, or their equivalents, substantially in the manner and for the purposes set forth and specified.

Second, I claim in combination with a rotating head-piece, knife and spring, a clamp, S, constructed and used substantially in the manner and for the purposes set forth and described.

44,765.—Ironing Machine.—Wm. H. Bovee & Charles Partinsky, San Francisco, Cal.:

We claim the combination of the rotary horizontal cylinder, C, with adjustable bar, D, as operated by the lever, F, and the smoothing iron, I, substantially as and for the purpose herein specified and set forth.

44,766.—Artificial Leg.—Thomas James Cain (assignor to himself and William G. and J. Lawrence), Cleveland, Ohio:

I claim, first, The strap, E, spring, F, connecting-rod, H, and spring, J, when arranged and operating as described.

Second, I claim the adjustable hook, I, in combination with the rod, H, and spring, J, arranged and operating in the manner and for the purpose set forth.

Third, I claim the bridge, F', in combination with the strap, E, and springs, J, and J', and connecting-rod, H, arranged and operated as specified.

Fourth, I claim the thimble, b, pin, b', and cap box, b'', for the purpose specified.

Fifth, I claim the links, b, r, o', b', and springs, c, in combination with the ball and socket joint, D, arranged and operating as and for the purpose described.

Sixth, I claim the bar, P, and heads, p, p', when constructed and arranged as described for the purpose specified.

Seventh, I claim uniting the thigh, A, and lower leg, B, by means of the connecting rod, H, joints, H', and m, m', as herein specified.

44,767.—Apparatus for Roasting and Treating Ores of Gold and Silver.—Augustine B. Crosby & Robert L. Thompson, Galpin County, Colorado Territory:

We claim the application of the perforate hollow axle substantially as above described for the purpose of furnishing a sufficient supply of air at all points, in the length of the burning cylinder.

We claim the application of the gas chamber with the inclined plane or sole and trap substantially as above described for the purpose of separating the burned solids from the gaseous and vaporous products, without admitting external air so as to vitiate the draught.

We claim the application of a condenser substantially in the manner and of the form above described, for the purpose of condensing the metallic vapors and obtaining a hot dilute solution of acid to aid amalgamation.

We claim the combination of a blower substantially as above described, for the purpose of making an inward draught, with the cylinder, gas chamber and condenser, so that no metallic vapors may escape before condensation.

We claim the application of grinders made of some soft wood, or any kind of wood, or of any soft material suitable, substantially as above described, for the purpose of grinding burned ores and removing any coatings that may be on the gold particles.

We claim the application of the general combination of the foregoing claims with the various known arrangements involved, substantially as above described, for the purpose of making a compact, practical, continuous, economical and thorough mode and means of working gold ores.

44,768.—Corn Sheller.—George Goewey (assignor to himself and William Bailey), Philadelphia, Pa.:

I claim the arrangement and combination of the inner frame, F, with one or more yielding concaves, H, a spring or springs, Q, and the rollers, G, in the manner and for the purpose substantially as described.

44,769.—Ore Roaster.—C. H. Griffin, Chelsea, Mass., assignor to himself and Henry A. Breed, Lynn, Mass.:

I claim the combination of the rotary pan or roaster, with the furnace flue passing around the same, substantially as described.

And in combination with the rotating pan, I claim the rotary arms, m, operating in the manner and for the purpose substantially as set forth.

44,770.—Railroad Car Window Fixtures.—John D. Hall (assignor to himself and Osborn Conrad), Philadelphia, Pa.:

I claim, first, The combination of the rod, A, the finger-piece, C, the thumb-piece, B, the box and support, D, the spring, H, the ratchet, E, and the ratch or strip, F, substantially in the manner and for the purposes set forth.

Second, The angular faced rollers, G, I, J, and the spring, L, with roller, in combination with the angular groove, constructed and operating as and for the purpose described.

44,771.—Button Key.—James Lawrence (assignor to Milo Peck), New Haven, Conn.:

I claim as a new article of manufacture, the within described protected button key.

44,772.—Furnace.—Melchore F. Magliocco, Philadelphia, Pa., assignor to himself and Abraham Anderson, Camden, N. J.:

I claim, first, The casing, H, arranged above the fire-pot and combined with the pipes, c, and the casings, C and A, substantially as and for the purpose set forth.

Second, The plate, L, perforated plate, L', and tubes, f, or their equivalents, arranged in respect to each other and to the fire-pot, substantially as and for the purpose set forth.

Third, I claim the funnel, N, pipe, M, with its damper, d, and plates, I, arranged within the casing, H, above the fire-pot in respect to the latter and the pipe, L, as set forth for the purpose described.

44,773.—Machine for Cutting Bolts.—J. A. Merriman (assignor to himself and E. E. Bowns), Chicago, Ill.:

I claim, first, The brake, E, applied in combination with the ring, g, and dies, e, substantially in the manner herein shown and described so that by the application of the brake the dies are opened without stopping the machine.

Second, The spring, g', applied in combination with the ring, g, and dies, e, substantially as herein specified for the purpose of closing the dies.

44,774.—Peering Machine.—Charles R. Penfield (assignor to himself and George W. Penfield), Lockport, N. Y.:

I claim the combination and arrangement of the movable and stationary dogs, d, f, with the drum composed of the planes, c, c, c, or their equivalents, in such a manner that the planes present themselves successively to the operator, and the dogs clamp the blocks automatically, substantially as herein set forth.

I also claim in combination with the dog, f, the screw-shaft, G, provided with the pinion, n, and the rod, H, provided with the rack or worm, I, the whole being used in connection with the drum, B, substantially as herein specified.

In combination with the rod, H, shaft, G, and dog, f, I also claim the spring cam, I, which yields when the dogs are fully clamped, substantially as described.

I also claim the patterns, L, and friction wheel, P, in combination with the drum, B, cutter, D, and sliding carriage, C, for the purpose of giving form to the blocks, substantially as herein set forth.

I also claim attaching the patterns, L, to the drum by means of



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 last ex-Commissioners of Patents:

MESSEURS. 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:

MESSEURS. 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 us as follows:

MESSEURS. 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 Reissue.....	\$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

Laws, enacted by Congress on the 2d of March, 1861,

he screw, p, and nib, n, when the same is used in combination with the stops, m, for the purpose of adjusting and holding the latter substantially as specified.

I also claim providing the box, E, with the bearing, t, for the purpose of sustaining the friction wheel, F, independent of the shaft, b, substantially as described.

44,775.—Amalgamating Apparatus.—James N. Phelps (assignor to Phelps's Electro Amalgamating Company), New York City:

I claim, first, in combination with the amalgamating rolls, a reservoir of quicksilver and a conveying mechanism for constantly supplying said rolls with the quicksilver, as described.

Second, And I claim in combination with the quicksilver reservoir, conveying mechanism and amalgamating rolls, the use of chemical or mechanical electricity or galvanism for assisting in coating said rolls, as and for the purpose described.

Third, And I claim combining with the rolls that are constantly supplied with quicksilver, the scrapers for constantly scraping off the amalgam and conveying or directing it to a proper receiver, substantially as described.

Fourth, And I claim delivering the crushed and purified ores, from the muller to the coated rolls, through a narrow slot in the pipe or tube conveying it, substantially as and for the purpose described.

Fifth, And I claim in combination with the rolls, A, B, the jackets, M, for holding the ores to the rolls, until taken off by the scrapers, substantially as described.

RE-ISSUES.

1,794.—Truck for Locomotives.—Levi Bissell (assignor to the Locomotive Safety-Truck Company), New York City. Patented Aug. 4, 1857:

I claim, first, Connecting the truck with the frame of the locomotive so that it shall be free to move laterally under the frame in combination with the means herein described or their equivalents thereof, by which the weight of the locomotive resting on the trucks acts automatically to resist the lateral motion of the truck and retain it in a central position while running on the straight parts of the track and to aid in restoring it to such position when passing from curved to straight parts of the track, substantially as set forth.

Second, Connecting the truck and driving wheels, so that the truck may move laterally under the locomotive substantially as described to compel the axes of the truck and driving wheels to assume positions parallel or nearly so with the radii of the curves of the track, or at right angles with the rails on the straight parts of the track, as specified.

1,795.—Grain Separator.—John Gray, Milwaukee, Wis. Patented Dec. 22, 1863:

I claim, first, The combination with "Booth's Compound Shaker," for separating wheat from oats, &c., the movable screen, d, for the purpose of more fully separating the smaller seeds, &c., from the wheat.

Second, I claim in combination with said shaker the screen, d, and back fall, e, for the purposes herein recited.

Third, I claim the application of the slide legs, D, to "Booth's Compound Shaker," for the purpose of elevating and depressing the zinc sieves, C, to any desired angle.

Fourth, I claim the application of the crank power, E, and the eccentric rod, I, to "Booth's Compound Shaker," said crank power and eccentric rod being arranged and attached in manner substantially as above set forth for the purpose of producing upon the machine a quick vibratory motion.

1,796.—Fire Extinguisher.—Wm. Kitson, Lowell, Mass. Patented Oct. 20, 1863:

I claim the employment for admitting water to a cotton or other bin, or other place to extinguish fire therein of a valve or cock, which is opened by means of a weight which is set free for the purpose, by the ignition of a fuse or other inflammable or combustible material, substantially as herein described.

1,797.—Enema Syringe.—Morris Mattson, New York City. Patented Nov. 19, 1861:

I claim, first, The combination of the elastic self-expanding and self-contraction enema syringe bulb, A, and the connecting pipe of two pieces, m and n, with their equivalent so constructed and combined with the bulb, A, as to confine the latter between those parts and at the same time furnish a free opening for the induction and education of the fluid not confining myself to the specific form and construction of parts described so long as I accomplish the same result by means substantially the same that is to say the parts being so combined that the elastic bulb of an enema syringe shall be connected to the pipe which forms in whole or in part a connection with one or more of the induction and education pipes by the said elastic bulb being clamped or compressed upon or against said pipe or connection and thus forming a tight and durable joint, as set forth.

Second, I claim so constructing the plug, m, and so combining it with the elastic bulb, A, of an enema syringe and the connecting pipe, f, that when the latter is removed for any purpose the plug, m, shall be retained in its place by the elasticity of the bulb, A, secured from accidental displacement, substantially as set forth.

Third, I claim the combination of the elastic bulb, A, the connector, in h, or its equivalent, and one or more flexible tubes, g, either for induction or education, substantially as and for the purposes set forth.

DESIGNS.

1,992.—Photographic Album Leaf.—Martin Carty, New York City:

1,993.—Floor Oil Cloth.—J. Taylor Webster, New York City, assignor to Edward Harvey, Brooklyn, N. Y.:

1,994.—Shovel and Tongs Stand.—Charles Zeuner (assignor to M. Greenwood & Co.), Cincinnati, Ohio:

[The following claim appeared in our last week's issue erroneously credited to Julius Thompson; we therefore present it this week properly amended.]

44,679.—Harvesters.—Thomas J. Tindall, of New York City:

First, I claim a main frame of a harvesting machine, constructed with a tubular socket for the axle of the running wheels, in such a manner that the said socket performs the double function of sustaining the said axle and of stiffening the frame transversely, substantially as set forth.

Second, I also claim a main frame of a harvesting machine, constructed with a socket for the tongue, in such manner that the said tongue socket performs the double function of sustaining the tongue upon all its sides and stiffening the frame longitudinally, substantially as set forth.

Third, I also claim the combination of the cog wheels of a harvesting machine, with still or silent shafts, which are rigidly secured to the frame of the machine, substantially as set forth.

Fourth, I also claim the combination of two of the cogwheels that impart motion to the cutter with each other by means of a saw-toothed spring clutch, so that the cogwheel nearest the cutter remains stationary when the machine is backed and that the clutch may be operated by a lever to stop the cutter, substantially as set forth.

Fifth, I also claim the combination of the finger beam with the main frame by means of lugs and one of the shafts of the cutter gear, in such manner that the said shaft performs the double function of pinion, shaft and joint pin for the hinge joint, substantially as set forth.

Sixth, I also claim the mechanism for raising and lowering the cutter bar, consisting substantially of a winch, vibrating lever and saw-toothed clutch, combined together and operating substantially as set forth.

Seventh, I also claim the combination of the bevelled wheels together by means of flanges which engage with each other and prevent the separation of the teeth of the wheels by movement in the direction of the axis of the wheels, substantially as set forth.

Eighth, I also claim the combination of the driving pulley of the reel with the grain wheel, by means of a spring clutch, in such manner that the revolution of the reel stops whenever the said grain wheel runs backward, substantially as set forth.

Ninth, I also claim the combination of a hollow reel shaft with a rod that connects the upper ends of the reel standards, so that the reel turns up on the said rod.

INVARIABLE RULE.—It is an established rule of this office to stop sending the paper when the time for which it was pre-paid has expired.

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.

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, including 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 solicited. For further particulars address MUNN & CO., No. 37 Park Row New York.

EXTENSION OF PATENTS.

Many valuable patents are annually expiring which might really 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.

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.

UNCLAIMED MODELS.

Parties sending models to this office on which they decide not to apply for Letters Patent and which they wish preserved, will please to order them returned as early as possible. We cannot engage to retain models more than one year after their receipt, owing to their vast accumulation, and our lack of storage room. Parties, therefore, who wish to preserve their models should order them returned within one year after sending them to us, to insure their obtaining them. In case an application has been made for a patent the model is in deposit at the Patent office, and cannot be withdrawn.

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