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\* Pamphlets giving full particulars of the mode of applying for patents, under the new law which went into force March 4, 1861, 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.

1,736.—Benjamin Arnold, of East Greenwich, R. I., for an Improved Lamp Shade :

I claim the combination of the rings and levers, substantially as described, and for the purpose herein set forth.

1,737.—B. T. Babbitt, of New York City, for an Improved Construction of Iron Vessels :

The combination of the sulphur with the frame work of the vessel, in the manner substantially as shown and described.

1,738.—John C. Baker, of Adams Center, N. Y., for an Improvement in Wheels for Carriages :

I claim the plate, A, provided with the concentric circular projection, B, beveled and corrugated at its periphery, or provided with pointed projections, a, in connection with the annular chain of plates, G, the circular plate, H, and the spokes, F, all arranged as and for the purpose set forth.

[The object of this invention is to construct a wheel in such a manner that any one of its spokes may be removed and a new one inserted in its place without taking the tire from the wheel or disturbing the felloes, the invention at the same time admitting of the wheel being constructed economically and in a very durable manner.]

1,739.—George Barker, of New York City, for an Improvement in Machinery for Making Cigars :

I claim the employment in a cigar machine of adjustable bearing plates or boxes, K L, for the purpose of mounting the rollers in combination with the guiding pins and adjustable screws, or their equivalent, the whole being constructed and operated in the manner and for the purpose set forth.

1,740.—Charles Bartholomae, of New York City, for an Improved Canteen :

I claim, first, The induction opening, A, provided with a fixed funnel, B, in combination with the mouth tube, E, and with or without the air tube, K, when applied to a soldier's canteen, constructed of curved form in its horizontal section substantially as and for the purpose set forth.

Second, The filter, F, when constructed, arranged and used in connection with the mouth tube, E, of the canteen, as herein shown and described.

[The object of this invention is to obtain a canteen which may be worn with greater facility than those of usual construction, more readily filled and more convenient to drink from, and be supplied with an efficient filtering device, which may be used whenever necessity requires. The invention consists in constructing the canteen of curved form in its horizontal section, so as to conform to the shape of the wearer, and having it provided with an induction, or filling opening, with funnel attached, and also provided with a mouth-tube and filter, to effect the desired result.]

1,741.—E. P. Barton, of Batavia, and R. W. Towle, of Bath N. Y., for an Improvement in Hay Rakes :

We claim the combination of the handles, C C, hinged to the rake head, D, with the bars, B, and arms, E, E, when these parts are arranged and operated together in the manner and for the purpose specified.

1,742.—Canfield Blodgett, of Morrison, Ill., for an Improvement in Plows :

I claim the improvement in the construction of the standard, A, in combination with the beam, B, the handles, C, plate, D, and brace, E, all attached, constructed and arranged substantially in the manner described and for the purposes specified.

1,743.—Lewis Boore, of Buffalo, N. Y., for an Improvement in Dry Gas Meters :

First, I claim so operating the valve as that an equal longitudinal and transverse movement will be given to it, so that all points of the valve will move over equal surfaces and describe equal circles for the purpose and substantially as described.

Second, I claim the cross, I, in combination and arrangement with the valve, F, and operating crank, for the purposes and substantially as described.

1,744.—C. H. Bradley, of West Chester, Pa., for an Improved Post Office Distributing Table :

I claim combining with the distributing tubes, C C C, on table, A, the semi-circular table, G, and receiving boxes, g g, arranged and operating substantially as described and shown.

[This invention is intended for facilitating the distribution of mail matters in post offices. It consists in arranging in a semi-circular form a number of cantes, or tubes, inclining outward and downward, from the top of a table to the bottom thereof, and in combining with these inclined tubes a revolving table, having large boxes on it, corresponding in number to the number of inclined tubes used, arranged horizontally under the tubes, for receiving the mail matter, which is passed through these tubes.]

1,745.—J. C. Butterworth, of Providence, and B. H. Arnold, of East Greenwich, R. I., for an Improvement in Converting Reciprocating into Rotary Motion :

First, we claim the use and employment of the combination of the lever, foot-piece and case, substantially as described and for the purpose set forth.

Second, We claim combining the cases substantially as described, so that the levers and foot-pieces shall be made to act by the friction created between the cases, for the purpose set forth.

1,746.—N. W. Camp, of Trenton, N. J., for an Improvement in Skates :

I claim the construction of the skate as specified, that is to say, of two distinct runner portions, B and B', in combination with a single flexible plate, or sole, b, in the manner and for the purpose described.

1,747.—Jeremiah Carhart, of New York City, for an Improved Propeller Shield :

I claim a shield substantially in the form of an arc of a circle, suspended from the stern of a vessel by rods projecting downwards, without reference to size, placed over the wheel, and in part enclosing and protecting the same, and which thereby partially confines and concentrates the water upon the same, increases its power and also the speed of the vessel, constructed substantially as and for the purposes described.

1,748.—John Case, of Philadelphia, Pa., for an Improved Canteen :

I claim the tube, B, with or without the filtering medium, E, fitted in the cork, C, which is provided with a chamfered side, h, in combination with a canteen, A, provided with a perforated nozzle, D, all arranged substantially as and for the purpose set forth.

[See engraving of this invention in No. 4, present volume.]

1,749.—Richard S. Child, of Philadelphia, Pa., for an Improvement in the Utilization of Coal Tar :

I claim the process herein described of utilizing coal tar, by converting it into roofing cement and lampblack, instead of into lampblack and a worthless residue, or into roofing cement and volatile substances.

1,750.—John Chilver, of Jersey City, N. J., for an Improvement in Molds for Molding Pipes of Plastic Materials :

I claim, first, The construction of a mold with its flat bottom, and its projection, L, whereby the sections of pipe made therein may be readily coupled, and have a continuous base, substantially as herein described.

Second, The combination with the flask of a mold of a core of uniform size and shape from end to end, constructed so as to expand and contract, substantially as described.

Third, The combination of the sectional bed-plate and collar with the flask of the mold and with an expandable and contractible core, combined and operating substantially as described.

1,751.—Neil Clifford, of Brooklyn, N. Y., for an Improvement in Vapor Lamps :

I claim the arrangement of the tubes, C, K, and wick tube, H, when used in connection with the plug, E, and socket, D, placed in the curved part, a, of the tube, C, and in relation with the wick tube, H, and straight or upright portion of tube, C, to operate as and for the purpose set forth.

[This invention relates to an improved lamp of that class in which volatile hydro-carbons are burned, and the burning material vaporized by a supplemental flame, in order to supply or feed the illuminating flame.]

1,752.—J. A. De Maniquet, of Paris, France, for an Improvement in Machines for Twisting Silk :

First, I claim the method of making a continuous angular twist although the fibers are of an irregular, and without destroying the elasticity of the material, and without unravelling it, as hereinbefore described.

Second, The method of winding and unwinding by means of an annular spindle, or its equivalent, operating substantially as herein described.

1,753.—Andrew Derrom, of Paterson, N. J., for an Improvement in Portable Huts :

I claim the combination of the sills, A, flooring timbers, B, studs, C, plates, D, and rafters, E, connected by wedge-shaped dove-tail joints, and the divided panels, F F', secured to the former by grooves, I, ribs, g, and bolts, k, the whole being constructed and arranged substantially as herein shown and explained, and for the purposes set forth.

[An engraving of this invention was published in Vol. 4, page 352.]

1,754.—P. S. Devlan, of Elizabethport, N. J., for an Improvement in Car Brakes :

I claim the employment of clamping brake levers, D, substantially as herein before described, in combination with the axle, or axles of the truck, and the secret shaft, the whole arranged to operate substantially as described, for the purpose set forth.

1,755.—Andrew Dougherty, of New York City, for an Improvement in Machines for Damping Paper :

I claim the combination of a friction brake, with means, substantially as described, for supporting a roll of paper in such manner that the tension is applied to the periphery of the roll of paper substantially as set forth.

I also claim the combination of a shaft that supports the roll of paper to be unrolled with an equalizing apparatus, the combination as a whole operating substantially as described.

I also claim a damping apparatus which is a combination of a series of cylinders having porous jackets, with means for supplying the damping liquid to them, and for regulating the quantity received by the cylinder that is pressed in contact with the paper substantially as described.

I also claim a rolling mechanism, which is a combination of a shaft, or its equivalent, for holding the roll of paper, with a concave friction roller, so arranged as to impart motion to the periphery of the roll, and with guides for holding the roll in its proper position against the friction rollers, substantially as described.

I also claim the combination of the following members, viz:—

First, An apparatus for supporting a roll of paper and making tension upon the paper.

Second, An equalizing apparatus substantially as described.

Third, A damping apparatus substantially as described.

Fourth, A rolling mechanism substantially as described.

The whole being constructed and arranged substantially as described, for damping paper from the roll, and delivering it in a damp condition.

1,756.—L. H. Doyle, of Waterloo, Iowa, for an Improvement in Cultivators :

I claim the sockets, D D', at the back end of the beam, A, with the feet or standards, E E, fitted therein shown, in connection with the bar, F, and braces, G, h, arranged to brace the feet, or standards, E E, and at the same time connect the same to the bar, F, at the desired distance apart, substantially as and for the purpose set forth.

[The object of this invention is to obtain an efficient and simple implement for the cultivation of crops which are grown in hills or drills—an implement which will thoroughly pulverize the soil, and render it permeable to air and moisture, and at the same time eradicate all weeds, and be capable of throwing earth either to or from the growing plants.]

1,757.—J. D. Elliot, of Grafton, Mass., for an Improvement in Machines for Folding Cloth :

I claim attaching the piman to the end of the folding blades, or to the staffs holding the blades at or near the upper ends of said staffs, when applied to a machine for folding cloth, as described.

I also claim the combination of the pawl, G', ratch, F', and shoe, a, with the yielding table of a cloth-folding mechanism, operating in the manner and for the purpose herein specified.

I also claim giving the table a positive motion down in advance of the folding blades for the purpose set forth.

I also claim giving both the table and jaw a positive motion, in advance of the folding blades, for the purpose set forth.

I also claim constructing the jaws, n, with a roughened surface for holding the folds of the cloth, made substantially as set forth.

1,758.—W. C. Fuller, of London, England, for an Improvement in Gun Carriages :

I claim the particular mode or modes of applying india rubber springs in the construction of gun carriages, as set forth and described.

1,759.—H. A. Gage, of Manchester, N. H., for an Improvement in Machines for Addressing Newspapers :

I claim the mechanism for regulating the impression of the platen, consisting of the lever, F, link, G, and nut, H, on the rod, E, substantially as described.

1,760.—C. P. Geissenhainer, of Pittsburg, Pa., for an Improvement in Cooking Stoves :

I claim, first, The arrangement in cooking stoves, of an air-flue opening under the hearth, for introducing air in the rear of the fire basket, in relation to the chimney, and the mode of introducing the products of combustion, as is hereinbefore described, that is to say—placing the horizontal smoke flue in the front part of the stove, and immediately under the air flue, for the purpose of increasing the heat of the air as it enters the stove through the flue under the hearth, by extracting the waste heat from the smoke and products of combustion before they escape from the stove.

Second, Constructing the door to the fire-chamber of cooking stoves with a flange projecting from its lower edge, so situated in relation to the hinge, as that when the door is closed a space shall be left between the projecting flange and the grate bars, to catch and return to the fire any smoke or gas that would otherwise escape into the room, substantially as described.

1,761.—John Gibbs, of Brooklyn, N. Y., for an Improved Shade Fixture :

I claim the construction of the adjustable slide with clasp hooks, e, and locking T-shaped hook, g, in one piece, the plate, A, being provided with apertures, c, corresponding to hook, g, and the hooks, e, clasping the sides of plate, A, the whole operating together in the manner and for the purpose shown and described.

[This invention relates to that part of the shade fixture which is attached to the window frame, and used to keep the endless cord under tension.]

1,762.—C. R. Gorgas and Wm. H. Smith, of Wooster Ohio, for an Improved Furniture Caster :

We claim the combination of the socket, B, conical pin, C, cups, G and H, necks, a and b, and roller, D, all constructed and operating in the manner and for the purpose shown and explained.

1,763.—J. W. Graham and J. M. Topliff, of Pittsfield, Ill., for an Improvement in Water Elevators :

We claim, first, In combination with the shaft, a, the loose roll, B, and gears, i f, g, and clutch, G, h, the whole constructed and operating substantially as described, for the purpose set forth.

Second, We claim the combination of the windlass having reversed helical grooves, with the cords and water bucket, and the device for opening the valve of bucket, the whole arranged and operating as described, for the purpose set forth.

Third, We claim, in combination with the elevating and automatically discharging bucket and grooved windlass, the blank, u, as and for the purpose specified.

Fourth, We claim constructing the bucket with a mouthpiece, p, in combination with its valve and opening mechanism, and a filling valve in center of bucket's bottom as described, for the purposes set forth.

1,764.—Edward Hamilton, of Chicago, Ill., for an Improvement in Breech-loading Ordnance :

I claim the combination of a fixed breech and a movable conical breech, the two being constructed and arranged substantially as described.

I also claim the combination of a movable breech and of a fixed breech, constructed and arranged substantially as described, with a removable stopper for the charging opening, substantially as described.

1,765.—G. H. Hartman, of Fort Wayne, Ind., for an Improvement in Beehives :

I claim, first, The employment, in combination with the box, A B C D, of the trapezoidal removable comb frames, a, the whole arranged and operating as described, for the purposes set forth.

Second, I claim, in combination with the sliding drawer, F, the removable wire gauze frame, c, arranged and operating as described, for the purpose set forth.

Third, I claim making the front of drawer, F, beveled at d, in combination with the decoy entrances, e e e, as described, for the purpose set forth.

Fourth, I claim the peculiar manner described of regulating the entrance, for the purposes substantially as described.

1,766.—Albert Holbrook, of Providence, R. I., for an Improvement in Pickers :

I claim applying a rawhide picker to a picker-staff, by means of a spring lever provided with a catch, a, operating with the slot, o, of the picker, in the manner as represented and for the purpose set forth.

1,767.—Albert Holbrook, of Providence, R. I., for an Improvement in Pickers :

I claim my improved rawhide picker, as constructed, of one piece of material, and with its two ends folded, interlocked and connected in the manner and for the purpose as set forth.

1,768.—George Ives, of Detroit, Mich., for an Improvement in Ditching Machines :

I claim in the described combination with the colter, H, plow, a, trough, D, and elevator, E, of a ditching machine, the arrangement of the colters, J, attached to the sides of the machine at a distance in the rear of the plow, and projecting laterally beyond the path of the latter, all as shown and explained, and for the purposes set forth.

[This invention relates to an improvement in ditching machines in which the earth is carried from the bottom of the ditch, as fast as it is loosened, to the back part of the machine by an inclined endless carrier, which deposits the earth on two other carriers, which conduct it off some distance on each side of the ditch out of the track of the wheels of the machine.]

1,769.—Frederick Kesmodel, of San Francisco, Cal., for an Improvement in Apparatus for Taking Casts for Pads :

I claim the described apparatus, consisting of piston, E, mold, A, and elastic diaphragm, B, arranged in relation to each other, and for the purpose of forming pads, as set forth.

1,770.—Dennis Lane, of Plainfield, Vt., for an Improved Method of Setting the Log in Sawmills :

I claim the employment or use of the ratchets, H I J K, having teeth at different distances apart, in connection with the adjustable dog, F, placed on the rod, O, which is provided with retaining pins, h, the ratchets being placed on the shaft, F, having pinions, G G, at its ends which gear into racks, D D, attached to bar, C, all being arranged as and for the purpose set forth.

[The object of this invention is to obtain a means for setting the carriages of sawmills which will admit of a single attendant adjusting the log to the saw, and also operating the brakes for feeding and gigging back the carriage. The invention also has for its object the ready adapting of the parts for adjusting the log to saw boards of different thicknesses.]

1,771.—W. B. Le Van, of Philadelphia, Pa., for an Improvement in Water Gages for Steam Boilers :

I claim, first, So arranging the valve, in respect to the normal rod, I, that the center line of one shall coincide, or nearly coincide, with the center line of the other when the rod or valve, or both, are so constructed that the valve can be operated without disturbing or being disturbed by the rod, as set forth.

Second, So constructing the valves, G in respect to the said internal rod, or the rods, in respect to the valves, that the latter can be operated without disturbing the former, as set forth.

Third, The hollow branch, h, of the steam chest, A, combined and arranged, in respect to the opening of the valve, G, as set forth, so as to afford ready access to the interior of the glass tube, as specified.

1,772.—E. H. Lewis, of Wilbur, N. Y., for an Improvement in Machines for Polishing Stone :

I claim the arrangement of the double-armed reciprocating bar, I, eccentric, G, shaft, B, and gear wheel, C, with the rotary plate, F, shaft, E, and pinion, D, in the manner and for the purpose shown and described.

1,773.—John Miller, Jr., of Baltimore, Md., for an Improvement in Machines for Making Paper Bags and Boxes :

I claim, first, The combination of the crosshead, L, lever, F, rock-shaft, D, adjustable arm, C, and fingers, B, constructed and operating substantially as explained, to impart an intermittent feed movement to the strips of paper.

Second, The cutter, G, constructed as shown and described, and operating in connection with an intermittent feeding device, substantially as and for the purpose set forth.

Third, The mold or roller, N, constructed as described, and operating in connection with a suitable plunger, substantially as and for the purposes set forth.

Fourth, The combination of the rotary brush, O, fountain, P, and pressure cams, T, operating to paste or glue the boxes while passing through the molds, as explained.

Fifth, The spring clasps, U V, applied beneath the molds, N, employed to hold the joints of the boxes until set, as explained.

1,774.—William Miller, of Boston, Mass., for a Fire Escape :

I claim having the ladders of fire escapes made of slotted tubular metal, and round arranged and operating, in respect to each other, in the manner shown and described.

The combination of the curved rack, E, with the hinged ladder, D, operating pinion, c, and platform, A, substantially in the manner and for the purpose shown and described.

[This invention consists in the arrangement of a toothed segment attached to the main ladder, which is hinged to standards rising from the platform of the truck, in combination with suitable gear wheels, in such a manner that, by the action of said gear wheels on the toothed segment, the ladder or ladders can be raised and retained in an upright or inclined position, as may be desired. It also consists in the arrangement of slotted tubular side rails, in combination with the rounds of the several ladders, in such a manner that the side rails of each ladder guide and strengthen the guide rails of the next succeeding ladder, while, at the same time, the rounds of the inner ladders are supported and strengthened by the slots in the side rails of the next preceding ladder.]

1,775.—J. W. D. F. Moon, of Coventry, N. Y., for an Improvement in Thills for Vehicles :  
I claim the projecting hook or key, f, or its equivalent, on the rear end of the thill iron, B, fitted into and passing through the opening, e, in the socket iron, A, substantially in the manner and for the purposes set forth.

1,776.—F. A. Morley, of Sodus Point, N. Y., for an Improved Steering Apparatus :  
I claim the combination of the screw and connecting piece, D, and single nut, E, screw and connecting piece, D, moving longitudinally and in an opposite direction to nut, E, for operating the rudders of vessels, substantially as described.  
And, in combination with the above, I claim the guides and grooved boxes, G, G, to accommodate the upward motion of the rudder, as explained.

1,777.—F. A. Morley, of Sodus Point, N. Y., for an Improvement in Potato Diggers :  
I claim the combination of the spirally-arranged teeth, I, with the adjustable spirally-slotted cylinder, A, constructed and operating in the manner described for the purpose specified.

1,778.—B. F. Norton, of Manchester, N. H., for an Improvement in Sewing Machines :  
I claim the needle bar, F, bent laterally, as shown in Fig. 5, jointed needle carrier, L, adjustable guide, H, set screw, M, and spring, N, operating in combination beneath the table, O, the whole constructed and arranged substantially as and for the purposes set forth.

1,779.—Lucius Parker, of Manchester Station, Conn., for an Improvement in Railroad Car Brakes :  
I claim, first, The combination of the self-adjusting spring bearings, D, with the main shaft, C, substantially in the manner and for the purposes shown and described.  
Second, The employment of the adjustable weight, H, in combination with the main shaft, C, lever, F, shaft, G, and the shoes, K, N, in the manner and for the purposes shown and described.  
Third, The general arrangement, together and with each other, of the above specified parts, as shown and described.  
[The object of this invention is to obtain a brake for railroad cars which may be operated with great facility, and be capable of applying itself in case of the casual detachment of a car, or any number thereof, from a train; the invention also being so arranged that all the brakes of a series of cars comprising a train may be operated simultaneously, and the train stopped within as short a distance as practicable.]

1,780.—Henry Rawson, of Leicester, England, for an Improvement in Machines for Combing Wool :  
I claim, first, Combining a comb, z, worked as described, with a comb, a, and a comb, c, substantially as described; and  
Second, I claim the combining of a comb, q, with a comb, z, and bars or plates, r, substantially as described.

1,781.—Charles Raymond, of Brattleboro', Vt., for an Improvement in Sewing Machines :  
I claim the bearing off hook, g, when it is arranged in such a manner with relation to the looper, b, that the said parts are enabled to co-operate with each other in the formation of lock stitches, substantially in the manner set forth.

1,783.—Edmund Russel, of Brooklyn, N. Y., for an Improvement in Oscillating Steam Engines :  
I claim the spring, f, applied as a means of connecting the cylinder to the frame of the engine and allowing for the oscillation, in the manner and for the purposes set forth.  
I also claim the arrangement of the valve, m, stem, i, and the induction and suction ports, 1 and 3, in the oscillating cylinder, applied as and for the purposes specified.

1,784.—J. A. Sabbaton, of New York City, for an Improvement in Dry Gas Meters :  
I claim the combination of a series of flexible diaphragms with a conical valve having an inlet passage at one of its heads, and outlet passage at its other head, two lateral ports communicating respectively with the inlet and outlet passages, and turning in a conical valve seat fitted with as many ports as there are chambers in the meter, the whole arranged and operating substantially as described.  
I also claim the combination of the said valve and valve seat with an inclosed inlet passage, a supplementary port in the valve seat, and a supplementary passage in the valve, substantially as described.  
I also claim the combination of the stems of the flexible diaphragms with conical stoppers and stopper seats, substantially as described.

1,785.—B. Segnitz, of New York City, for an Improvement in Trachea Tubes :  
I claim a trachea tube constructed with a central tube, A, curved flaring double channelled terminus, B, and an adjustable mouth piece, C, substantially as shown and described.

1,786.—Christian Sharps, of Philadelphia, Pa., for an Improvement in Breech-loading Firearms :  
I claim the spring dog, Q, with its projections, q and q', in combination with the projection, t, of the guard lever, C, when the said projection, q, is situated in respect to the underside of the stock and the bent end of the said guard lever as and for the purpose set forth.

1,787.—Daniel Sherwood, of Lowell, Mass., for an Improved Coffee Strainer :  
I claim the wire spring, C, formed as shown, and attached to the strainer, A, for the purpose set forth.  
[The object of this invention is to attach to the mouth of the spout of a coffee pot a small straining cup for straining the coffee as it is poured from the pot, said cup being so attached that it can be readily removed and replaced at pleasure.]

1,788.—John Sims, of Boston, Mass., for an Improvement in Seed Drills :  
I claim the arrangement of the fork, L, slide, F, rockshaft, F, and seed box, E, in combination with a drill plow, G, coverer, P, and rake, R, for the purposes and substantially as described.

1,789.—H. R. Sloat, of Sloatsburg, N. Y., for an Improvement in Farm Gates :  
I claim the combination of the devices described, as shown in Fig. 1, for the purpose of opening and closing a gate in the manner substantially as set forth.

1,790.—B. C. Smith, of Burlington, N. J., for an Improved Railway :  
I claim a railway composed of two or more cast iron girder, each girder consisting of a broad plate with the longitudinal strengthening flanges, b, b, below, and a longitudinal rib, a, above, when the body of the girder is bedded on to, and the strengthening flanges into, the ground, as described, for the purpose of preventing all liability of the rails to tilt or to be displaced laterally or vertically, and in order to form a cheap and permanent railroad without the aid of sleepers, chairs and spikes, as set forth.

1,791.—C. R. Soule, of Fairfield, Vt., for an Improvement in Hay Rakes :  
I claim, first, In hay rakes that are supported upon their teeth, having the extremities of the teeth made or bent, substantially as shown and described, so as to form an enlarged bearing surface and prevent the teeth from digging into the ground, all as set forth.  
Second, The movable or adjustable plate, H, having the shoulder or catch, h, at its underside, in connection with the lever, I, and arm, i, or their equivalents, attached respectively to the plate and shaft to admit of the adjustment of the rake teeth, D, to a greater or less pitch or inclination, as may be required, and the facile liberation of the rake to admit of its revolving, as set forth.  
[This invention relates to certain improvements in the wire tooth rake, and consists in the use of an adjustable catch, arranged to admit of the rake teeth being adjusted with a greater or less pitch, as circumstances may require. The invention also consists in forming the rake teeth with bent lower terminals, or with balls or knobs, in such a way that they will not catch into the ground, but glide over it just below the stubble, and perform their work very efficiently.]

1,792.—L. B. Southworth, of Deep River, Conn., for an Improvement in the Teeth of Saws :  
I claim the forming of the teeth, a, of circular saws, by having the points, 2, of the teeth inclined at an angle of about 45° with the radial edges thereof, said points being expanded or having a burr, 3, formed

by burnishing, so as to increase the width of the cutting edges, when said points, 2, thus formed, are used in connection with the double basil at the oblique edges, 4, of the teeth, as and for the purpose set forth.

1,793.—Erastus Stebbins, of Chicopee, Mass., for an Improved Faucet :  
I claim connecting the valve, C, to the screw shaft, F, by means of the collar, E, which is screwed on the cylinder, f, of the valve, C, and is connected to the lower end of shaft, F, by the flange, j, and recess, x, when said collar is used in connection with the packing, h, secured to cylinder, f, and fitted between the cap, D, and the box or projection, a, of the tube, A, substantially as described.  
[This invention relates to that class of faucets or cocks in which the valve is operated by a screw. The object of the invention is to dispense with the use of a spring, and open and close the valve by the screw alone, and at the same time have the packing of the cap attached to the screw shaft or stem, so as to admit of the perfect working of the valve, while effectually preventing the escape of water around the cap.]

1,794.—Wm. O. Stoddard, of Champaign, Ill., for an Improved Printer's Chase :  
I claim the application of the right and left screws working simultaneously upon side sticks, and the side sticks interlocking as shown, and the combination of the screws and side sticks in this chase.

1,795.—S. Sweeney and S. Parks, of Rome, N. Y., for an Improvement in Double Seaming Sheet Metal :  
We claim in machines for double seaming sheet metal, the groove, g, on the roller, a, when the said groove terminates on its outer edge in the elevated portion or inclined flange, h, in combination with the conical roller, b, as and for the purpose set forth.

1,796.—N. G. Swift, of Hart's Village, N. Y., for an Improvement in Machines for Sowing Pulverulent Manures :  
I claim, first, The combination of the hopper, E, the roller or rollers, J, slides, G, scrapers, C, C, and pressure bar, M, all arranged for joint operation, as and for the purpose set forth.  
Second, suspending the hopper, E, to the axle, A, by means of the rods, F and H, arranged substantially as shown, whereby the wheels, K, L, may be readily thrown in and out of gear, and the rollers, J, J, consequently rendered operative or inoperative as may be desired.  
[This invention consists in the employment or use of a roller or rollers placed within a hopper and arranged with adjustable slides and with scrapers, as described, so that the discharge of the manure from the hopper may be regulated as desired, and the portions of manure which may adhere to the rollers be scraped off at such a point as not to affect the equal distribution of the manure over the field.]

1,797.—A. H. Trego, of Lambertville, N. J., for an Improved Apparatus for Pulleying Horses :  
I claim the employment or use of a breeching, B, applied to a horse in connection with bars, a, a, or their equivalents, an upright or pulley support, j, and a loaded cord, l, and forked rod, v, so arranged as to admit of the pulleying or elevating of the horse's tail, substantially as set forth.  
[This invention relates to an improved means for keeping the tail of a horse in an elevated state after "nicking," so that the tail may, after being kept elevated a certain period, permanently assume such position.]

1,798.—A. K. Tupper, of Pontiac, Mich., for an Improvement in Gas Retorts :  
I claim the combination in the retort of the upright partition, a, the reversed inclined partitions, d, d, on one side of a, and the chamber, B, without partitions on the opposite side of it, all substantially as specified.

1,799.—J. L. Vauclain, of Lafayette, Ind., for an Improvement in Car Axle Boxes :  
I claim the provision of a wedge formed cap, C, D, and tapering grooves, B, to a car axle box, for the objects specified.

1,800.—J. C. Wightman, of Boston, Mass., for an Improvement in Gas Cocks :  
I claim the construction of a cock or stop for gas or air of two cylindrical sections together and with a communicating passage between them, one of said cylinders being furnished with an adjustable plunger or diaphragm, and a mercury cup, by means of which the flow of gas through the other may be regulated in quantity or entirely stopped, the whole being constructed, arranged, and operating as set forth.

1,801.—J. B. Wilson, of Williamstown, N. J., for an Improvement in Preserving Vessels. Ante-dated June 20, 1861 :  
I claim the disk, H, with its gum elastic ring, the bolt, J, with its cross bar, K, and nut, M, and the yielding washer, L, the whole being constructed substantially as described and combined with the tapering mouth of the vessel as set forth.

1,802.—John Young, of West Galway, N. Y., for an Improvement in Washing Machines :  
I claim the frame, D, D, provided with elastic material, g, the spring slots, i, and grooves, or roughened elastic rollers, I, the whole constructed and operating substantially as described, and for the purposes specified.

1,803.—McClintock, Young, Jr., of Frederick, Md., for an Improvement in Harvesters :  
I claim, first, Connecting the finger bar of a grass harvesting machine, to the main frame by means of a beam, F, linked or hinged to and drawn by the tongue and prevented from swaying laterally, by the brace, c, and main frame, D, as set forth.  
I also claim, in combination with said beam, F, so hung and supported, a platform, rake, and rake mechanism, arranged and connected thereto to operate as set forth, for converting the machine into a self-raking grain harvester, substantially as described.  
I also claim making finger bar parts two sections, one long one and one short one; the short section being connected to the platform, and removable with it, so that as the platform is attached, to adapt the machine to harvesting grain, or removed to adapt it to the cutting of grass the finger bar shall be correspondingly lengthened and shortened, as has been found advantageous in harvesting the different materials, substantially as described.

1,804.—C. C. Coe (assignor to himself and G. S. Cottman), of Rome, N. Y., for an Improvement in Vapor Lamps :  
First, I claim in combination with the pervious cylinder and wick tube the gas generating pan or cup, substantially as described and for the purpose set forth.  
Second, I claim combining with the gas generating from the pervious cylinder, burner, center of passage ways, substantially as described and for the purposes set forth.  
Third, I claim combining with the wick tube and cup the valve, n, substantially as and for the purpose described.

1,805.—John Fowler, Jr., of London, England, assignor to W. P. Tatham, of Philadelphia, Pa. Patented in England July 14, 1858, for an Improvement in Machinery for Plowing and Tilling Land :  
I claim mounting on plows or other tilling instruments an apparatus for taking up the slack rope by the pull of the rope drawing the plows or other tilling instruments, substantially as described.

1,806.—John Fowler, Jr., of Haverling, and Wm. Worby, of Ipswich, England, assignor to W. P. Tatham, of Philadelphia, Pa. Patented in England July 10, 1856, for an Improvement in Machines for Tilling Land by Steam :  
I claim mounting an anchoring carriage on disks or wheels sufficiently thin at the periphery to cut or sink into the land, substantially as described.

1,807.—Ch. Froelich (assignor to Phelan and Collender), of New York City, for an Improvement in Tivoli Tables :  
I claim, first, The arrangement of the hinged levers, H, operated upon by buttons, J, in combination with the endless chain, L, with fingers, F, and the channels, h' a, b, substantially as and for the purpose set forth.  
Second, The arrangement of the secondary chain, L, with fingers, n,

in combination with the spiral channel, M, and with the chain, G, all constructed and operating substantially as and for the purpose specified.

Third, The arrangement of the sleeve, I, rod, r', plate, r, and rod, q, in combination with the spring dogs, j and p', chains, G and L, and with the hinged levers, H, constructed and operating substantially as and for the purpose described.

[This invention consists in the arrangement of an endless chain of fingers acting upon a number of balls, in combination with a series of channels above and below the perforated table, and with levers operated upon by buttons on the edge table, in such a manner that by successively depressing said buttons, one ball after the other is caused to roll on the table and to descend through one of the apertures in the top of said table, and through the channels or gutters under the table top, back to the starting point, while, at the same time, one of the balls remaining in the gutter below is taken up by one of the fingers, thereby enabling the player or players to proceed with the play without interruption; it consists further, in combining with the endless chain of fingers which throw the balls out upon the table, and with the apparatus for operating the same, a column having in its interior an additional endless chain of fingers upon a secondary number of balls, and being provided with a spiral channel extending from the top to the base of the column, in such a manner that, on depressing one of the buttons and simultaneously with the ball thrown out by the lower or main chain of fingers, one of the secondary balls is thrown out at the top of the columns and made to descend through the entire height of the spiral channel, giving to the entire arrangement the appearance as if the balls thrown out at the top of the column were the same as those thrown out by the main chain of fingers, and, as if the same balls which descend through the spiral channel on the outside of the column, also make a circuit on the table and disappear through one of the apertures in the top.]

1,808.—A. C. Stiles, of Bunker Hill, Wis., assignor to himself and Amos Ewbanks, for an Improvement in Seeding Machines :  
I claim the arrangement of the adjustable curved segment bars or share carriers, N, N, slides, J, lever frame, K, spring ratchet cylinder, D, and tappet wheel, H, with each other and with the tubes, L, adjustable segment bars or share carriers, R, springs, W, and stampers, V, the whole constructed and operating together, as and for the purpose shown and described.  
[This invention relates to that class of seeding machines which are designed for sowing seed in hills, in check rows, and has for its object the preventing of the choking of the seed-distributing device, the perfect control over the operation thereof, so as to insure the seed being dropped at suitable points. The invention also has for its object the ready adjustment of the furrow and covering shares as well as the proper compacting of the earth on the seed and the marking of the hills.]

1,809.—Joseph Reckenorfer, of New York City, and J. C. Richards, of Brooklyn, N. Y., for an Improved Envelope :  
I claim the improved self-sealing envelope looped and gummed in the manner described, so as to possess the advantages set forth.  
RE-ISSUES.

103.—P. S. Devlan, of Elizabethport, N. J., for an Improvement in Journal Boxes. Patented Sept. 25, 1860 :  
I claim the employment of paper pulp or pulp made of any vegetable fibrous material, to form the bearing surface of journal boxes, substantially as set forth.

104.—P. S. Devlan, of Elizabethport, N. J., for an Improvement in Journal Boxes. Patented Sept. 25, 1861 :  
I claim forming the bearing surfaces of journal boxes of a composition of vegetable fibrous matter and fine earthy substance, substantially as described.

105.—A. M. Hall, of West Falmouth, Maine, assignor to J. A. Saxton, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 23, 1856 :  
I claim, first, The combination with the heel of a finger-beam, so connected or hinged to the main frame of a mowing machine, as that the entire bar can rise or fall, independent of the up-and-down motions of the main frame of a self-adjusting hinged plate, or auxiliary shoe, for the purposes of allowing the points of the guards or fingers, to freely adapt themselves to the character of the ground over which the machine passes while in operation.  
Second, I claim in combination with a self-adjusting auxiliary shoe or plate, as set forth, of an adjusting screw or bolt, for the purposes stated.  
Third, The combination of the adjustable metallic plate, M, with its ears, N, N, and otherwise constructed as described, with the heel of the finger beam and main frame, as set forth.  
Fourth, The combination of the bent lever, J, and its operating mechanism, and hinged oscillating cutters, i, with a hinged finger beam, for the purposes stated.

106.—W. A. Kirby, of Buffalo, N. Y., and D. M. Osborne, of Auburn, N. Y., assignees of William A. Kirby, aforesaid, for an Improvement in Harvesters. Patented November 15, 1859 :  
We claim, in combination with a cutting apparatus and a platform having a side delivery, and both placed in rear of a line drawn through the front of the main wheel, the raker's seat located at the side of the platform, and arranged so that the raker sits behind the main frame and facing the falling grain, substantially as and for the purpose described.

107.—Elisha Waters, of Troy, N. Y., for an Improvement in Making Paper Boxes. Patented Feb. 2, 1858 :  
I claim annular boxes of paper board, constructed by cutting the said board into strips or pieces for the sides, and into parts for the top and bottom thereof, forming the upright angles or corner, one by one, by pressing the said strips or pieces between male and female dies corresponding to and with the angle or corner to be turned or formed, substantially as described and set forth.  
I also claim the flanges, B and E, formed upon the sides, A and D, by pressing the paper board or strip between dies, in proper form, thus and thereby constructing said flanges to receive and combine the same with the top or bottom of the said box, as described and set forth.  
I also claim forming the corners of paper boxes by pressing the same between cold or hot dies, constructed for that purpose, as described and set forth.

108.—S. J. Seely (assignor to C. W. Durant), of New York City, for an Improvement in Iron Railway Cars. Patented April 24, 1860. Re-issued Oct. 2, 1860 :  
I claim, first, The application and use of corrugated metallic plates to and in the construction of railroad cars and other vehicles, when the said plates are applied and used in a single series or thickness with their corrugations running horizontally, as set forth.  
Second, The application and use of corrugated metal plates to and for the purposes named, when two or more series or thicknesses of plates are used, when the outer series of said plates has its corrugations running horizontally, as set forth.  
Third, The application of corrugated metallic plates, combined with and secured to and upon the angle irons, a, b, c, for the construction of the bodies of railroad cars, and other vehicles, as set forth.  
Fourth, The application of the said corrugated metal plates and angle irons, combined with the trough irons, E, as set forth and for the purpose described.

DESIGNS.

72.—G. L. Kely, of New York City, for a Design for Window Shade Material.  
ELECTRICITY always takes the path of least resistance, and lightning seeks out its road to the earth according to this law with mathematical precision.