



ISSUED FROM THE UNITED STATES PATENT OFFICE
FOR THE WEEK ENDING JULY 17, 1860.

[Reported Officially for the SCIENTIFIC AMERICAN.]

** Pamphlets giving full particulars of the mode of applying for patents, 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.

29,132.—J. N. Arvin and S. H. Perkins, of Valparaiso, Ind., for an Improvement in Setting Axle-trees:

We claim an improved mode of setting axle-trees and giving them the required pitch and "gather," by means of metallic set screws, rests and sets, or their equivalents, as exhibited and described by the specification.

29,133.—Samuel Barnett, of Washington, Ga., for an Improved Plotting Instrument:

I claim the instrument, constructed essentially as described and represented, combining a protractor, graduated rule and T-square, arranged in such a way that the adjustment of the protractor adjusts the rule.

[This invention combines, in a very simple way, a protractor, graduated rule and T-square, in one and the same instrument, by a simple adjustment of which both the direction and length of any given line can be readily and accurately obtained without calculations.]

29,134.—G. T. Bennett, of Mt. Olive, N. C., for an Improvement in Seed Planters:

I claim the arrangement of the slide, C, hand lever, b, standard, d, and the wheel, B, provided with the pin, i, in combination with the cultivator, constructed substantially as and for the purpose set forth.

29,135.—C. A. Boynton, of Hyde Park, Vt., for an Improved Butter-worker:

I claim attaching a tub to receive the butter to a rotary disk, B, in combination with the conical pressing roller, K, arranged and operated substantially as described and to obtain the described results.

[This invention consists in the combination of an adjustable clamp for holding the pails, with a horizontal disk spur wheel and a pinion level spur wheel and crank, for giving to the tub or disk wheel a rotary motion; and in arranging over this disk wheel, in a suitable manner, a conical pressing or packing roller that is made to act upon the top of the butter when put into the tub, by a hand lever, so as to forcibly pack the butter down in the tub, and, if necessary, print or stamp the surface of the butter in the tub at one and the same operation of pressing.]

29,136.—Ephraim Briggs, of Medina, Ohio, for an Improvement in Cultivators:

I claim the arrangement of the main beam, A, and the side beams or wings, C, C, the posts, D, D, D, the shovels, E, E, E, bars, F, F, F, bolts, G, G, G, G, changeable braces, H, H, handles, I, I, and round, K, in manner and for the purpose set forth.

29,137.—Wm. A. Brown, of Philadelphia, Pa., for an Improvement in Couches for Railroad Cars:

I claim supporting the couch by supports, G, drawn from the side of the car, when used in combination with the posts, H, substantially as described.

29,138.—George Churchill, of Hartford, Conn., for an Improvement in Spool Pins for Sewing Machines:

I claim the revolving conical spring tube, E, in combination with the taper or conical-shaped pin A, in the manner and for the purpose substantially as set forth and described.

29,139.—E. B. Clark, of Tallahassee, Fla., for an Improvement in Plows:

I claim the arrangement of the adjustable diagonal bar, E, swinging foot, G, swinging bar, D, horizontally and vertically-moving sole, F, and beam, A, as and for the purpose shown and described.

[This invention relates to an improvement in that class of plows which are designed for having different kinds of shares attached, according to the nature of the work to be done. The object of this invention is to obtain an adjustable foot, so that a greater or less inclination may be readily given the shares, as may be required, without changing the position of the landside from a horizontal line; different shares requiring a different set or inclination, according to their construction or form.]

29,140.—D. J. Cochran, of Centerville, Ind., for an Improvement in Compounds for Tanning:

I claim the employment of the within-named ingredients, compounded in substantially the proportions specified, for the purpose of making a tanning liquor, as fully set forth.

29,141.—Elcazer Coffin, of Indianapolis, Ind., for an Improved Mortising Machine:

I claim the cutter and clearer, H, cutter-holder, I, adjustable hinged table, O, crank, K, and screw, U, when connected and operated, in connection with the end-cutting chisel, R, holder, A, lever, B, pitman, C, lever, D, and the rests, F, F and G, or their equivalents, as set forth.

29,142.—George Collyer and Hamilton Patterson, of Philadelphia, Pa., for an Improvement in Couplings for City Railroad Cars:

We claim, first, Constructing the enlargement, d, of the pole with a beveled face, in the manner and for the purpose substantially as set forth.

Second, Giving the tumbler, B, a rounded form at the end, in the manner and for the purpose substantially as set forth.

Third, The extension, a, having an eye, b, for joining the hox to the car.

29,143.—James Connell, of Port Huron, Mich., for an Improvement in the Preparation of Tanning Extracts:

I claim the process of manufacturing the aqueous extracts of the tanning principles contained in trees and shrubs, by concentrating the extract by evaporation, and then mingling with it a desiccated pulverized vegetable fiber containing the principles of the extract.

29,144.—Joseph Corduan, of Brooklyn, N. Y., for a Mode of Coating Type-metal with Brass:

I claim the solution, composed of the ingredients and prepared and mixed together, as described, for the purpose of plating or coating the faces of printers' type, made of type-metal, with brass, in a manner more hard, smooth and durable, and with greater economy, than has heretofore been attained.

I also claim, in connection and combination with the above, the using of a brass vat for containing the solution, to be connected with the positive pole of the battery, instead of having a separate plate of brass for that purpose.

29,145.—H. J. Coster, of Chicago, Ill., for an Improvement in Flower Stands:

I claim the combination of the different parts described; that is to say, the flower-stand proper, A, the heating apparatus, C, in combination with the movable cover, B, weight, F, cord, g, pulleys, P, or their equivalents, and outer case or bureau, G, all arranged substantially as and for the purpose set forth.

29,146.—Lucius Dimock, of Hebron, Conn., for an Improvement in Machines for Stretching Silk in the Hank:

I claim the combination, with a steaming and stretching box for stretching hanks of silk, of the cylinder and piston, whereby a direct application of power may be obtained in a simple and compact manner, essentially as described.

29,147.—T. H. Dodge, of Washington, D. C., for an Improvement in Cotton Cultivators

I claim, first, In combination with a plow or cultivator, the self-adjusting rotary shield, F, arranged to protect the young plants, as described, and as shown in Fig. 1.

Second, I claim, in combination with the plow or cultivator, the self-adjusting guard coulter, H, and rotary shield, F, as and for the purposes set forth.

29,148.—James Doty, Jr., of West Falls, N. Y., for an Improved Mop Head:

I claim the lever, b, and staff, A, in combination with roller, a, and link, d, substantially as and for the purpose specified.

29,149.—J. W. Durham, of Durhamville, Tenn., for an Improved Engine for employing Steam or other Aeriform or Gaseous Body under Pressure to obtain Motive Power:

I claim an engine, composed of an endless chain of buckets, arranged within a box of water, with suitable pipes or other means of ingress and egress to and from the said box; the whole being constructed, arranged and combined so as to produce an operation substantially as described.

[This invention consists in an upright endless chain of buckets arranged within a suitable box, which is filled with water to a suitable level, and to which steam or other gaseous or aeriform body, at pressure greater than the atmosphere, is introduced by a pipe or pipes in such a manner as to enter the buckets below the surface of the water, and to displace the water therefrom, and to give motion to the chain of buckets by its tendency to rise to the surface of the water.]

29,150.—Adam Ernst and C. Shepard, of Milwaukee, Wis., for an Improvement in Hot-air Furnaces:

We claim combining the flues of a furnace, surrounded by double walls, with collars, S, and covers, R U W V, substantially as and for the purposes described.

29,151.—C. J. Ferguson, of New York City, for an Improved Clothes Frame:

I claim the combination, with the reel of the revolving slats, the cog wheel, G, and endless screw or worm, H, arranged and operating together in the manner and for the purpose specified.

29,152.—August Friedrich and Conrad Walter, of New York City, for an Improvement in Tobacco Boxes.

We claim the combination of the vertical plate, b, and spring, a, with the segment-shaped bow, e, e', g, substantially in the manner and for the purpose described.

29,153.—J. U. Fiester, of Winchester, Ohio, for an Improvement in Shovels:

I claim the lever-hinged shovel, constructed and operating as described and for the purposes set forth.

29,154.—C. J. Fisher, of Waukon, Iowa, for an Improvement in Horse Collars:

I claim the combination of the curved and pivoted hames, E, E, having their ends connected at F, and provided with socket joints, G, with the divided collar, A, A, in the manner and for the purpose substantially as shown and described.

[The object of this invention is to obtain a horse collar that may be adjusted to suit horses of various sizes, and also one that will be better calculated than usual to transmit the power of the animal to the load or vehicle without injuring the horse by friction, as well as fatiguing the same.]

29,155.—J. H. Fisher, of Placerville, Cal., for an Improvement in Fastening the Handle to Picks and other Tools:

I claim the combination, with a handle which extends partly into the eye of the pick, and has a socket in its rear end and two shoulder'd spring straps at its sides, of a portable wedge constructed with a tongue and a gib, and a key seat or slot.

29,156.—H. C. Foote, of McGaheysville, Va., for an Improved Pocket Calendar:

I claim the calendar composed of the three perforated plates, A, A' and B, held in place by a split ring, or its substitute, as and for the purposes set forth.

[This invention consists in dividing one side of two circular plates, of any suitable diameter, into spaces by suitably engraved or raised lines radiating from the center of the plates, so that the spaces on one side of one plate will indicate the days of the week, and the spaces on the other plate will indicate the twelve months and the number of days in each month; these two plates, with a star-shaped plate, having the days of the month arranged on its surface, are put together by a central pivot, so that each plate will be capable of rotating about its axis, and the plates are to be secured in any desired position by a split ring.]

29,157.—M. J. Gallagher, of Savannah, Ga., for an Improvement in Breech-loading Fire-arms:

I claim, in combination with a breech-loading gun, in which the cartridge chamber is divided at or near its middle, and a lever and link connection for sliding and tipping the barrel, the slide piece, h, and guiding ways, g, and opening, k, or their substantial equivalents, for causing the barrel, when opening up the cartridge chamber, to move in a right line before it swings on its pivot, substantially in the manner and for the purpose described.

29,158.—Benjamin Garvey, of New York City, for an Improvement in the Manufacture of Bread:

I claim, first, The process described of employing atmospheric air, by exhaustion, to produce lightness in bread, cake, confectionery, &c., without the aid of ferments, chemicals or drugs of any kind. Second, I claim the same process to insure the rising of bread, &c., under all circumstances, when ferments or chemicals are employed.

29,159.—John Gehr, of Clear Spring, Md., for an Improvement in Hominy Machines:

I claim the wheel, C, having spikes projecting from its side surfaces, and having its entire surface, spokes and all, serrated or ribbed, in the manner set forth, when the same is arranged within a drum, E, with spikes projecting from its sides inside; the whole being arranged in the manner and for the purposes set forth.

[This invention consists in the employment of a large wheel with a quadrangular rim, having its entire surface grooved or ribbed, and having projecting from its surfaces ribbed spikes that, with the wheel, when it is arranged in a large drum having spikes projecting from its inside side surfaces and rotated very rapidly, will thoroughly stir the hominy, and take off the outer shells by attrition or by the peculiar action the ribbed surfaces will have upon the broken grains. The wheel being arranged within a cylindrical box, having perforations in its bottom, the hulls, &c., will escape through these perforations, leaving the pure hominy in the box, from which it may be removed at any time.]

29,160.—Wm. Gowen, of Wausau, Wis., for an Improved Washing Machine:

I claim, first, The arrangement of the corrugated stationary wash-board, E, and the corrugated reciprocating spring rubber, F, in combination with the double crankshaft, f, hooks, h, and frame, A, of a table, constructed and operating substantially as and for the purpose specified.

Second, The combination with the crankshaft, f, and rubber-carrying frame, G, of the double rotary hook, H, substantially in the manner and for the purpose specified.

[This invention consists in arranging, on the interior of the frame of a table, a stationary corrugated wash-board, in combination with a corrugated reciprocating spring rubber, the latter being held down on the wash-board by means of oscillating hooks, and to be operated by a crankshaft in such a manner that, on removing the top of the table, the frame serves as a complete washing machine; and the invention consists, further, in combining with the crankshaft that serves to operate the rubber, a double rotary hook, for the purpose of wringing the clothes.]

29,161.—John C. Gregg, of Hillsboro', Ohio, for an Improvement in Grain Separators:

I claim the combination of screws, A, B, C, spiral conveyors, E, E', E'', and apertures, d' b' c', substantially as and for the purposes set forth.

29,162.—Loure Green, of Great Bend, Pa., for an Improvement in Plows:

I claim the arrangement and combination of the moldboard, Z, share, Y, landside, Q, and standard, X; the whole being constructed as and for the purposes described.

29,163.—Asa Greenwood, of Toulon, Ill., for an Improved Clothes Frame:

I claim the combination and arrangement of two sets of radial arms, D, D, D, E, E, E, and one set of parallel bars, F, F, F, together and with the pole, A, stationary cap, B, and slider, C, substantially as specified.

29,164.—Wm. D. Hall, of Hamden, Conn., for an Improvement in Fish Oils:

I claim, as an article of manufacture, an oil extracted from fish in the manner set forth.

29,165.—A. B. Harlan, of Ercildoun, Pa., for an Improved Washing Machine:

I claim the arrangement of the swinging beater, d, and pins, i, i, when used in combination with the open revolving wheel provided with beveled slats, substantially as and for the purpose specified.

29,166.—J. A. Hartsfield, of Kinston, N. C., for an Improvement in Cotton Cultivators:

I claim the arrangement of A, the main frame; A' and A'', the cross bars; E and E', the scrapers; G, the gear wheel; C, the shaft; D, the chopper; F, the guide pole; H, the handles; B and B', the vertical posts; c and c', the slots; d', the slot in revolving shaft, a', the pinion gear wheel, and P', the bounds; the whole being constructed and combined as described, for the purposes set forth.

29,167.—F. P. Keller and Elias Young, of Cincinnati, Ohio, for an Improvement in Air Furnaces:

We claim, first, The combination of the vertical diaphragms, c, with the drum, C, and tubes, G and G', operating in the manner and for the purposes set forth.

Second, The arrangement of the air reservoir, E, annular air and smoke chambers, a and k, and tubes, G, G', G'', operating in the manner and for the purposes explained.

29,168.—Daniel Hemingway, of Covington, Ky., for an Improved Fire-place and Chimney:

I claim, first, The aperture in the back of fire-places to be closed by sliding doors, in combination with a cooking stove or range in the rear, substantially as and for the purposes specified.

Second, I claim the enlarged space on each side and above the mantel, as arranged, the contracted flue above, the metal plates in front, the partition in the top, and small outlets, all in combination as specified, for the purposes set forth.

29,169.—T. S. Heptinstall, of Mendota, Ill., for an Improvement in Gang Plows:

I claim the peculiar arrangement of the frame, A, plow, B, arms, F, with wheels attached, lever, C, with castor wheel on its lower end, connecting rod, H, lever, a, curved rack, i, and pinion, x, operated by means of crank handle, b, when the several parts are connected substantially as and for the purpose specified.

29,170.—J. S. Hickey, of Pike, Ill., for an Improvement in Grain-binders:

I claim, in combination with a binding mechanism arranged on the rear edge of the platform of a harvester and operated by hand, the vibrating lifter, B, and bifurcated foot lever, B', I, constructed, applied and operating as specified for the purpose set forth.

I also claim, in combination with the slotted pinion, I, and a slotted holder-bar, b, the vibrating shear, d, d', and hook, c, and actuating cam, m, and spring, e, when the whole is arranged to operate substantially as described, for the purpose set forth.

29,171.—James Hotchkiss, of Yellow Springs, Ohio, for an Improvement in Brick Machines:

I claim the combination and arrangement of the single spiral wing, H, and the double spiral wings, I, I, turning in opposite directions and both producing a downward action, substantially in the manner and for the purposes specified.

29,172.—J. Y. Humphrey, of Philadelphia, Pa., for an Improved Mica Chimney for Lamps:

I claim the combination of the tapering cap, b, with the mica tube, A, and metal ring or supports, c, c', e, e', as and for the purpose described.

[An illustration and description of this invention will be found on another page.]

29,173.—J. Y. Humphrey. Suspended.

29,174.—L. C. Ives, of Hartford, Conn., for an Improvement in Thread-polishing Machines:

I claim, first, A rotating, polishing surface composed of alternate brushes and rods, substantially as described, and this I claim, also, when an apparatus for heating either the rods or the brushes, or both

of them, substantially such as specified, is combined with such a polishing surface.

Second, A rotating, polishing brush in combination with an apparatus substantially such as specified, for drying and heating the brushes and in combination with a size vat.

29,175.—Charles Jones, of Philadelphia, Pa., for an Improvement in Stoves:

I claim, as a new article of manufacture, a stove provided with a flue from the space below the grate to the space above the fire within the outside case of the stove, for the purpose specified.

29,176.—Hermann Kaller, of Perry, Ill., for an Improvement in Seeding Machines:

I claim the arrangement of the rods, f, f, bars, K, distributing wheels, J, spouts, E, runners, H, levers, L, M, castor wheel, N, and frames, A, D, as and for the purpose shown and described.

[This invention relates to an improvement on a seeding machine for which Letters Patent were granted to the above inventor, bearing date Nov. 3, 1858. The object of the present invention is to facilitate and perfect the seed-dropping operation and also to render the shares capable of being more easily raised by the driver than hitherto.]

29,177.—Henry Kay, of Brooklyn, N. Y., and Thomas Avery, Jr., of Morrisania, N. Y., for an Improvement in Planishing Copper Vessels:

We claim the application of the screw, nuts and link, as described, to the head or heads in the interior of the work, for adjusting and controlling the position of the heads from the outside during the operation of planishing, riveting, &c., as set forth.

29,178.—L. D. Lane, of Freeport, Ill., for an Improved Governor Attachment to Grain Separators:

I claim, first, The employment or use of a governor, F, connected substantially as shown to slides, y, r, fitted over the blast induction orifice, x, of the fan of a grain separator for the purpose set forth.

Second, Connecting, substantially as shown, with the governor, F, the link slide, h, fitted in the slotted bell crank, d, and arranged to operate as and for the purpose specified.

Third, Attaching the shaft, l, of the governor, F, to the platform, D, which is fitted on an axis and adjusted by screws, k, or their equivalents, for the purpose set forth.

[The object of this invention is to insure a uniform or constant blast from the fan of a grain-separating machine, so that all variation in the speed of the driving shaft will be compensated for, and the grain subjected to a uniform blast of sufficient power to separate the light foreign impurities from it. The invention has further for its object the giving to the shoe a variable shake motion or stroke corresponding inversely with the variable speed of the driving shaft, so as to insure a regular passage of the grain through the separator under varying degrees of speed of the driving shaft.]

29,179.—Thomas Langdon and Christian Weitman, of Hazleton, Iowa, for an Improved Broom:

We claim the combination of the T-piece, B, its rod, C, clamping plates, D, cap, B, nut, a, with the handle, A, all relatively arranged in the manner set forth.

[This invention consists in the use of a screw iron of a T-shape, metal cap for the ends of the wisps of broom corn, two clamping plates between which the T-iron is interposed and a handle that secures the whole together.]

29,180.—John Lemman, of Cincinnati, Ohio, for an Improvement in Hoisting Apparatuses:

I claim, first, The pulleys, M, K, U, and the tension pulley, R, carried by the bar, S—all arranged and operating substantially as and for the purpose described.

Second, The system of gearing composed of gear wheels, G, G, H, H, I, and racks, F, F—all arranged and operating substantially as and for the purpose described.

29,181.—J. H. Lyon, of New York City, for an Improved Seal Lock for Railroad Cars:

I claim, first, The combination with the ends, e, c, of shackle, A, of the soft metallic rivet, B, as and for the purpose shown and described.

Second, Beveling the ends, e, c, of the shackle, A, as and for the purpose shown and described.

Third, Making the hole in the shackle which receives the fastening rivet of conical or beveled form, so that, by the act of opening, the rivet cannot draw through the hole but will break in or about its middle, as and for the purpose shown and described.

[This invention relates to an improvement in those devices which are technically termed "seal locks," and are employed as a safeguard against dishonest employes. The invention is more especially designed to be applied to be applied to mail bags, railroad freight cars, and the like, but it may be applied in all cases where boxes, packages, &c., are intrusted to carriers or employes.]

29,182.—G. S. Manning, of Springfield, Ill., for an Improvement in Excavating Machines:

I claim, first, The spring moldboard for the purpose of allowing stones and other substances to pass between the plow and the bucket wheel, thus preventing choking the machine, substantially as set forth.

Second, The spring plate in combination with the wheel, A, substantially as set forth.

Third, The use of the wheel, B—the same being adjustable both vertically and laterally—the whole being arranged and operated substantially as set forth.

Fourth, The forked guides, K and S, in combination with the hinged moldboard, substantially as set forth.

29,183.—P. T. Mayne, of Keosauqua, Iowa, for an Improvement in Excavating and Grading Machines:

I claim, first, The combination of the hinged spade, c, hung to its central disks, e, with a wheel, the rim, f, of which is provided with stones, b, substantially as and for the purpose set forth.

Second, An angular frame, n, pivoted at one end and bearing with the other end upon the tongue, k, in combination with pulleys, q, s, t, and rope, p, substantially as and for the purposes set forth.

29,184.—M. C. McCullers, of Herndon, Ga., for an Improvement in Plows:

I claim securing the beam handles and moldboard together by means of the braces, C, D, straps, d, and pins or bolts, 2, 3—the whole being constructed, arranged and united substantially in the manner set forth and explained.

29,185.—T. McIntire, of Franklin Furnace, Ohio, for an Improvement in Cotton-bale Fastenings:

I claim the new article of manufacture herein described, to wit: a stiff metal tie plate for cotton-bale hoops, made with two T slots in it, a transverse stop bar, C, between the slots, and two vertical, square shoulders, a, at the termination of the slots and below the underside of the bar, C, for use in combination with a cotton-bale hoop which has T-shaped ends—in the manner and for the purpose described.

29,186.—J. E. McNair and J. C. Elliott, of Augusta county, Va., for an Improvement in Railroad Gates:

We claim the arrangement of the curved levers, A, A, connecting rods, E, E, eccentrics, B, B', connecting rods, L, and levers, C, C, with the gate which slides in grooves in the posts and which is provided with cords and pulleys for elevating it—when the several parts are connected and used substantially as and for the purpose set forth.

29,187.—L. C. Miner, of Hartford, Conn., for an Improvement in Attaching Thrills to Vehicles:

I claim the projection on the bolt, D, and the arrangement and insertion of an elastic and compressible substance in the countersink of the jaw or jaws of the clip, A, all in combination in the manner substantially and for the purpose as set forth and described.

29,188.—T. J. Newland, of Wolcott, Vt., for an Improvement in Corn-shellers:

I claim the combination of the rigid angular frame with the stationary plate, P, movable plate, B, adjustable bearing piece, D, adjustable guide piece, C, adjustable hook, c, eye, b, in position described, spring, S, roller, r, when these parts are arranged for joint operation as and for the purpose set forth.

29,189.—John Raff, of Eden, N. Y., for an Improved Churn:

I claim the dashers, K and L, provided with inclined wings, l, l, as described, secured one above the other loosely on the dasher rod, I, the connection with said dasher rod being effected by means of the grooves, m, m, and pins, n, n; the whole arranged, combined and operating substantially in the manner and for the purposes specified.

29,190.—Leonard Parker, of Winterset, Iowa, for an Improvement in Rat Traps:

I claim the combination of the transparent guards consisting of uprights, C, and glass, x, drop doors, b, and conducting tube, f, when used in connection with the ordinary rat trap; the whole being combined, arranged, constructed and operated in the manner described and for the purpose set forth.

29,191.—W. P. Penn, of Belleville, Ill., for an Improvement in Seeding Machines:

I claim the arrangement of the hook and cam bracket, Q, on the bar, P, and with the bracket, d, on the bar, I, to open and close the valves, b, b, in the manner set forth.

29,192.—A. W. Porter, of St. Johnsville, Vt., for an Improved Metal Cap for Ax Helves:

I claim the head or cap for ax helve manufactured of metal or any suitable material and constructed as described, so as to be readily attached to the helve in the manner as set forth and specified.

29,193.—Ignaz Ramminger, of New York City, for an Improvement in Detachable Whiffle-trees for Vehicles:

I claim the use or employment of the rods, G, G, provided with the right-handed (G) and left-handed (G) screw threads, in combination with the spring, O, strap, R, provided with handles, S, hub, L, and axle, B, when the same shall be arranged and operated in the manner described and for the purpose as set forth.

29,194.—S. G. Randall, of New Britain, Conn., for an Improvement in Hay Presses:

I claim the arrangement of the platen, O, and its double rockers, L, L, with the sliding frame, K, K, the actuating detents, e, e, the driving shaft, R, the cam, g, and the retaining detents, e', e', substantially in the manner and for the purpose set forth.

I also claim the grooves, j, j, in the upper and lower sides of the compressing box, in connection with the grooved angle blocks, i, i, combined with the platen of the press, and the apertures, n, in said platen—all substantially as set forth.

29,195.—C. L. Rice, of Milwaukee, Wis., for an Improvement in Pumps for Locomotive Engines:

I claim, first, Constructing the valve chambers and air chambers of one piece, and arranging them in relation to each other as set forth.

Second, The crosspieces, x, x, and the cap in connection with the projections, i, i', i', constructed and arranged as and for the purposes described.

29,196.—Mark Rigell and W. D. Ivey, of Dawson, Ga., for an Improvement in Cotton Cultivators:

We claim the arrangement of the guard wheel, G, plate, H, adjusting rod, F, with the beam, A, and standard, E, as and for the purposes set forth.

29,197.—G. A. Rollins, of Nashua, N. H., for an Improved Machine for Crushing Stone:

I claim, first, The combination of the crushing chambers, E', E', with a central, vibrating, crushing block, for the purposes stated.

Second, The combination of the corrugated jaws, D', D', and adjusting screws, F', F', with the central block, D, constructed and operating substantially as set forth.

Third, The combination of the shaft, e, eccentric e', and sliding piece, f, with the crushing block, D, substantially as set forth.

29,198.—E. L. Seymour, of New York City, for an Improvement in Ore Separators:

I claim, first, The arrangement of a series of horizontal and stationary sieves, each acted upon by an air blast from bellows, when arranged in steps as explained, and so that the pulverized ore driven from each preceding one by the air blast shall fall upon and supply the next, all in the manner and for the purpose made known.

Second, With sieves so acting and arranged, the combination of the transverse ribs, i, i, &c., for the purpose set forth.

29,199.—W. M. Sloan, of Buffalo, N. Y., for an Improvement in Stave Machines:

I claim the application and use of the drums, A, A, when constructed in the barrel form, in combination with the formers, F, F, so that the stave may be chamfered and crozed while it is bent in the exact form, or nearly so, which it will occupy when set up in the barrel, substantially as described.

29,200.—F. E. Sicles, of New York City, for an Improvement in the Mode of Steering Vessels:

I claim the combination of the rudder of a vessel with machinery to cause the power of steam, in connection with the action of the steersman, to alternately move and hold the rudder.

I also claim the specific arrangement of machinery shown or any other substantially the same, for the purpose specified.

29,201.—C. W. Stafford, of Burlington, Iowa, for an Improvement in Mole Plows:

I claim the adjustable saddle, N, in combination with the mole tooth and its coupler, I, arranged and operating in the manner and for the purpose set forth.

[This invention consists in a novel construction of the mole tooth whereby the soft earth is pressed backward and forced upward against the top of the channel and pressed smooth so as to effectually prevent the surface soil from becoming too much exhausted by the draining off of all the water.]

29,202.—W. A. Sutton, of New York City, for an Improvement in Sewing Machines:

I claim combining a rocking lever, D, which has a curved slot, E, F, G, near its forward end, with the eccentric pin, H, upon camshaft, P, which latter is arranged near the front end of the machine and near the shuttle and the cloth feeder, with the cams, L, K, N, T', pin, R', hinged shuttle-driving device, Q, T, and cloth-feeding mechanism, E, W, Z, substantially as and for the purposes set forth.

29,203.—I. W. Taber, of New Bedford, Mass., for an Improvement in Lamps:

I claim locating the independent air chamber, e, in the space between the flat wicks of said lamp, and then supplying the said chamber with air through the medium of independent induction tubes, g, g, when the united flame produced by both of said wicks is made to pass up through a slit in the deflector, c, which surmounts the perforated sides, b, of the outer air chamber of said lamp—all substantially as set forth.

29,204.—E. U. Thompson, of Bristol, Maine, for an Improvement in Setting-up Ships' Rigging:

I claim, first, The combination of the fid, C, and thimble, B, constructed, applied and operating substantially as and for the purposes set forth.

Second, The lanyard, E, E', constructed and operated substantially as described.

Third, The described combination of the jack, H, I, J, K, and lanyard, E', E' operating as set forth.

29,205.—L. Thorp and W. D. Shurtleff, of Turner, Maine, for an Improvement in Railroad Car Couplings:

We claim the hand, P, operating in connection with the guide bar, R, and pin, m, or their equivalents, for the purpose specified.

29,206.—H. D. Vandercook, of Marshall, Mich., for an Improved Clap-boarding Gage:

I claim the mode of holding clapboards in true parallel lines to a building, while they are being scribed, fitted and nailed, by means of the clamping stock, A, and attachments, in combination with the adjustable beam, G, constructed and used substantially in the manner as described and set forth.

29,207.—Jonathan Warren and T. C. Silliman, of Chester, Conn., for an Improvement in Fastening Pins in the Bow of Ox Yokes:

We claim the method of fastening pins in the box of ox yokes, by means of the upright loop or staple, B, and the ring, C, or their equivalents, operating substantially as described and for the purpose specified.

29,208.—J. C. Whitson, of Marion, N. C., for an Improvement in Railroad Switches:

I claim, first, The combination of yielding bars, j, i, each provided with two links, m, p, and a toothed head-block, S, arm, Z, star wheel, j', slotted disk, j'', and wedge-shaped pawl, d', or their equivalents, substantially as and for the purposes set forth.

Second, The combination of the above device, A, with two devices, B, C, each of the latter consisting of a sliding bar, v', and two star wheels, x', y', substantially as and for the purposes set forth.

Third, The combination of a slotted sleeper, b, and a wedge-shaped switch bar, c, with wedge-shaped and slotted lifters, o', o', substantially as and for the purposes set forth.

Fourth, The combination of the wedge-shaped switch bar, c, wedge-shaped slotted lifters, o', o', and vanes, p', p', substantially as and for the purposes set forth.

29,209.—Turner Williams, of Providence, R. I., for an Improved Window Stop and Fastening:

I claim combining with a roller and an inclined surface, serving as a stop and support by a nipping action, a spring catch having a locking action, by means of a shank or guiding piece and a spring or constant force, whereby both the said roller and the spring catch may be controlled by a lever attached to the said shank, for the purpose substantially as set forth.

29,210.—O. H. Woodworth, of Coffeeville, Miss., for an Improvement in Watches:

I claim, first, Enclosing the movement of a watch, or other time-keeper, within a case which is permanently air-tight, not only during the ordinary running of the movement, but while it is being wound up or regulated, or having its hands set, as described.

Second, I claim the combination of the setting post, i, the toothed wheel, m, the wheel, p, the pawl, r, the spring, n, and ratchet wheel, q, substantially as described and for the purposes specified.

Third, I claim the arbor, s, with its crank, t, in connection with the forked regulating lever, u, substantially as described and for the purpose specified.

29,211.—G. W. N. Yost, of Yellow Springs, Ohio, for an Improvement in Cotton Cultivators:

I claim the combination and arrangement of the body of the implement and its movable plows, B, scraper, E, and standards, G, constructed as described, whereby it is readily adapted to receive, in turn, the several plows and scraper, in order to perform the various modes of cultivation specified.

29,212.—Abram Acker (assignor to J. S. Wanmaker & Co.), of Ramapo, N. Y., for an Improvement in Spring Hinges:

I claim, first, The combination of fixed cap, D, spring, C, and the cylindrical cap, E, with the tubular eye, B, B', arranged and operating as set forth, in combination with a locking ring, G, or any such equivalent device possessing the advantages set forth.

Second, I claim the projecting lugs on the caps, D, E, as and for the purposes set forth.

[This invention consists in constructing the eyes of a butt hinge somewhat larger than they are at present made for ordinary hinges, and with a sleeve joint to keep them in their proper place; and in introducing within these tubular eyes, when the two leaves forming the hinge are brought together, an helical spring, which is connected at the bottom end to a cap that interlocks with the eye of one leaf, and at the top end to a heptagonal or octagonal nut, on which is placed a movable ring of a novel construction that is connected by a V-groove and tenon to the other leaf, or that leaf which is screwed to the swinging door, gate or shutter; the whole are then secured in place by a pintle that passes through the axis of the hinge.]

29,213.—C. R. Alsop, of Middletown, Conn., assignor to J. W. Alsop, of New York City, for an Improvement in Revolving Fire-arms:

I claim the employment, for the purpose of forcing forward the cylinder longitudinally towards the barrel before firing and of permitting the movements longitudinally away from the barrel, of a cam formed with a regular series of projections and recesses on its periphery, applied substantially as described, and rotating in one direction only.

And I also claim combining such cam with the hammer, either directly or indirectly, by a retchet and pawl, or their equivalent, in such manner as to be operated by the cocking of the hammer, substantially as described, but to remain stationary during the fall of the hammer.

29,214.—Lester Butler (assignor to himself and C. B. Ford), of Kenosha, Wis., for an Improvement in Railroad Gates:

I claim the application of the spiral groove attached to either the posts of the gate or to the cross-piece, G, in combination with the construction of the rails, as set forth, as and for the purpose described.

29,215.—Samuel Favinger (assignor to himself and Absalom Barned), of Philadelphia, Pa., for an Improvement in Smut Machines:

I claim, first, The fan chamber, G, with its vanes, H, when arranged in respect to the hopper, p, the passage, m, and q, and the casing, L, containing the burr, K, substantially as and for the purpose set forth.

Second, I claim the peculiar construction of the tapering block or burr, K, with its V-shaped projections, having V-shaped ribs, as and for the purpose specified.

Third, The arrangement of the plate, D, with its ribbed surface, the bar, d, with its ribbed branches, and tapering burr and casing, L, for the purpose set forth.

29,216.—Benjamin Garvey, of New York City, assignor to himself and J. B. Davol, of Brooklyn, N. Y., for an Improved Arrangement for Lubricating Pistons:

I claim the combination and arrangement of a lubricator with a piston and cylinder, a valve, or other bearing, for forcing water between rubbing surfaces, substantially as described.

29,217.—Benjamin Garvey, of New York City, assignor to himself and J. B. Davol, of Brooklyn, N. Y., for an Improved Steam Generator:

I claim the form of steam generator substantially described, when employed as specified.

29,218.—Benjamin Garvey, of New York City, assignor to himself and J. B. Davol, of Brooklyn, N. Y., for an Improvement in the Distillation of Coal Oil:

I claim the economizing of calorific in the manner substantially as described, whatever form of apparatus may be employed for carrying out said invention, and to whatever purpose the same may be applied.

29,219.—Otis Hood, Jr., of Turner, Maine, assignor to himself and H. G. LeBaron, of Portland, Maine, for an Improved Coupling for Railroad Cars:

I claim my improved railroad carriage coupling, having its separate parts constructed and arranged in relation to each other and so as to operate together, substantially as shown and described.

29,220.—J. T. Van Kirk (assignor to C. A. Van Kirk & Co.), of Philadelphia, Pa., for an Improved Ice-pick:

I claim the pointed stem, A, with its weighted handle, B, in combination with the tube, D, or other equivalent guide, serrated or otherwise so constructed at its lower end as to retain a hold on the ice during the descent of the said weighted stem, as set forth for the purpose specified.

29,221.—J. T. Van Kirk (assignor to C. A. Van Kirk & Co.), of Philadelphia, Pa., for an Improvement in Lamps:

I claim combining the tube, G, its rods, H, and coiled spring, e, with the flange or projection which incloses the lower end of the chimney or shade of a lamp, in the manner and for the purpose set forth.

29,222.—J. J. McCormick and J. E. Jerrold (assignors to J. E. Jerrold and Eugene Beggs), of Paterson, N. J., for an Improvement in Car Springs:

I claim, first, The employment, for the purpose of producing a car spring, of a long thin strip of sheet steel, wound up so as to form a close coil, A, and fastened in this position by clamps, B, or their equivalents, substantially in the manner set forth.

Second, The arrangement, in combination with the coil, A, of a case, C, constructed and operating substantially as and for the purpose specified.

[This invention consists in the employment, for the purpose of producing a car spring, of a long thin strip of sheet steel, wound up so as to form a close coil, and retained in this form by two clamps. Pivots projecting from these clamps form the guides for the spring in the case, which consists of two parts, one sliding over the other, and which is so proportioned in relation to the coil that it checks the motion of the spring beyond a certain limit.]

29,223.—F. W. Mallett (assignor to G. F. Kimball), of New Haven, Conn., for an Improved Felly Machine:

I claim, first, The combination of the hook, e, with the cutters, n, n', with the guide or rest, F, when constructed, arranged and made to produce the result substantially as described.

Second, I claim the combination of the cutters, n, n', with the guide or rest, F, when the whole is constructed, arranged and made to produce the result substantially as described.

29,224.—Louis Planer and J. N. Siegl (assignors to Louis Planer), of New York City, for an Improvement in Shuttles for Sewing Machines:

We claim the combination, with the shuttle, A, bobbin, D, movable center, B, and spiral spring, b, or its equivalent, of a transversely arranged adjusting screw, c, formed or provided with an eccentric, e, for operating within a recess made in the movable center, or for action against the latter in a direction contrary to that of the spring and away therefrom, the same forming an adjustable stop or locking pin to the movable center, substantially as and for the purposes set forth.

29,225.—J. C. Plumer (assignor to himself and David Robinson, Jr.), of Portland, Maine, for an Improved Shoemaker's Lat:

I claim, first, The longitudinal hollow or depression on the bottom of the lat.

Second, The combination of the longitudinal hollow with the advanced position of the heel seat.

Third, The construction of the lat, e, in combination with the longitudinal hollow.

29,226.—R. W. Sievier, of Upper Holloway, England, assignor to Wm. Lilley, of the State of Ohio, for an Improved Apparatus for Exhausting Atmospheric Air or Gases:

I claim the application to ships, mines, buildings, &c., of a jet of steam or air in a shaft or flue in connection with the fan and director, when the said devices are constructed and arranged as specified, in the manner and for the purpose set forth.

29,227.—Albert Wild (assignor to Dinkerspiel & Oppenheimer), of New York City, for an Improvement in Watchmaker's Lathes:

I claim, first, The arrangement, in combination with the shear, B, of a watchmaker's lathe, of the sliding head, G, with the vertically adjustable part, d, and with the swinging frame, H, constructed and operating in the manner and for the purpose set forth.

Second, The combination with the spiral toothed adjustable cutter, K, of the pivoted two-armed lever, M, with the set screw, o, constructed and operating substantially as and for the purpose described.

[This invention consists in arranging, on the shear of a watchmaker's lathe, a sliding head with a swinging frame, which receives the rotary cutter in such a manner that, by swinging said frame backward and forward, the cutter is forced towards and from the center of the lathe spindle or of the wheel, and thereby the cutting is produced; also, in the arrangement of a pivoted two-armed lever provided with adjustable centers to receive and hold the wheels after the same have undergone the first operation of cutting, and furnished with a set screw to determine and regulate the depth to which the teeth of the wheel are to be worked, in combination with a spiral-toothed self-feeding cutter, for the purpose of rounding off the teeth and to regulate their depth and the diameters of the wheels.]

RE-ISSUES.

Ephraim Ball, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 1, 1857; re-issued Sept. 27, 1859:

I claim, first, Hinging the right end of the coupling arm, R, to the lugs, R', in combination with curving up the coupling arm as it extends toward the machine, substantially as shown and set forth.

Second, I claim the combination of the shoe or brace-bar which supports the heel of the finger-beam with the hinge by which it is drawn, arranged above the plane of the cutter and in advance of the heel of the finger-beam, substantially as set forth.

Third, I claim connecting the coupling arm to the shoe by a hinge, whose axis of motion is on a line with that of the draft hinge of the

finger-beam, in combination with so arranging said hinges as respects the main frame as that the strain due to the draft or drawing of the finger-beam forward will be borne by one end of the main frame and on one side of the axis of the driving and bearing wheels, while the lateral strain through the coupling arm will be borne by the other end of the main frame and on the other side of the axis of the driving and bearing wheels.

Ephraim Ball, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 1, 1857; re-issued Sept. 27, 1859:

I claim, first, Extending and hinging the coupling arm, R, to the shoe which supports the heel of the finger-beam outside of the frame, in combination with the draft hinge of the shoe also outside of the main frame, whereby the finger-beam and cutting apparatus can be first raised up bodily until the coupling arm strikes against the under side of the frame and then the outer end thereof turned up towards the frame, substantially as set forth.

Second, I claim mounting the two driving gear wheels and main gear wheel on separate axles, in combination with a ratchet wheel and small gear wheel for each driving gear wheel, each ratchet wheel being fitted with a pawl that can be made to stand in gear by the forward motion of the machine and out of gear by the backward motion of the machine, the whole arranged and operating substantially as set forth.

Third, I claim the combination of a ratchet wheel, a pawl, a spring acting on the pawl and a case with one or both ends of the shaft of the main gear wheel, whereby the case is made to perform four duties, namely, a support to the pawl, a support to the spring, a cover to protect the pawl, spring and ratchet, and the connection by which motion is communicated to the shaft of the main gear wheel, substantially as set forth.

Fourth, I claim the combination of a shield, E', with each of the cases, G', and ratchet wheels, H, substantially as set forth.

Fifth, I claim the combination of the balance wheel, L, with shaft, K, and gear wheels, I, J, whereby the balance wheel is made to perform not only the function of a balance wheel to regulate the motion of the crank shaft, but also that of a guide or guard and shield to keep the gear wheels, I, J, in their proper and relative positions, substantially as set forth.

Sixth, I claim the combination of a balance wheel with each end of the crank shaft and its hangers or bearings, substantially as set forth.

Seventh, I claim making the pitman in two parts, N, N', in combination with uniting said parts, substantially as set forth.

Eighth, I claim the combination of the hinged cutting apparatus with a pitman or connecting rod swiveled at both ends, substantially as set forth.

Ephraim Ball, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 1, 1857; re-issued Sept. 29, 1859:

I claim, first, The combination of the hangers which support the crank shaft and coupling arm with the central pieces, A', A'', whereby the hangers are made to perform the additional function of braces to the main frame, substantially as set forth.

Second, I claim so constructing and combining a hinged finger-beam with a main frame as that no part of the finger-beam will project by the rear of the main frame, nor any part of the main frame by the rear of the finger-beam, whereby an attendant can freely approach the finger-beam from the rear and raise up the outer end thereof to avoid an obstruction while the heel of the finger-beam is free to rest on the ground and to conform to the inequalities thereof, independently of the up-and-down motion of the main frame, substantially as set forth.

Third, I claim the combination of the coupling arm and finger-beam with the slotted metallic part, S, whereby the finger-beam and cutting apparatus, when turned up towards the main frame to avoid and pass obstructions, will be prevented from falling over against the main frame, substantially as set forth.

Fourth, I claim the combination of the finger-beam with the coupling arm and a stop, whereby a portion of the weight of the finger-beam, as it is raised up bodily, after the outer end has been turned up to pass an obstruction, will rest on the left hinge of the coupling arm, substantially as set forth.

Ephraim Ball, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 1, 1857; re-issued Sept. 27, 1859:

I claim, first, The combination with the main frame of a mowing machine of two independent driving wheels and a hinged cutting apparatus, whereby the cutters are kept in operation when the machine is turned either to the right or left, while the cutting apparatus (or either end thereof) is free to conform to the inequalities of the ground, independently of the up-and-down motions of the main frame, substantially as set forth.

Second, I claim hinging one end of the coupling arm, R, to lugs on the side of the main frame, and the other end of the coupling arm, R, to the heel of the finger-beam, in combination with a hinged other end of the longitudinal center of the crank shaft which operates the pitman and cutters, substantially as set forth.

Third, I claim the combination of the heel of the finger-beam, P, and one end of the coupling arm, R, with a strong metallic draft shoe, substantially as set forth.

Fourth, I claim so hinging the shoe which supports the heel of the finger-beam to the main frame, as that it will permit the heel of the finger-beam to which it is rigidly attached to move freely in the arc of a circle, as it rises and falls, so as not to cramp or bind the joints of the coupling arm, R, or its equivalent, substantially as set forth.

Ephraim Ball, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 1, 1857; re-issued Sept. 27, 1859:

I claim the combination in a mowing machine of the following elements, viz.: a rigid tongue to draw and steady the machine by, a frame to support and carry the driver and gearing, two independent driving and bearing or supporting wheels to carry the frame and give motion to the cutters, and a short finger-beam so hinged to the main frame that its progressive movement over the ground will be controlled by the main frame and the upward and downward movements of the entire finger-beam, or of either end thereof, independently of the other, by the undulations of the ground over which it is drawn.

Ephraim Ball, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 1, 1857; re-issued Sept. 27, 1859:

I claim, first, The combination of the finger-beam and the main frame with a single yielding brace-bar or shoe, whereby the progressive movement of the finger-beam over the ground will be controlled by the frame frame and the free upward and downward movements of the entire finger-beam, or of either end independently of the other, and of the up-and-down movements of the main frame by the undulations of the ground over which it is drawn, substantially as set forth.

Second, I claim the combination of a yielding brace-bar or shoe, Q, and a yielding coupling arm, R, with the main frame, substantially as set forth.

Third, I claim the combination of the short finger-beam with the yielding connection with the main frame, substantially as set forth.

Ephraim Ball, of Canton, Ohio, for an Improvement in Mowing Machines. Patented Dec. 1, 1857; re-issued Sept. 27, 1859:

I claim, first, The combination of a binged folding finger-beam, with the main frame, whereby the finger-beam can be raised, turned or folded upon or over the main frame, without detaching the draft hinge, to facilitate the removal of the machine from place to place or from field to field, substantially as set forth.

Second, I claim so hinging the finger beam to the main frame, as that the weight of the finger-beam when folded up thereon, shall rest on or be borne by the main frame, in front of the axes of the main supporting wheel or wheels, substantially as set forth.

Third, I claim the combination of the finger-beam with the main frame and mechanism so constructed and combined therewith, as that the finger-beam can be raised bodily, and then turned and held up to render the removal of the machine from place to place more convenient, expeditious and safe, substantially as set forth.

Fourth, I claim the combination of the finger-beam with the main frame, whereby the finger-beam can be raised, turned or folded over or above the main frame, so that its weight shall be borne by the

main frame, in rear of the axes of the supporting wheels, substantially as described.

Fifth, I claim the combination of the finger-beam with the main frame, whereby the finger-beam can be raised and turned over above the main frame with its weight resting either in front or in rear of the axes of the main supporting wheels, substantially as and for the purposes set forth.

Sixth, I claim so hinging the finger-beam to the main frame, as that the main frame shall be nearly balanced laterally, when the finger beam is folded up thereon, substantially as set forth.

Seventh, I claim so hinging the finger-beam to the main frame, as that it can be folded under the main frame, substantially as and for the purposes set forth.

Eighth, I claim the combination of the finger-beam with the main frame, so that the finger-beam can be either folded over or under the main frame, substantially as set forth.

Ninth, I claim the combination of the following elements in a shoe or metallic device for supporting the heel of the finger-beam, viz.: A curved surface to run upon the ground like a runner, a recess or arrangement of parts, whereby the heel of the finger beam will have a rigid metallic support in front on the bottom, and in rear: a suitable groove for the heel of the cutter bar and inner cutter to play in, two metallic lugs on the side next to the main frame between which to hinge a coupling arm, all combined in one rigid and permanent shoe device.

Tenth, I claim the combination of the following elements in a metallic shoe for supporting the outer end of the finger-beam, viz.: A curved surface to run upon the ground like a runner, a recess for the outer end of the finger-beam, whereby it can be bolted to the shoe so as to have a rigid support in front, on the bottom, and in the rear; a groove for the outer end of the cutter bar and outer cutter to work through; and two lugs in the rear, said elements being combined and arranged in relation to each other, substantially as shown and described.

Phlander Shaw, of Boston, Mass., for an Improvement in Air Engines. Patented May 2, 1854:

I claim the described auxiliary heater, constructed and arranged as set forth: the exhaust air, and the products of combustion being passed through in one direction, while the cold air from the force pump is passed through in the other, by which means the heat is extracted from the heated air and smoke, and transferred to the cold air on its way to the engine, the latter being pumped in against a pressure much less than that at which it is worked off from the main heater, as explained.

Second, I claim the arrangement described of the tubes within the piston rod, the reservoir, R, and the india-rubber tubes, S S', for the purpose set forth.

Third, I claim passing the exhaust air which has propelled the piston directly through the fire, for the purpose of economizing heat, as set forth.

ADDITIONAL IMPROVEMENTS.

Joseph Tiberi, of St. Louis, Mo., for an Improvement in Grates. Patented Sept. 6, 1859.

I claim the combination of the adjustable back, E, with the stationary back, B, when they are arranged with reference to each other and with the flue, T, behind them and under the grate, in the manner shown and described.

Frederick Yeiser, of Indianapolis, Ind., for an Improved Instrument for Taking Altitudes of the Sun. Patented Feb. 8, 1859:

I claim the arrangement of the cylinder F, with the spirally curved lines drawn upon it, and the bar, P, with the four lines drawn upon it, in such relation to each other, and to the limb, M, and the declination arc, J, and limb, K, and plates, f f f, and the solar lenses in said plates, that they operate substantially as and for the purposes specified.

DESIGNS.

Elnathan Peck, of New Britain, Conn., for a Design for a Gridiron.

G. Smith and H. Brown (assignor to Samuel Smith), of Philadelphia, Pa., for a Design for the Plates of a Cook's Stove:



CORRESPONDENTS sending communications for publication in our columns are requested to avoid writing on both sides of a sheet of paper. This fault, though common to persons unaccustomed to writing for the press, gives great trouble to the printer (especially in long articles), and, when combined with illegibility of handwriting, often causes interesting contributions to be regretfully consigned to our waste-paper basket.

INQUIRER, of Jersey City, N. J.—We have received an important letter for you, in reference to your own communication on the subject of "Ventilation of Mines," published on page 18 of this present volume. Please send us your full name, &c.

G. L. T., of Woodlawn, Md.—We direct your attention to claim No. 29,226, in the list of claims published in the present number.

C. C. P., of Ohio.—There is no solution for copper tubes which can withstand the action of hot brine and steam for a very long time. Copper tubing is now drawn without any seams, thus dispensing with solder. It may be that there is something peculiar about the brine at your place.

L. F., of N. Y.—You will find a very complete account of the art of enameling in Tomlinson's "Cyclopaedia." The art, for ornamental purposes, is not much practiced in the United States.

A. W. T., of N. J.—The expansion of water at 70°, as given by Kopp (perhaps the highest authority), is 1.00753. The discrepancy you call attention to is of no practical account.

L. S. E., of N. Y.—You will find a spirit varnish of bleached shellac or of copal suitable for shell-work. You can procure it of good quality without difficulty.

J. J., of Maine.—In preparing quick-drying linseed oil, add about an ounce of the sulphate of zinc, and an equal quantity of litharge, to the oil while it is boiling. You must add the oxides of zinc and lead in very small quantities or the oil will foam over. About six hours' boiling will be sufficient for your purpose.

W. G. B., of La.—We intend soon to publish a series of articles on electrical machines, from which you will obtain information about making conductors. Tomato wine is made by fermenting the juice of this plant with about two pounds of sugar to the gallon. Care must be exercised so as not to permit the fermentation to reach the acetous stage. You will be able to judge from the taste when it is fit for bottling. Some persons add two quarts of water to every gallon of juice.