

sions are produced upon the vessel in a lateral direction during every stroke of the engine or in every stroke of each piston when more than one engine or an engine with more than one cylinder is used. The object of this invention is to counteract the above-mentioned effect or tendency of the movements of the piston of an engine; and to this end it consists in the connection with such piston, of a weight which has a corresponding reciprocating motion, but always moves in an opposite direction to the piston, such weight being equal or nearly equal to the weight of the piston and its rod or rods and their connections with the crank, and moving the same distance or being heavier and moving a correspondingly less distance, or lighter and moving a correspondingly greater distance. John Ericsson, of New York city, is the inventor of this improvement.

Time-piece.—This invention consists in the employment, in place of the ordinary hands of a clock or watch, of dials containing the names of different localities, arranged in such relative position toward each other that, by the motion of the disk-shaped hands or hand-disks on the dial of the clock or watch the local times of all the places marked on the disks can be observed at any moment; also in the application of two or more sets of hands marked with the names of different localities and moving on one and the same arbor, in combination with the dial of a clock or watch, in such a manner that the local time of each of the places marked on the hands, and the difference of time between said places can be observed at a glance whenever desired. Finally, in the arrangement of adjustable indices or local hands inserted into or attached to the edges of the hand-disks in such a manner that the same indicate the local time of that place where the watch or clock is to be used. A. W. Hall, of Chicago, Ill., is the inventor of this improvement.

CATTLE VALUATION.—According to published statistics, it appears that the wholesale cost of live animals brought to New York for slaughter last year, exceeded \$30,000,000, and that more than half our beef comes from the single State of Illinois.

TO OUR READERS.

PATENT CLAIMS.—Persons desiring the claim of any invention which has been patented within thirty years, can obtain a copy by addressing a note to this office, stating the name of the patentee and date of patent, when known, and enclosing \$1 as fee for copying. We can also furnish a sketch of any patented machine issued since 1833, to accompany the claim, on receipt of \$2. Address MUNN & CO., Patent Solicitors, No. 37 Park Row, New York.

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ISSUED FROM THE UNITED STATES PATENT-OFFICE FOR THE WEEK ENDING FEBRUARY 16, 1864. Reported Officially for the Scientific American.

Pamphlets containing the Patent Laws and full particulars of the mode of applying for Letters Patent, specifying size of model required and much other information useful to inventors, may be had gratis by addressing MUNN & CO., Publishers of the SCIENTIFIC AMERICAN, New York.

41,588.—Amalgamating and collecting Gold and Silver.—Henry W. Adams, New York City, and W. S. Worthington, Newton, N. Y. Antedated Feb. 12, 1864:

We claim, first, The precipitating or discharging of the pulverized quartz in a shower into an atmosphere of hot vapor of quicksilver, substantially in the manner herein shown and described.

Second, The cylinder, C, provided with a screen, D, and arranged and operated as shown for the purpose specified.

Third, The stirrer, N, and pan, M, either or both; having a rotary motion in combination with the cylinder, B, rotary screen cylinder, C, and furnace or still, J, as and for the purpose specified.

Fourth, Operating the stirrer, N, or the pan, M, from the shaft, I, when said shaft is arranged as shown and provided with a wiper-wheel, H, to operate the screen cylinder, C.

Fifth, The means employed for preventing the escape of the vapor of quicksilver from the cylinder, B, to-wit: the annular water chamber, a, into which the lower end of the screen cylinder, C, is fitted and the funnel, L, at the lower end of the cylinder, B, extending into the pan, M, and below the surface of the water contained therein, substantially as set forth.

41,589.—Stuffing for Mattresses, &c.—Henry A. Alden, Matteawan, N. Y.: I claim as a new manufacture the production of mattresses, chair-seatings and other articles of furniture, bedding, &c., in which the stuffing is composed of sponge prepared in the manner substantially as herein set forth.

41,590.—Metallic Cartridge.—Enos G. Allen, Boston, Mass.: I claim forming a metallic flanged cartridge case, imperforate and charged with the fulminate at its flanged end, and at its outer end swayed over the equator of the ball or lead cap, so as to hold it close, and tapering so as to give certainty to the entry of this end into the barrel without obstruction, and secure a close fit to the chamber to prevent the escape of the gases therein; the said cartridge case containing buck, or other shot in its anterior portion, and powder in its posterior, the two to be separated by a wad of sufficient capacity and fitting with sufficient accuracy to prevent the escape of the explosive gas against the shot; all arranged precisely and specifically as described in the specification and drawing.

41,591.—Feed-water Heater for Locomotives.—Samuel F. Allen, Chicago, Ill.: I claim the combination of the compound pipes, R, the exhaust pipes, T, the regulating valve, A, the directing tongues, e, the yokes, X, and the heater, G, substantially as herein set forth.

41,592.—Stove Pipe Thimble.—Thomas K. Anderson, Hornellsville, N. Y.: I claim the tin or zinc cylinder, D, having a bright surface, and indented throughout its surface with protuberances in the manner as and for the purposes herein described.

41,593.—Harvester.—Samuel Augsburg, Trenton, Ohio: I claim a detachable elevating device for lodged or tangled grain, mounted rigidly upon and supported by the fingers, C, and consisting of a horizontal arm, D, and inclined arm, F, occupying the same vertical plane, the latter being attached by its intermediate part to the front of the horizontal arm, D, and projecting in front, below and beyond the same, all as herein shown and described and for the purposes specified.

41,594.—Iron Bridge.—James J. Beard, Columbus, Ohio: I claim the arrangement and combination of the segments, A, A, having bosses, a, a, on both sides with which to connect the bolts, c, c, and the pillars, d, d, for securing the beams or string-pieces, D, D, and supporting the structure in the manner as and for the purposes specified.

41,595.—Wagon Brake.—Erasmus Bennett, Clarksville, N. Y.: I claim the sliding rods and pole, when used in connection with the arms, M, N, and rods, Q, R, connected with the rubbers, T, U, and eye, bolt, or pin, Z, all arranged and combined as set forth and for the purposes specified.

41,596.—Stove.—Wm. Bickel, Pottsville, Pa.: I claim, first, A barred or perforated grate consisting of upper horizontal plates, a, a, vertical plates, b, b, lower horizontal plates, c, c, sliding in and out through apertures, e, all as herein shown and described and for the purposes specified.

Second, I claim the pipes, C, C, extending completely through the fire above the grate, B, open at both ends, and provided with a series of apertures, a, to provide a more free and full supply of air to the fuel when used in combination with registers to open or close either end of all the pipes, simultaneously as explained.

41,597.—Handle for Stamps.—Matthew C. Borgia, Philadelphia, Pa.: I claim the gum-elastic tube or block, B, fitted to the die as set forth when the said tube or block is of such a size and shape as to form the entire handle of the stamp for the purpose specified.

41,598.—Draught Regulator for Stoves and Furnaces.—John Briggs, Roxbury, Mass.: I claim the improved draught regulator consisting of the expansion drum, F, its lever, H, the valve, M, and the adjustable stop, I, and spring, c, the whole being applied to a furnace or heating apparatus, and constructed in manner and so as to operate substantially as described.

41,599.—Gas Regulator.—F. W. Brocksieper, Bridgeport, Conn.: I claim the arrangement and application of the slotted adjusting screw, A, or its equivalent to the aperture in the valve, D, or in the valve seat along side of the same, in the manner and for the purpose substantially as herein set forth and described.

41,600.—Hames.—Robert D. Brown, Covington, Ind.: I claim the cap, C, provided with the screw, D, in combination with the bow, A, provided with the plate, E, substantially as described.

41,601.—Neck Yoke.—Stillman P. Campbell, Rochester, Minn.: I claim, first, The ferrule, C, provided with the projections, c, c, in combination with a ring, D, provided with a cross-plate and breast-strap rings as at d, substantially as described.

Second, The martingale ring, e, in combination with the ring, D, and ferrule, c, substantially as described.

41,602.—Combination of a Wash-stand and Water-closet.—Wm. Campbell, Waterloo, Pa.: I claim, first, A wash-stand constructed with a movable or sliding

top, G, a seat, e, and chamber compartment, A, arranged substantially as described.

Second, So applying the movable top, G, to the body of the cabinet, that it can be made to serve as a support or desk for a person sitting in the seat, substantially as described.

Third, A combined convertible wash-stand and privy-chair, constructed substantially as described.

41,603.—Plow.—Orman Coe, Port Washington, Wis.: I claim, first, The curved tined pulverizer, arranged and supported in rear of the plow beam, A, in a plane obliquely to the line of draught, in combination with the plate, b, which forms a wide channel in the ground to allow the tines to enter freely, substantially as and for the purposes described.

Second, Although I do not claim broadly a revolving pulverizer having teeth on its edge, I do claim such having flattened and curved teeth, substantially as shown and described.

Third, Arranging in rear of the coiler standard of a subsoil plow, the revolving curved toothed pulverizer, substantially as described.

41,604.—Dumping Cart or Wagon.—Isaiah B. Conklin, Pemberton, N. J.: I claim the bar, F, pivoted to the shafts, C, and controlled by springs, f, and staples, G, when used in combination with the hooks, H, H, rigidly attached to the cart body, A, all as herein shown and described and for the purposes specified.

41,605.—Pocket Calendar.—D. E. Crosby, Brooklyn, N. Y.: I claim the employment or use of a spring, c, or its equivalent in combination with the dial, B, and disk, A, as and for the purposes specified.

[The object of this invention is to produce a perpetual calendar which can be conveniently carried in the pocket and which, when once set, is not liable to shift spontaneously.]

41,606.—Soap-dish.—John Cundy, Philadelphia, Pa.: I claim the wooden bowl, A, having an inclined ledge, d, and two compartments separated from each other by a movable or detachable perforated plate, B, of metal, all as set forth.

41,607.—Uterine Supporter.—D. M. Drake & S. L. Hockert, Pittsburg, Pa.: We claim the arrangement of the curved wires, A, A, passing through vertical holes in the front brace, B, and held in position by means of set screws, P, P, when used in combination with the inular or pubic pads, N, N, having a lateral or adjusting motion in the long slots, n, n, and with the central hole, L, and tightening screw, for holding different instruments in the manner and for the purposes herein set forth.

41,608.—Bottle-filling Machine.—Wm. F. Davidson, Cincinnati, Ohio: I claim, first, The provision of the valve guarded inlet, K, L, and flexible or other suction pipe, M, in the described combination with a bottle-filling syringe, substantially as set forth.

Second, The provision of a stopper or valve, C, at the ventage of a bottle-filling syringe said valve being made to close and open automatically, in conjunction with the action of the piston, substantially as set forth.

41,609.—Grain-cleaner.—Wm. S. Deisher, Hamburg, Pa.: I claim the employment of the scattering teeth, l, l, l, within the blast spout and at the edge of the curb opening, g, in the manner and for the purpose herein shown and described.

I also claim the employment of the adjustable angular guiding slides, q, when arranged to operate in conjunction with the blast spout, F, and tubes, I, in the manner herein shown and described.

I also claim the combination of the circular double-acting valve, L, with the discharge spouts, k, k', all arranged in the manner herein shown and described; so that the fan may be rotated in either direction and so that the blast of air through the spout, F, may be always readily controlled, as set forth.

[This invention consists in a novel dress for the stones as herein after described, whereby the grain is acted upon in a more thorough manner than hitherto, and more perfectly cleaned and scoured. The invention also consists in a novel and improved grain separating device and fan attachment, whereby it is believed that several advantages are obtained over the ordinary means employed for that purpose.]

41,610.—Tool for making Buckles.—Robert Durning, Lawrenceville, Pa.: I claim the employment or use, in the manufacture of harness and other similar buckles, of a series of tools constructed substantially as shown, for the purpose of opening the eyes of the tongues of the buckles, and closing the same in the buckles and for forming the tubular friction rollers and also adjusting them on the buckles as herein set forth.

[This invention relates to an improvement in the manner or process of manufacturing buckles, such as are made with wrought-iron tongues and provided with friction rollers and are employed for harnesses and for similar purposes. The invention consists in the employment or use of certain means or tools which may be used separately, by hand or so arranged as to be operated by mechanical means with any suitable power, and so constructed as to respectively open the eye of the tongue and close the same on the bar of the buckle, to form the tubular friction roller, and to adjust the same on the roller bar of the buckle, whereby buckles of the class specified may be manufactured much cheaper than at present, and in a superior manner.]

41,611.—Operating Ordnance.—James B. Eads, St. Louis, Mo.: I claim, first, The raising or lowering of the gun slides or frame on which the gun carriage moves in a line so as to keep the axis of the gun in a line parallel therewith, and in such manner that the breech and trunnions of the gun are moved up or down whilst the muzzle of the gun is kept at nearly a fixed point, for the purpose of giving the necessary vertical range or aim of the gun, and thus obviating the use of a port-hole larger than the muzzle of the gun, substantially as described.

Second, I also claim the pivoting of the platform, A, that carries the gun or guns, and the mechanism for operating it or them on a hollow pin or pivot, for the purpose of admitting, or of admitting and discharging the steam, air, water, or other element for operating the mechanism that raises or lowers, or moves the gun to or from the port, substantially as described.

41,612.—Steam Engine.—John Ericsson, New York City: I claim the employment of a reciprocating weight so connected with the piston of a steam or other engine as to move always in the opposite direction to the motion of the piston, and so proportioned as to operate substantially as herein specified.

41,613.—Horse Rake.—Levi W. Fredrick, Ray, Ind.: I claim the thills constructed of the parts, D D F, arranged as shown, when used in combination with and applied to the revolving rake, substantially as herein described.

[This invention relates to certain improvements in what are generally known as revolving horse-rakes. The invention consists in mounting the rake on wheels and arranging it in such a manner that it may be manipulated by the driver or attendant with the greatest facility, in order to discharge the load and also to enable the rake to pass over obstructions which may be in its path. The invention further consists in a novel construction and arrangement of the thills, whereby the revolving movement of the rake in discharging its load is greatly facilitated, the implement preserved from much wear and tear, and the labor of the horse materially diminished.]

41,614.—Cultivator.—Wilkinson Furnas, Ononwa, Iowa: I claim the arrangement of the treadles, H, frame, b, beams, D, and guards, G, with the frame, A, levers, H, and serrated bars, m, all constructed and operating together in the manner herein shown and described.

[This invention relates to those parts which serve to adjust the plows to the width of different rows, to give to them a lateral motion

while in operation, and to throw them out of the round while turning or passing an obstruction.]

41,615.—Hand Grenades.—George P. Ganster & Isaac S. Schuyler, New York City :

I claim the combination of the chamber, A, B, cap, C, plug, b, frangible fuze, D, and balls, E, all constructed, arranged and operating in manner as and for the purpose set forth.

41,616.—Railroad Journal Box.—Warner Groat, Green Island, N. Y. :

I claim, first, The packing composed of the wooden strips, C, covered at their inner side with leather, a, or other suitable material and fitted together as shown or in an equivalent way within a chamber, a, at the rear of the box, A, and secured by a wooden key, D, substantially as herein set forth.

Second, The wooden plate or door, G, fitted within the inclined front end of the box, A, as and for the purpose specified.

Third, The metal plate, H, fitted to the front end of the box, A, in combination with the wooden plate or door, G, arranged substantially as and for the purpose set forth.

[This invention relates first, to a new and improved packing, constructed, arranged, and applied in such a manner as to effectually retain the oil or other lubricating material in the box and at the same time be capable of being adjusted snugly to the axle as the bearing wears, and also capable of being removed in part for the insertion of a new bearing when necessary, and capable of lifting up and sustaining the wheel and axle where a car is raised and adjusted on the track and also possess the advantage of admitting of being removed when worn out, checked or rendered defective from other causes, and a new packing inserted in its place without removing the trucks from the car body, raising the car or manipulating the latter in any way whatever. Second, to an improved removable plate or door at the front end of the box, constructed and arranged in such a manner that it may be adjusted in position and removed with the greatest facility for the insertion of the lubricating material and the removal of the bearing, and at the same time, when adjusted in position, be firmly retained oil-tight in its proper place.]

41,617.—Time-piece.—Alexander W. Hall, New York City :

I claim, first, The employment or use of disks, B, C, in place of the ordinary hour and minute hands of a clock or watch either one or both combined, said disks being marked with radial lines, c, d, and with the names of different localities or places, substantially as herein shown and described, so that by the motion of said disk or disks on the dial of the time-piece, the local time and also the difference of time for the different localities can be determined.

Second, The use of two or more sets of hands, c, d, marked with the names of different localities and moving on one and the same central arbor, a, of a time-piece, A, in the manner and for the purposes substantially as set forth.

Third, The adjustable indexes or local hands, D, E, in combination with the hour and minute disks, B, C, of the time-piece, A, constructed and operating in the manner and for the purpose substantially as specified.

41,618.—Vessel for cooking by Steam.—Lydia S. Hall, Washington, D. C. :

I claim, first, The castor steamer in combination with the boiler, constructed and operating substantially as described.

Second, I claim also the double steamer in combination with the castor steamer, constructed and operating as above described.

Third, I claim likewise the combination of the double steamer, the castor steamer and the boiler, constructed and operating as above described.

41,619.—Steam Radiator.—Austin S. Hart, Buffalo, N. Y. :

I claim the cast pipes, C, having a projection, C', near each end and on opposite sides, each alternate projection being "stopped off," or made solid; so that when the pipes are laid up in a stack there will be a good joint connection formed at these projections, said continuous connection of water or steam caused to flow from the boiler through each tier of pipes, for the purposes and substantially as described.

41,620.—Liquid Measure.—Alonzo Hicks, Flushing, N. Y. :

I claim the twisted rod, d, and float, e, fitted as specified in combination with the dial or index and vessel to contain the fluid to be measured, as set forth.

41,621.—Safe.—George Hopson, Bridgeport, Conn. :

I claim the compound burglar-proof construction, composed of annular ridges or ribs of hard material alternating with soft material and welded or soldered together, substantially in the manner and for the purpose herein set forth.

41,622.—Stump Machine.—John F. Hostetter, Penn Township, Pa. :

I claim the arrangement of the gearing, C, D, E, F and K, in combination with the shaft, A, and long screw shaft, H, with its claws, h, constructed and used in the manner set forth for the purpose specified.

41,623.—Washing Machine.—Charles H. Hudson, Ogdensburg, N. Y. :

I claim the swinging and yielding posts, C, C', attached to a rock shaft, B, connected with the wash-board, A, substantially as shown in combination with the box, F, provided with the rollers, G, G', and elastic rubber, J, the box being attached to the posts, C, C', and all arranged to operate as and for the purpose set forth.

[This invention is designed to supersede the bands in washing with the ordinary wash-board, and it consists in the employment or use of rollers and a rubber placed within a suitable box attached to a swinging frame connected to the wash-board in such a manner that the rollers and rubber may be moved over the wash-board, and the operation of washing clothes by hand greatly facilitated.]

41,624.—Door Weather-strip.—Wm H. Hurlbut & J. W. Sharp, Elgin, Ill. :

I claim the strip, C, in combination with the opening or passage, b, in the door-sill, B, and the slot, a, in the lower edge of the door, A, all arranged substantially as and for the purpose set forth.

[This invention relates to a new and improved weather-strip arrangement for preventing storms from beating underneath doors, and it consists in the employment or use of a semi-cylindrical rod or strip being on pivots and fitted in the upper part of a water-passage in the sill and arranged in such a manner as to fit into a groove in the lower edge of the door when the latter is closed; all being arranged in such a manner as to effect the desired end.]

41,625.—Hay and Cotton Press.—Ira James, Mattoon, Ill. :

I claim, first, The provision in a vertically-acting heater hay-press of sleeves, P, ratchet and brake movements, W and W', and pulley and toggle movements, Q, S, T, the whole being combined and operating substantially as set forth.

Second, The combination of the slotted bars, J, J', J'', J''', Z, Z', catches, I, and grooved bats, C, G, c, all constructed, arranged and operating as herein shown and described, to enable the removal of the bale for hooping or binding outside of the press in the manner set forth.

41,626.—Bier.—George W. LaBaw, Jersey City :

I claim, first, The frame, b, fitted as specified with the folding legs, c, and sliding handles, d, to form a bier, adapted to the hearse, or to being carried by hand as set forth.

Second, I claim the pulleys, i, fitted as specified, with separate divisions for each rope, in combination with the cross-shaft, e, and gears, g and h, whereby all four ropes passing to the coffin will be let off or wound up with uniformity, as set forth.

Third, I claim the pins, m, introduced through the loops at the ends of the ropes, for disconnecting them as specified.

41,627.—Preparing Fiber from the Bamboo.—Phillip Lichtenstadt, New York City :

I claim the process of separating and disintegrating the fiber contained in bamboo, by treating it with a solution of lime, nitrate of

soda, and oxalic acid, and preparing the textile material for preparing the textile material for manufacturing purposes, substantially as described.

41,628.—Fire-escape.—Josiah Loehr, New York City :

I claim the combination of the revolving table, E, oscillating shaft, F, mast, G, and windlass, I, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

[This invention consists in a mast or pole provided with suitable platforms and rigging and connected to an oscillating shaft which has its bearings in lugs rising from a revolving table or platform in combination with a truck supporting said revolving platform and with a suitable hoisting mechanism in such a manner that said mast can be turned down to a horizontal position and at right angles with the axles of the truck ready to be drawn through the streets of a city or town, or that it (the mast), can be raised to any desired angle and revolved with the platform in either direction, according to the height or position of those parts of a building which may be on fire, or from which it may be desired to remove persons or articles.]

41,629.—Plates for constructing Burglar-proof Safes, &c.—Walter K. Marvin, New York City :

I claim, first, As a new composition of matter, iron or steel combined with emery, substantially in the manner and for the purposes set forth.

Second, I claim combining emery with malleable iron or steel by rolling process as set forth.

Third, The manufacture of plates or sheets of iron or steel by welding together two or more plates or sheets having emery interposed, substantially as herein set forth.

Fourth, I claim the method of making iron or steel plates having an emery core, or emery confined in cells throughout the interior, as described by running the same of two or plates, either or all of which are corrugated, grooved or having depressions or recesses formed therein for containing and holding the emery during the welding and rolling operations, as set forth.

Fifth, I claim the manufacture of burglar proof safes, prison bars, and other objects calculated to resist the action of cutting or piercing instruments of iron and steel, made in the manner herein before described.

41,630.—Mode of fastening Hose to Couplings.—Charles McBurney, Roxbury, Mass. :

I claim the within-described clamp with its rib, c, and hole, b, secured in place by one or more screws, d, substantially in the manner and for the purpose specified.

41,631.—Breech-loading Ordnance.—Richard Lansing Mills, Columbus, Ohio :

I claim, first, A breech-loading cannon constructed with a steel-lined opening passing completely through its breech, and provided with an oblong, round-cornered block, B, fitted to slide therein and operated by a yoke and lever, substantially as herein described.

Second, The yoke, C, constructed with hinged wings, c', serving the combined purposes of communicating motion to the block, indicating its correct position for firing and permitting its ready removal, all as hereinbefore explained.

Third, The wedge, F, applied and operated by the lever, S, in the manner described, for closing the joint between the breech-piece and the rear of the barrel.

Fourth, The combination of the screw, G, movable ball, G', socket, G², and jointed nut, I, all constructed and operating in the manner and for the purposes set forth.

Fifth, The recess, R, in the bushing, Q, employed in the manner and for the purpose set forth.

41,632.—Floating Bag.—George Mitchell, London, England :

I claim the jaws, B, when the same are provided with a recess, f, and secured to the mouth of the bag, A, by rivets, c, which do not extend to the ends of the jaws, in combination with the screw bolts, C, or their equivalents applied and operating as and for the purpose set forth.

[The object of this invention is to produce a bag for carrying letters or papers of value, or for the mails in general, which can be readily closed and which when closed will be perfectly water-tight and form a safe protection for its contents when it happens to drop in the water, or to be exposed to moisture or wet in any other manner.]

41,633.—Securing Railway Bars.—John O. Montignani, Albany, N. Y. :

I claim the combination of a double hooked head with a wood screw, B, for the purpose of securing railway bars to their wooden substructures or any analogous use.

41,634.—Photograph Camera.—Hiram C. & Chauncey L. Moore, Springfield, Mass. :

We claim, first, The combination of one or more lens tubes, F, F', and rotary disk, G, when applied to and forming a part of a camera-box, substantially in the manner and for the purpose herein set forth.

Second, The combination of the handle, H, stops, c', and disk, G, substantially as set forth whereby the operator has complete control over the movement of the lenses.

Third, One or more lens, F', rotating about an axis eccentric to the axis or axes of said tubes, in combination with the partitions, a, a', a'', when applied to and forming a part of a photographic camera, for the purpose substantially as herein set forth.

41,635.—Vapor Heater.—O. F. Morrill, Chelsea, Mass. :

I claim the flexible or elastic plate, I, and its concavo-convex disk, H, or the equivalent thereof, in combination with the pressure screw, m, or its equivalent and the valve, g, and its seat, f, the aerovapor burner, B, its conduit, D, or conduits, D', and the reservoir, C, thereof.

I also claim the arrangement of the valve, g, and its seat, f, and the flexible d, with the plate, I, and the concavo-convex disk, H, and the conduit, D, substantially as above described, so that the pressure of the fluid of the reservoir shall operate to open or aid in opening the valve or moving it away from its seat, the closing of the valve being effected by a screw, m, or its equivalent, arranged with respect to and so as to act on, or move the diaphragm, substantially as specified.

I also claim the arrangement of the valve, g, and its seat, f, so as to enable the valve to be moved and accessed by a rod, h, to the plate, I, so as to through the plate, I, substantially in the manner and for the purposes as specified.

41,636.—Damper.—Sylvester Munson, of Joliet, Ill. :

I claim the damper or valve herein described and represented, composed of two plates, a, a', arranged in relation to each other so as to operate in the manner and for the purpose set forth.

41,637.—Tobacco-cutter.—W. H. Pease, Dayton, Ohio :

I claim, first, The combination of the belts, R and S, and platforms, v and w, composed of a gradually-contracting throat for compressing and feeding the tobacco, constructed and operating substantially as herein described.

Second, The belts, R and S, when constructed as described, and in combination with a cutting device for cutting tobacco.

Third, The swinging frame, B, g, composed of bar, B, and plate, g, constructed and operating substantially as described and for the purpose set forth.

Fourth, The rock-shaft, B², in combination with brake, d, sleeve, D², and lever, a, for the purposes specified.

Fifth, The sliding journals, f', wedges, s, s, and shoulders, s², s², in combination with rollers, q and T, constructed and operating substantially as described.

41,638.—Ash Leach.—Samuel A. Porter, Prescott, Wis. :

I claim the manner in which the leach is suspended in a revolving condition, as herein described.

I claim, also, the hook and staples used to connect the leach with frame or upright post to prevent its revolving, as herein described.

The bearers or shafts with which the leach is suspended and the manner of applying at or near the center of gravity, as herein described, using for that purpose the aforesaid wood and iron or any other suitable material, substantially the same, and which will produce the intended effect.

41,639.—Water Elevator.—W. E. Pratt, Iowa City, Iowa :

I claim, first, The combination and arrangement of the movable roller or barrel, E, the bevel head, Q, the cylindrical portion, x, and the spring, I, ratchet wheel, S, the pawl, W, the shaft, D, the crank, I, and the lever, k, substantially as and for the purpose set forth.

Second, The combination and arrangement of the movable roller or barrel, E, the bevel head, Q, the cylindrical portion, x, and the spring,

T, with the rope, F, the flat chain, G, the bucket, H, the rods, M, N, the valves, L, and the conductors, P, P', substantially as and for the purpose set forth.

41,640.—Apparatus for elevating Hay, &c.—G. W. Prout, Ashland, N. Y. :

I claim the tilting platform, G, applied in combination with a frame or box, F, and with a suitable hoisting rope and tackle, substantially in the manner and for the purpose shown and described.

[The object of this invention is to elevate a load of hay or any other load bodily from a wagon or car to a place above and dump it at the required spot in an easy, simple and quick manner.]

41,641.—Rake for Harvesters.—Adam R. Reese, Phillipsburgh, N. J. :

I claim, first, The combination of the yielding finger-beam, the raking mechanism, and the main or gearing frame, when the several parts are constructed and arranged and operate substantially in the manner described for the purposes specified.

Second, The combination of the bracket, H, upon the finger-beam, in which the raking mechanism is mounted, with the stop, S, upon the main frame, when arranged and operating substantially as described, for the purpose set forth.

Third, The combination of the rake-shaft, K, with the driving-shaft, O, by means of the endless chain, M, when arranged and operating substantially in the manner described, for the purpose of turning the rake in any position of its shaft without the intervention of gearing, as set forth.

Fourth, The combination of the spindle, K, ring, j, and cam ring, L, with the rake-arms, substantially as described, for the purpose set forth.

41,642.—Fibrous Material from Corn-stalks.—J. A. Roth, Philadelphia, Pa. :

I claim the solving and abstracting of the components of the stalks of Indian corn by the application of one or more water baths, in a boiling state, over two hundred and twelve degrees, Fah., as described.

Second, I claim the use of the chemical agent, after the water bath or the boiling of the material under treatment has been completed, in the manner and for the purpose as described.

Third, And I claim the combination of treatment or process of the fibers of the stalks of Indian corn, as described, and also the neutralizing of substance still adhering to the fibers after being washed by the application of sulphuric acid, or its equivalent, in the manner and for the purpose specified.

41,643.—Gang Plow.—J. L. Runk, Nashville, Ill. :

I claim, first, The combination of the pulleys, p, p, endless chain, l, and adjusting lever, G, with pivoted plow beams, D', D', attached to the tongue, C', in front of the axletree, all operating substantially as described.

I claim, second, The manner herein described, of uniting the two parts of the axle and the hounds so that when the axle is extended in length or shortened, the hounds will be adjusted to operate therewith, as set forth.

Third, The laterally-adjustable pulley standard, E, in combination with the laterally-adjustable hounds, C, plow beams, D, D', and extensible axletree, B, substantially as described.

Fourth, The combination of the pivoted plow beams, D, extensible axletree, B, and laterally-adjustable hounds, C, in the manner and for the purpose specified.

Fifth, I claim the specified construction of standard boxes, N, so that they afford two bearings or supports, n, n', while made in one piece, N, and otherwise operate, with wedges or set-screws, for the purpose set forth.

41,644.—Gas Fixture.—Charles A. Shaw, Biddeford, Maine :

I claim an adjustable ring or rings, or an equivalent, in combination with the gas conductor, B, substantially as shown in the manner and for the purposes set forth and specified; and this I claim whether the said plug has a pin arranged in the manner described or not.

41,645.—Cooking Stove.—Joseph Sholl, Burlington, N. J. :

I claim the fire chamber, hot-air chamber, I, and oven, X, arranged as set forth, in combination with the system of flues in the manner whereby the top of the oven is heated by the products of combustion only, while the necessary heat is imparted to the front bottom and rear of the oven by the air heated in the chamber, I, as set forth for the purpose specified.

41,646.—Apparatus for grinding Cutter-bits for Rifling Machines.—Dwight Slate, Hartford, Conn. :

I claim the oil-stone slab, c, in combination with the sleeve, a, or their respective equivalents, constructed, arranged and operating substantially in the manner hereinbefore set forth.

41,647.—Manufacture of Sulphuric Acid.—John Smith and John R. Savage, Philadelphia, Pa. :

We claim, first, Concentrating sulphuric acid by subjecting it to the action of steam-heated worms in leaden pans, as described.

Second, Concentrating the acid to a greater density by introducing it to a still containing a steam-heated worm, as specified.

41,648.—Mode of manufacturing Wadding.—Isaac Stratton, Swanzy, N. H. :

I claim the mode of operation, herein described, of manufacturing a batting or wadding, the same consisting in the throwing the sizing in the form of a mist, simultaneously, upon the inner surfaces of two independent bats, and thus uniting these bats under pressure whilst in the moist state.

41,649.—Chimney Cap.—Alonzo L. Sweet, Norwich, Conn. :

I claim a chimney cap composed of a base, B, and pot, C, constructed of clay molded in the desired form and baked and glazed substantially as herein set forth.

[This invention consists in having the chimney cap constructed of baked clay, glazed, so as to present a hard surface impervious to a r and moisture. The invention also consists in a novel construction and arrangement of the cap, whereby the upper part or pot is separate from the base or lower part, and both rendered capable of being secured firmly in contact on the chimney, and either or both being used as desired.]

41,650.—Fastening of Mosquito Bars to Windows.—Asa F. Tarr, Rockport, Mass. :

I claim the combination and arrangement of the sash, d, with the frame, e, the net, f, the hooks, a, the bar, b, and plate, c, substantially as and for the purpose specified.

41,651.—Knuckle-joint for Shafting.—Simeon N. Taylor, Burnet, Wis. :

I claim the socket, A, provided with the internal longitudinal shoulders, a, in combination with the head, C, having the curved projections, c, on its periphery, all constructed and arranged substantially as and for the purpose herein set forth.

[This invention relates to a new and improved coupling for connecting together the tumbling rods of thrashing machines and the shafting of other machinery which require to be placed in an oblique position relatively with each other.]

41,652.—Army Plate.—William Terneson, Philadelphia, Pa. :

I claim the pan or plate, A, with its rim, a, and the strips, B and B', when the latter are of such a length and are so hinged to each other and to the pan, that they can be folded down and occupy a space within the limits of the rim, a, as set forth for the purpose specified.

41,653.—Station Indicator.—F. J. Underwood, South Hardwick, Vt. :

I claim the rollers, B, C, C', with springs, I, V, wheel, E, lever, F, and pawl, f, cord, G, and spring, H, all arranged and operating in combination with the case, A, in the manner and for the purpose substantially as specified.

[The object of this invention is an improvement in that class of indicators which are intended to be put up in railroad cars running on open roads or in the streets of a city, and which will enable the conductor or any other person having charge of the car, simply by pulling a cord to bring the name of the station which the car approaches or passes at any moment, before the eyes of the passengers.]

41,654.—Marine Life-preserver.—Jean B. Verdier, Paris, France :

I claim the pads, A and B, containing buoyant material in combination with the cords, d, adjustable strap, e, and neck band, g, the whole constructed and arranged for application to the body, as set forth.

41,655.—Percussion-cap Holder.—J. T. Warren, Stafford, N. Y. :

I claim the arrangement and combination of the case, A, with its devices, B C E L and N, and with the perforated traveling box, G, with its spiral rack, K, as incased in a leather pouch, and arranged, combined and operated as herein described.

41,656.—Flag.—Augustus Watson, Washington, D. C. :

I claim a metallic flag, constructed, ornamented, and to be used substantially as above set forth, as a new article of manufacture.

41,657.—Closing Fruit Cans.—William Webster, Middletown, Ohio :

I claim the spring-wedge rod, A, having one or more angles or curves, and operating in the manner and for the purpose substantially as described.

Also, the combination of the rod, A, with a traverse or strengthening bar upon the can cover, applied, as described for the purpose specified.

41,658.—Apple-parer.—Jonathan White, Antrim, N. H. :

I claim the application and arrangement of the can in connection with the spurs, s, or their substantial equivalents, for operating the arm, H, and paring knife, substantially as and for the purposes set forth.

I also claim the application of the bent lever, M, when acted upon by the plate, L, substantially as described, for moving the knife from the fruit, after it has been pared, and then again releasing the arm, H, and knife, r, so as to be brought in proper position to pare another fruit.

41,659.—Faucet.—C. T. Woodman, Boston, Mass. :

I claim, first, The employment of the loosely-fitting, elastic globular body, F, in the pipe or tube, B, in combination with the seat, c, and follower, F', substantially as set forth and for the purpose described.

Second, The lateral outlet, G, in combination with the seat, c, elastic ball, F, and follower, E, substantially as and for the purpose described.

41,660.—Grain Separator.—Sanford Adams (assignor to Joel Nourse), Boston, Mass. :

I claim, first, The feeding hopper, g, constructed substantially in the manner described and for the purposes set forth.

Second, I claim the pivoted arms or levers, q, q', in combination with the slide track, h, for the purposes described.

Third, I claim the separator, m, constructed and arranged substantially as set forth.

Fourth, I claim the receiver and conductor, j, in combination with the sieve, s, and the slat, n, for the purposes described.

41,661.—Grain-binder.—Jacob Behel, Earleville, Ill. :

I claim a turning cord-holder, constructed substantially as herein set forth, so as to seize the binding cord by turning on an axis.

I also claim the combination of a turning cord-holder with a turning belay wheel, substantially as set forth.

I also claim the combination of a cord-carrying arm and its appendances with a turning cord holder, substantially as set forth.

I also claim the revolving tying bill, composed substantially as herein set forth, of jaws secured crosswise to a shaft, so that the cord to be tied is wound into loop crosswise to the jaws.

I also claim the combination of a revolving tying bill, with mechanism to carry it to and from directions crosswise to its shaft, substantially as set forth.

I also claim the combination of a revolving tying bill with a slotted plate and a movable shield, the whole operating substantially as herein set forth.

I also claim the combination of a revolving tying bill and the mechanism for moving it to and fro crosswise to its shaft, with a detent, the whole operating substantially as set forth.

I also claim the combination of a reciprocating toothed rack with a pinion having an enlarged tooth, the two operating substantially as and for the purpose herein set forth.

I also claim the combination of a swinging frame, for moving the cord-tying bill to and fro, with a segmental rack that is eccentric thereto, the whole operating substantially as herein set forth.

I also claim the combination of a reciprocating cord-tying device with a sawing knife in such a manner that the cord is cut by being drawn across the edge of the knife by the movement of the cord-tying device, substantially as herein set forth.

41,662.—Ordnance.—T. A. Blakely, London, England Patented in England May 22, 1863 :

I claim the manufacture of cannon composed of two or more tubes having successively-decreasing amounts of extensibility within the extensible limit (the inner tube having the greatest amount) when these tubes are put together with initial tension, substantially in the manner and for the purpose described.

41,663.—Restoring De-ammoniated Guano.—Augustus A. Hayes (assignor to William T. Glidden), Boston, Mass. :

I claim the application to de-ammoniated guano of sulphuric acid and common salt, or the equivalents thereof, and the combination of the mixture with putrefactive animal matter, or its equivalent, productive of ammonia, the whole being substantially as hereinbefore described.

41,664.—Butt Hinge.—Robert Hoadley (assignor to himself and Henry A. Shipman), New Haven, Conn. :

I claim constructing and adjusting the stop, c, in the manner described, so that the butt may be opened or set at any required angle.

41,665.—Steam Boiler.—Joseph H. Springer (assignor to himself and Milton Foreman), Philadelphia, Pa. :

I claim the tubes, D, in vertical tubes, E, and air openings, I, when the said tubes are ordered and arranged within the boiler, as and for the purpose described.

41,666.—Tanning.—Jeremiah Wonder, Trucksvlle, Pa., assignor to himself and Loring A. Robertson, Dunning, Pa. :

I claim the employment of the substances herein specified in connection with hemlock tan for the purposes and as specified.

41,667.—Machine for sawing Wood.—Jarvis Case, Lafayette, Ind. :

First, I claim the arrangement and combination of the horizontal crank wheel, B, with the two pitmen, H and I, and swinging arm, K, attached to the rocking shaft for operating the cross-cut saw and allowing the horses to pass between the wheel, B, and the saw, substantially as set forth.

Second, I also claim the auxiliary saw guide, U, with its fingers, w, in combination with the fingers, m, substantially as described.

RE-ISSUES.

1,617.—Thrashing Machine.—David M. Cochran, Richmond, Ind. Patented Sept. 3, 1861 :

First, I claim the arrangement and combination of the endless belt or belts, g, provided with the triangular slats, h, b, and spout, i, with partition, l, the whole constructed and operating substantially as and for the purpose set forth.

Second, I also claim the combination of the elevator, J, screw conveyor, H, and grain receiver, K, the latter being provided with the slide, L, and valve, M, which valve is connected through the medium of a lever, O, and pawl, P, with a ratchet or register, Q, all arranged for joint operation, as and for the purpose set forth.

Third, I claim the construction of the rear or tail end of the thrasher with a boxing, B, which constitutes side walls to the last section of the conveyor of the thrasher and also to the first section of the stacker, substantially as and for the purpose set forth.

Fourth, The combination of the supplemental box, E, box, B, hinges, b, hooks, a, *, and conveyors of the sacker and thrasher, substantially as and for the purpose set forth.

1,618.—Process of treating Fish-water for use in Dyeing, &c.—James B. Herreshoff, Bristol, R. I. Patented Dec. 15, 1863 :

I claim, first, The use of fish-water in the dye tub or as an agent for dyeing, substantially in the manner herein specified.

Second, The within-described process of treating or preparing fish-water previous to its application in the dye tub by exposing it to a temperature above 212° under a pressure higher than that of the atmosphere, substantially as set forth.

1,619.—Boot Strap.—F. H. Moore, Boston, Mass. Patented Jan. 5, 1864 :

I claim a strap for boots and shoes, constructed of metal or other suitably strong material, atached either permanently to the boot top, or in such a manner as to admit, after the boot or shoe is drawn on the foot, of being turned or shoved down within or at the outer side of the boot top, substantially as herein set forth.

1,620.—Running Gear of Locomotives.—Thomas H. Neal, Pittsburgh, Pa. Patented June 30, 1863 :

I claim, first, The combination of the wheels, q, flanges, n, and friction rollers, m, with the crank shaft, x, arranged and operating substantially as and in the manner herein described for the purpose set forth.

Second, The use of two parallel crank shafts connected by means of connecting rods, endless chains or belts, when used in combination with the running gear of locomotives, as herein described and for the purpose set forth.

1,621.—Stove.—Samuel B. Sexton, Baltimore, Md. Patented April 19, 1859. Re-issued Dec. 3, 1861 :

I claim a stove for warming purposes, constructed with a fuel supply magazine supported free from the grate, and a combustion chamber, having a base surface of greater diameter than the fuel magazine, substantially as and for the purpose set forth.

Second, In combination with the above, constructing the combustion chamber with projecting window or mica frames, substantially as described.

Third, A stove for warming purposes embracing the features of construction named in my first claim and the additional feature of the gas-circulating apartment above the fuel magazine, substantially as and for the purpose set forth.

Fourth, A stove for warming purposes wherein the flowing of the coals in a lateral direction from the lower end of the fuel magazine is wholly unobstructed, and at the same time the combustion chamber is formed by the outer wall of the stove, and the products of combustion circulate underneath, around, over, and in contact with the fuel magazine, whatever may be the form and relative proportions of the parts, substantially as and for the purpose set forth.

Fifth, The combination of a fuel magazine which has its lower end free from the grate, G, with a stove which has illumination doors or windows in its wall, A, so that the fire may be kindled through the apertures or door frames, substantially as set forth.

1,622.—Stove.—Samuel B. Sexton, Baltimore, Md. Patented April 19, 1859. Re-issued Dec. 3, 1861 :

I claim, first, The adaptation of a fire-place stove which has diving flues, for use with a fuel magazine which has an unobstructed space between its lower end and the grate, substantially as and for the purpose set forth.

Second, A fire-place stove which has diving flues constructed with the reduced portion, A', enlarged portion, A, reverberating plate, A'', gas space, g, projecting window or door frames, i, and fuel-supply magazine, H, substantially as and for the purpose set forth.

Third, A fire-place stove with diving flues and kindling apertures, i, i', in combination with a fuel-supply magazine which has a free unobstructed space below and out to the interior surface of the part, A, between itself and the grate, G, substantially as and for the purpose set forth.

Fourth, In combination with a fire-place stove which has diving flues, I claim a fuel-supply magazine which has a free unobstructed burning space below it and out to the wall of the stove, substantially as described.

Fifth, The combination of the fuel-supply magazine which is arranged to have a space between its lower end and the grate, G, with a fire-place stove which has a contracted part, A', in which the gases circulate in contact with and over the cover of the fuel-supply magazine, and from which the gases pass into diving flues, and thence under or around the ash pan and up to the draught or exit flue, substantially as and for the purpose set forth.

Sixth, The chamber, A A', with door, I, in combination with the internally-located fuel-supply magazine, H, which is free from the grate and has a removable cover, substantially as and for the purpose set forth.

Seventh, A fire-place stove which combines in its construction a burning base surface, G, of larger diameter than the fuel magazine, a magazine, H, and diving flues, substantially as and for the purpose set forth.

Eighth, A cold-air chamber combined in any manner substantially as described, with a stove having the fuel-supply magazine, H, for the purpose set forth.

Ninth, The combination of the main chamber, A, fuel-supply magazine, H, flues, B B', and damper, b, substantially as and for the purpose set forth.

DESIGNS.

1,896.—Pack of Cards.—Servetus Longley, Cincinnati, Ohio.

1,897.—Labeling Barrels.—Wm. B. Maddux, Cincinnati, Ohio.

1,898 to 1,901.—Carpet Patterns (four cases).—Elemir J. Ney (assignor to the Lowell Manufacturing Company), Lowell, Mass.

1,902.—Sewing Machine.—Charles A. Shaw and James R. Clark, Biddeford, Maine.

EXTENSIONS.

Smut Machine.—Leonard Smith, Troy, N. Y. Dated Feb. 12, 1850 :

First, I claim the grates, B B, in the top of the machine in combination with the scrolls or spiral chambers, A A, and spouts, C C, for discharging smut and other light materials carried up by the blast, as set forth.

Second, I claim the chamber, I, at the bottom of the cylinder which concentrates and gives free discharge to all foreign matter to be separated from the grain by the blast in the last stage of operation of the machine, in the manner described and represented.

Third, I claim, in combination with the concave bottom which gathers the grain for its discharge from the machine, the distributors, J J, fig. 6, which give direction in the discharge of the grain separated from the foreign matter by the blast.

Fourth, I claim the draft floats, h h h, fig. 5, in combination with the scouring surfaces, f, for cleaning buckwheat, as set forth.

Raising and lowering Carriage Tops.—Solomon Goddard and Henry Warfield, Truxton, N. Y. Dated Feb. 19, 1850 :

I claim connecting the jointed-braces upon opposite sides of carriage tops, by means of a shaft, A, or rod passing back of the seat, in such a manner that the braces may be worked simultaneously upon both sides, substantially as herein described.

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:—

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, 1853, 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. Overcharges in the fees are also made as follows:—

Table with 2 columns: Fee description and Amount. Includes: On filing each caveat, \$10; On filing each application for a patent, \$15; On issuing each original patent, \$20; 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