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28,446.—H. W. Adams, of Brooklyn, N. Y., for an Improvement in Apparatuses for Distilling Coal Oils:

I claim, first, The use, in the distillation of coal, shale and other analogous substances, to obtain the oil and other liquid products therefrom, of a retort consisting of a pit dug or otherwise made in the earth, substantially as described.

Second, The construction of a retort for distilling oil and other liquid products from coal, shale, or other analogous substances, in a horizontal or slightly-inclined form, with a draft through it in a horizontal direction or parallel with the floor, and without a separate furnace, so that the charge may burn away gradually toward the outlet, substantially as described.

Third, The steam pipe, j, in combination with the eduction pipe, b, substantially as and for the purpose specified.

Fourth, Connecting the eduction pipe by which the condensed liquid products leave the retort with the main discharge pipe by which the vapors leave the retort, substantially as described.

[This invention consists in a certain construction of a retort and in certain improvements in the apparatus for collecting and condensing the products of distillation, whereby the distillation of oil or other liquid products from coal, shale or other analogous substances may be performed on a very large scale, in a more convenient and economical manner than has hitherto been practiced.]

28,447.—Wm. Adamson, of Philadelphia, Pa., for an Improvement in Machines for Picking Curled Hair:

I claim the employment of a brush feed roller made as shown and described, whether used in connection with another brush cylinder or feed roller, or in connection with plain or fluted rollers, for the purpose set forth.

[The object of this invention is to obtain a machine that will not break nor injure the hair or other substance to be operated upon, while picking or loosening the fiber of the same, in the process of manufacture for upholstery purposes—a result which occurs in a greater or less degree in the ordinary machines used for this purpose.]

28,448.—Luther Atwood, of New York City, for an Improvement in the Manufacture of Oils obtained from Coal:

I claim the production of thin oils suitable to be manufactured into illuminating oils, from the heavier parts of the crude and fixed oils and other substances within mentioned, by treating them in the manner substantially as described, during one or several continuous distillations.

28,449.—G. W. Brown, of New York City, for an Improvement in Ice-cream Freezers:

I claim a conical can in combination with a tapering dasher made to correspond with the can, substantially as described for the purposes set forth.

28,450.—J. D. Brown, of Cincinnati, Ohio, for an Improvement in Lanterns:

I claim the recessed floor, B C, formed with minute perforations over the entire surface of its upper portion, B, and the vertical sides, c, of the recess, in the described combination with the imperforate floor, A, apertures, E, and lamp, D—the whole being constructed and arranged in the manner and for the purposes set forth.

28,451.—C. L. Carter and Eleazer Jones, of New York City, for an Improvement in Coffins:

We claim, as a new article of manufacture, the coffin above described, the slabs being connected and secured together by grooves, in combination with unconnected angle irons and with the second or under lid formed of a glass plate, in the manner set forth.

28,452.—J. N. Chamberlin, of Troy, N. Y., for an Improvement in Sewing Machines:

I claim the construction, arrangement and combination of the catch or latch with the needle-bar, j, and the step bar, d, as herein set forth.

I also claim the needle-bar, j, constructed with two channels or grooves, s and t, crosswise of the same, in connection with the catch or latch, a or b, for the purpose of holding the said needle-bar in a certain position for a correct and working adjustment of the needle, l, as well as to hold the same upward and away from any interference of the materials to be worked, as described and set forth.

28,453.—J. H. Clifton, of New Castle, Pa., for an Improvement in Looms:

I claim, first, The combination of the jack-hook lifter with an adjustable mechanism for imparting to it a reciprocating motion, arranged substantially as described, so that the range of motion of the heddle may be changed as required, to vary the opening of the shed.

Second, The combination of a rockshaft and cam plate with adjustable cams, so arranged that by varying their distance from the center of the rockshaft, the range of motion of the rockshaft is changed and the shuttle thrown a greater or less distance, as required.

Third, The combination of the lay with a vibrating shuttle-carrier arranged substantially as described, so that the distance between the arms of the carrier may be varied to correspond with the distance the shuttle is thrown in passing through webs of different widths, substantially in the manner described.

Fourth, The combination of the lay with adjustable guide rods for the shuttle, so arranged that their distance apart may be varied as required, in weaving fabrics of different widths at the same time, and also that their hight above the race board may be changed for fabrics varying in thickness, substantially as described.

Fifth, Arranging a cord or other material which is to be covered with a woven fabric, between the warps, and connecting it to an independent heddle which is so arranged and operated as to raise the cord with the upper leaf of the shed, while the woof thread is passing between the warp covering the under side, and depress it with the lower leaf of the shed while the woof is passing between the warps covering the upper side of the cord, substantially as described.

28,454.—H. A. Clum, of Auburn, N. Y., for an Improvement in Barometers:

I claim, first, The movable slides, D and E, with meteorological scading only, separate and detached from any graduations for vernier purposes, for summer and winter purposes, substantially as shown and described.

Second, The application of hights above sea level, of atmospheric pressure, &c., to the ordinary barometer face, as shown in Fig. 1, columns 1 and 2 on the bed-pieces, A and B.

Third, The cistern, as shown in Fig. 6, consisting of two or more chambers connected by stop-cocks at points above the open end of the tube.

Fourth, The entire cistern adjustment, as shown at H, Fig. 1, and N M R R S, Fig. 2, consisting of the connection of the vernier, I, to the cistern, which allows it to move with the cistern and tube, and also the movable cistern as fully represented in the drawing.

Fifth, The combination of two meteorological slides, D and E, for winter and summer purposes, to the ordinary parlor barometer, the cistern adjustment as described, with the cistern and further bottom adjustment, as shown on face, H, Fig. 1; all as fully and substantially set forth.

28,455.—L. O. Colvin, of Cincinnatus, N. Y., for an Improvement in Cow-milkers:

I claim, first, The extension legs formed of the tubes or hollow legs, a, containing the slides, b, in connection with the pins, e, attached to the springs, d, which are secured to the tubes, a, when the above parts thus arranged are applied to a bench, A, of the milking device described for the purposes set forth.

Second, The teat tubes, G, when made of conical form or taper form longitudinally, and of an elliptical form in their transverse section, to operate as specified.

Third, The combination of the teat tubes, G, levers, F, and the pump, the latter being constructed of the conical chambers, D, provided with valves, b, and the semi-cylinder, C, fitted on the socket, B; all being arranged as and for the purpose specified.

[This invention relates to certain improvements in that class of cow-milking devices in which pumps are employed for extracting the milk. The object of the invention is to obtain a device which will have all its parts very accessible for the purpose of cleaning, the implement permitted to be readily adjusted to cows of varying hights, and the device, as a whole, rendered extremely simple in construction and efficient in its operation.]

28,456.—H. H. Day, of New York City, for an Improvement in the Manufacture of Elastic Cloth:

I claim the new elastic cloth described, consisting of the stockinet goods and elastic gum so combined that two sheets of stockinet goods are connected by elastic gum, and the outer face of the fabric presents a gum surface—the said elastic cloth being a new article of manufacture.

28,457.—James Deally, of Louisville, Ky., for an Improvement in Keys:

I claim the combination of the slide, D, and spring, F, with the stem, B, in the manner shown and described, so that the key may be elongated when wanted for use, and closed up or shortened when not in use—all as set forth.

28,458.—T. W. Detray, of Montpelier, Vt., for an Improvement in Ferules:

I claim the ferule described, when closed at one end, and having an interior swell or projection combined with a wedge projecting inwardly from the closed end in the manner and for the purpose set forth.

28,459.—A. K. Eaton, of Brooklyn, N. Y., for an Improvement in Rendering Safes Fire-proof:

I claim the use of pure alumina, or the substances from which it may be produced, as hereinbefore mentioned and described, in the manner mentioned.

28,460.—W. H. Elliott, of Plattsburgh, N. Y., for an Improvement in Repeating Fire-arms:

I claim, first, The employment of a hammer arranged as specified in relation to the frame, in combination with chambers bored entirely through and left open at their rear end, and with a breech plate, as and for the purpose specified.

Second, The employment of a a movable exploding point for distributing the force of the hammer among the charges, so as to fire them in a certain order, when said point is employed with, but detached from a hammer, arranged as specified in relation to the same.

Third, The arrangement of the head of the firing pin, r, in the central line or axis of the disk, p, so that a gliding blow from the face of the hammer upon the head of the firing pin shall have no tendency to revolve the disk, as specified.

Fourth, The employment, between the chamber, j, and the hammer, c, of a firing pin or its equivalent, when said pin is so arranged and employed with the hammer that, while it receives a gliding blow from the face of the hammer, it penetrates the cartridge in a direction perpendicular or nearly to the surface of the shell, as and for the purpose specified.

Fifth, The employment of a stop seat, b', in combination with main seat, b, when these devices are employed with an exploding point which penetrates the surface of the cartridge, as specified.

Sixth, The employment of disk, p, firing pin, r, in combination with a series of stationary barrels arranged around a common center, when these devices are so arranged that the longitudinal motion of the firing pin within the disk shall be parallel with the axis of the disk and with the bores of the barrels, or nearly so, as set forth.

28,461.—W. H. Elliot, of Plattsburgh, N. Y., for an Improvement in Repeating Fire-arms:

I claim, first, The employment of a hammer arranged as specified in relation to the barrels, when used independent of a breech pin or nipple, and in combination with chambers bored through at their rear end, and with a breech plate, as specified.

Second, The arrangement of support, n, in rear of all the barrels, and support, n', in front of all the barrels, in combination with a series of revolving barrels, when said barrels are bored through at their rear end for the purpose of being charged at the breech, as set forth.

Third, The employment of a hammer arranged and operating a set forth, in combination with a breech plate for resisting the recoil of the cartridge so as to relieve the breech plate from the pressure of the cartridge shell, as and for the purposes specified.

Fourth, The combination of wedge or cam, j, with fly, f, for raising the hammer as specified.

Fifth, The employment of lever, k, in combination with fly, f, as and for the purpose specified.

28,462.—J. W. Evans, of Forsyth, Ga., for an Improved Churn:

I claim the combination of the above mechanical arrangement with the grated dasher, sash, f, and set screw, i; the whole of the devices arranged as described for the purposes set forth.

28,463.—C. W. Felt, of Salem, Mass., for an Improved Machine for Setting Type:

I claim, first, The general arrangement and organization of the apparatus described, and for the purposes specified.

Second, Imparting the automatic motions described to the T's or their mechanical equivalents, by means of keys or indicators so arranged and operated that these automatic motions can be given at pleasure to one or more of the said T's or their mechanical equivalents, as set forth.

Third, The combination of the sliding pieces, L L, keys, H H, and vibrating bar, F, so operating together that the depression of the keys will actuate the T's, as set forth.

Fourth, Holding the T's or their mechanical equivalents in the same position in which they were sent by the action of the keys, so as to economize their motion, and whereby the keys can be operated quickly, several times in succession, without delay, by the arrangement of devices described, or any other arrangement of devices that will successfully accomplish the desired result.

Fifth, The arrangement of the series of holding hooks, q q, so operating as to engage with or be disengaged from the T's, and actuated for those purposes, substantially as described.

Sixth, The mode described of producing a registry or record of the T's, or of the work performed; the same consisting in forming automatically, by the action of the machine itself, holes, perforations or indentations in a strip of paper or other proper material, corresponding to the movements of the keys by the operator.

Seventh, The combination of the T's in the series of punches, operating in conjunction with each other, substantially as described, whereby the forward movements of the T will so actuate the punches as to produce holes, perforations or indentations in a strip of paper or other proper material.

Eighth, The arrangement of a series of needle or feelers so operated by, and in conjunction with, a register consisting of a strip of paper or other material, having holes, perforations or indentations formed therein, and so operating upon the T's, or their equivalents, that the same movements can be given thereby to the T's or their equivalents as those previously imparted by the operator on the keys for the purpose specified.

28,464.—Charles Fricke, of Mobile, Ala, for an Improved Cement:

I claim the described water-proof composition or mortar cement, for laying brick, stone, &c., compounded substantially as described.

28,465.—R. J. Gatling, of Indianapolis, Ind., for an Improvement in Machines for Breaking and Pulverizing the Soil:

I claim, first, A rotary share frame provided with shares capable of being adjusted to vary the depth of their cut, as well as to escape or pass over obstructions that may be in their path, substantially as shown and described.

Second, The employment of two sets of shares, K, attached to a rotating frame at opposite points of its shaft, to admit of the adjustment of the shares free from the ground when they are not required for operation, and thereby allow the machine to be readily turned and transported from place to place.

[The object of this invention is to obtain a simple, efficient and economical machine for breaking and pulverizing the soil, designed more especially for breaking prairie lands and pulverizing the soil of old farms, rendering the same in proper condition for the general cultivation of crops.]

28,466.—E. L. Gaylord, of Terrysville, Conn., for an Improvement in Attaching Bows to Keys:

I claim securing the bows, B, of keys to their arbors, A, by means of knobs or heads, c, formed on the arbors, grooved longitudinally and driven snugly into the sockets, f, of the bows—the parts of the bows at the ends of the socket being then upset to make the sockets snugly encase the knobs or heads, substantially as described.

28,467.—Albertus Geiger, of Dayton, Ohio, for an Improvement in Vapor Lamps.

I claim the combined arrangement of the vaporizing tube, B, as constructed, and the conducting or wick tube, C, together constituting an efficient hydro-carbon gas generator, with the globe-holder, D, by which the globe-holder is rigidly secured for use as described.

28,468.—W. A. Glidden and A. Starkweather, of Alvaretta, Wis., for an Improvement in Horse-powers:

We claim the sweeps, C E and D F, coupled in the center, and the braces, a b c d, and pulleys, Q R S T, when specially arranged and operating conjointly, as described.

28,469.—R. A. Goodenough, of Brooklyn, N. Y., for an Improvement in Horse-shoes:

I claim a shoe for horses and other hoofed animals, having upon its under side an indented ridge, as described, perforated for the insertion of nails at the rim of the shoe,

28,470.—F. T. Grant, of Gardiner, Maine, for an Improvement in Sliver Machines:

I claim the combination of the feed rolls, G G, operated by worms, H H, and cam, L, or their equivalents, and pressure bars, p p, for the purposes specified.

28,471.—S. S. Greene, of Rome, N. Y., for an Improvement in Shrinking Tire:

I claim the arrangement, as shown and described, of the jointed arms, B C, jaws, D D', rod, J, lever, F, and vise, G, for the purpose set forth.

[This invention consists in attaching peculiarly-shaped clamping jaws to pointed arms that are held by a curved guide rod, and in combining therewith a toggle lever and handle for operating the jaws so as to clasp the tire, and, at the same time, contract the tire while it is being held between the jaws of a vise to prevent it from springing during the operation.]

28,472.—O. F. Grover, of Middletown, N. Y., and H. L. Pelouse, of New York City, for a Tool for Mitering Printers' Rule:

We claim the attaching B to A, as shown at E E, so as to accommodate the motions of the lever and cutter in their performance, as set forth; the manner of adjusting C; also, F, in combination with G, for the purposes set forth.

28,473.—Loren Hall, of Milford, Mass., for an Improved Cushion for Horses' Feet:

I claim an elastic air cushion for protecting horses' feet, substantially as specified.

28,474.—Samuel Hall, of New York City, for an Improvement in Couplings for Shafting:

I claim the use or employment of the cross key, W, in combination with the longitudinal keys, E E, and slotted shafts, D D, said shafts being coupled within the box or clutch coupling composed of the sections A and B; the whole being arranged and operated as set forth and for the purpose specified.

28,475.—J. F. Holloway, of Saline Mines, Ill., for an Improved Steam Traction Engine:

I claim, first, The putting of the boiler, C, within a driving wheel or drum, D, when placed upon friction wheels or bearings within or upon said drum, substantially as described, so that the wheel or drum shall revolve around the boiler.

Second, The inner shell, B', of the driving wheel or drum, B, in combination with the stationary head, M, for the purpose of forming a tank, heater, condenser and jacket, substantially as described.

The object of this invention is to obtain a simple, economical and efficient traction engine, chiefly for ordinary use—such as the drawing of gang plows in the cultivation of land, or the hauling of wagons over prairies and our common roads, and for like purposes.]

28,476.—C. L. Harding, of Winooski Falls, Vt., for an Improvement in Facilitating the Removal of Burrs from Wool:

I claim subjecting wool, prior to its being submitted to the picking, combing and carding operations or either of them, to a sufficient pressure between loaded rollers, or by means of other contrivances, to destroy the fibrous character of the burrs contained in it, substantially as and for the purpose described.

27,477.—L. P. Harris, of Mansfield, Ohio, for an Improvement in Apparatuses for Clarifying and Evaporating Saccharine Juices:

I claim, first, The double filter, when constructed substantially as described, and its combination with heating and evaporating pans, substantially as and for the purposes set forth.

Second, An apparatus which affords facilities for heating, skimming, filtering and evaporating saccharine and other juices, substantially as described and for the purpose set forth.

28,478.—C. H. Hasker, of Portsmouth, Va., for an Improvement in Suspending Boats:

I claim, first, The bolt, l, eyes, j j, ring, h, as connected and arranged with the thimble, g, and the gripes, a a, operated as and for the purposes set forth.

Second, The roving of the one lowering and stopping fall, q, into the bite, t, of the other fall, whereby the lowering of the boat is done by one fall, as described.

Third, The hook, z, clamp, f', check lines, h', lever, l', with its bars and pin, as arranged, for holding and liberating the falls block, as set forth.

28,479.—S. I. Hayes, of Chicago, Ill., for an Improvement in Making Tube Joints:

I claim the ferule of copper or other soft metal applied to the exterior of the iron tube, between it and the tube sheet, substantially as and for the purpose specified.

28,480.—J. M. Heard, of Aberdeen, Miss., for an Improvement in Pessaries:

I claim the construction of the pessary with its anterior side retreating upwardly to form a support to the bladder, and with its posterior side retreating upwardly to fit the hollow of the sacrum, substantially as described.

28,481.—Otto Heinigke and Moritz Laemmel, of Bay Ridge, N. Y., for Mosaic Vencers:

We claim, first, The within-described method of producing mosaic veneers from strips of any desired cross section, and of various colors; said strips being formed by pressing a suitable plastic material, which will harden after having gone through the whole process, through openings of the required shape, substantially as and for the purpose described.

Second, Uniting the strips, formed as described, into blocks, G, a cross section of which represents the pattern to be represented by the mosaic veneer, or a portion of the same, substantially in the manner and for the purpose specified.

[The object of this invention is to produce mosaic veneers, of any desired color, in a cheap and quick manner. This is accomplished by forming from a plastic material a large number of small prismatic sticks of various colors, which are united, according to the pattern or to the picture to be produced, into large blocks, which are now cut up transversely into a large number of veneers each of which shows the desired pattern.]

28,482.—J. C. Henderson, of Albany, N. Y., for an Improvement in Stoves:

I claim the air spaces, g, for a descending draft between the fuel hopper and combustion chamber, said draft entering the combustion chamber at the lower end of said air space, as set forth, whereby the descending draft keeps the hopper cool and enters the combustion chamber in a heated state, as specified.

I claim the combination of a hopper for feeding the fuel, with a cone, l, or contracted chamber (as seen at q), for detaining the products of combustion and retaining a sufficient heat for ensuring perfect combustion, as set forth.

28,483.—S. T. Holly, of Rockford, Ill., for an Improvement in Seeding Machines:

I claim the oblique supporting and driving wheels, B, applied to the machine, and arranged to operate substantially as and for the purpose set forth.

[This invention relates to certain improvements in that class of seeding machines which are designed for planting seed either in hills or drills. The invention consists, first, in the use of oblique supporting or driving wheels, so arranged that the same are made to cover the seed and press the earth thereon in a very efficient manner and in certain modified ways, as the nature of the case may require to favor the speedy germination of the seed; second, in a seed-distributing device, of novel construction, whereby the proper distribution of the seed is insured, and the clogging or choking of the distributing device effectually prevented.]

28,484.—Noble Hill, of Caton, N. Y., for an Improvement in the Manufacture of Pile Fabrics:

I claim the new article of manufacture described, constituting a fabric of wool, hair or other fibers, interwoven with a web of cloth, and treated with one or more coats of elastic varnish, with an exterior lining attached thereto, substantially in the manner and for the purposes shown and described.

28,485.—I. M. Hendricks, of Philadelphia, Pa., for an Improvement in Rice-hullers:

I claim, first, The arrangement of the hulling, the scouring the pearling, the polishing and the separating apparatus in one frame, substantially as described, for the purpose set forth.

Second, The combination of a layer of cork-wood with a layer of buffalo hide, with the hair on, for forming an elastic bed for an outer grinding covering of the hulling cylinder.

Third, I claim the combination of emery and metal filings cemented to duck, or equivalent material, for forming a grinding or rubbing surface.

Fourth, I claim combining with the grinding surface, a narrow and wound spirally around the surface of the cylinder, when the ridge formed by the band is of less width than the space between the bands, and when the said ridge and depression are both covered with a material to form a grinding surface, for the purpose as set forth.

Fifth, In combination with a pliable grinding or rubbing surface, I claim an underlayer of buffalo hide with the hair on, for the purpose set forth.

Sixth, The combination of the two screws, revolving in opposite directions, and arranged substantially as described for the purpose of pearling the rice.

Seventh, The combination of buffalo hide, with the hair outward, with an underlayer of curled hair, for the formation of a polishing pad or brush.

eighth, In combination with the polishing pad or brush, constructed as described, I claim a narrow band of cloth or other material, wound spirally around the brush from end to end, and arranged so as to form a depression or groove in the surface of the brush or pad, so as to act as a carrier and assist the brush in conveying the rice through the machine.

28,486.—Wm. W. Hubbell, of Philadelphia, Pa., for an Improvement in Breech-loading Ordnance:

I claim, first, The combination of the screw, c e f, the parallel gate shaft, j, and the gate, g, operating together, as described, so that the gate is moved forward without impinging on the parallel shaft, by the cylindrical front face of the hollow screw and back as it releases from the facing of the chamber when presented on the shaft to the screw.

Second, I claim the curved gate arm, q, the gate shaft, i, the gate, g, and the gate arm, r, together, in combination with the screw, c e f, and the bearing surfaces, ll and t t, of the recess and barrel, so as to conveniently raise a heavy gate of large guns by the leverage of the arm, r, on the shaft of the arm, q, and regulate the position of the gate in the recess, and with the barrel laterally and vertically, to receive the action of the screw, c e f, by means of the bearing surfaces, l l and t t, in the operation of loading, as described.

Third, The circular raised piece, h, on the back part of the gate, fitting into the central hollow, f, of the screw, so as to enable the screw to secure this gate so that it cannot be forced up, as described and shown.

28,487.—Allen Hughes, of Gratiot, Ohio, for an Improvement in Cultivating Plows:

I claim the shovel cultivator described, capable of both a lateral and a vertical adjustment, when made in the manner and by the combined arrangement described and represented.

[This invention consists in pointing the front ends of the shanks to the cultivator in such a manner that the shovels may be raised or depressed, and in fixing the shovels in the shanks carrying them rigidly to the beams by sector bars having pins passing through them and through the beams. It further consists, in conjunction with the mode of attaching the shovel shanks, in making these beams adjustable in the central beam, so that they may be contracted or extended, and, with them, the shovels.]

28,488.—Liveras Hull, of Charlestown, Mass., for an Improved Ratan Machine:

I claim, in combination with the splitting knife and the feeding mechanism, a mechanism for moving the feed rollers, F F, laterally, relatively to the knife, such mechanism for so feeding the feed rollers consisting of the actuator cam, S, and the slider, I, furnished with an adjustable arm, p; the whole operating and being operated substantially as specified.

And, in combination therewith, I claim a mechanism consisting of the stop cam, v, the lever catch, N, and its spring, y, or mechanical equivalent therefor, not only for stopping the operations of the lateral motion machinery immediately after the splitting of a ratan may best accomplished, but for stopping and holding the actuator cam of have such lateral motion mechanism in its proper position for the feeding and splitting machinery to commence action on another ratan.

I also claim applying the actuator cam and its stopping cam, or either, to the shaft, t, substantially as described, so as to be capable of revolving thereon, and providing the same with devices for producing friction, so as to cause the shaft to revolve the cam when the latter is not held or stopped by the lever catch and stop-cam, as described; such devices consisting of the cone, u, and the spring, w, or mechanical equivalents therefor.

I also claim combining with the slider, I, of the lateral motion mechanism, an arm, p, and its adjustable devices, arranged to operate substantially in the manner and for the purpose as stated.

I also claim the combination of levers, O P R, and the spring, c', arranged and applied together to the slider, I, and the shafts of the feed rollers, F F, substantially as and to operate as stated.

I also claim the arrangement of the strip guides, m and n, relatively to the knife and the set of draft rollers, G G.

28,489.—J. B. Hyde, of Newark, N. J., for an Improvement in the Machinery for Manufacturing Sheathing Felt:

I claim the apron, E, the composition troughs, F and 1 2 and 3, the apron and trough, G, the rolls, H and L, and the rolls, I, and the sand apparatus, K, arranged substantially in the manner and employed for the purpose set forth.

28,490.—John Johnson, of Naples, Ill., for an Improvement in Corn Planters:

I claim the combination with a divided frame, A B, of the adjustable or extension bar, J, jointed to the front part of the machine, and arranged in the manner and for the purposes set forth.

[This invention consists in a seed-dropping device arranged and constructed in a novel manner, whereby two rows of seed are deposited at one time and are brought so near the ground before they are dropped that, when it is desired to drop them, it can be done with precision and great regularity. The seed slide is formed in such a way that it can be readily adjusted for large or small grains of seed. The shoes for opening the drills are constructed so as to open the earth, drop the seed and cover it; the shoes and seed tubes being both made in one piece, and the seed tubes form standards. It further consists in dividing the frame of the machine—arranging the seed device on one frame, and the grooved pressing wheels on the other—and connecting the two frames together by a sliding coupling.]

28,491.—Ross Johnson, of Baltimore, Md., for an Improved Sash-fastener:

I claim the application of the described implement, c j i, as a permanent window-sash fastener, in the manner set forth.

28,492.—Permin Kopfer, of Fond du Lac, Wis., for an Improvement in Cooling and Setting Tire:

I claim the described cistern and revolving platform, the former being provided with a series of inclined planes, and the latter with a corresponding series of rollers; the whole being constructed, arranged and operated substantially as set forth, for the purposes specified.

28,493.—L. W. Leeds and Calvert Vaux, of New York City, for an Improved Steam Heating Apparatus:

We claim the admission of steam at or near and over all parts of, or a great portion of the bottom of a steam-heater, in numerous thin jets or streams; or, in other words, in a divided state, by a perforated pipe, or its equivalent, substantially as described, whereby an equable diffusion, in any quantity, may be effected through the whole of the heater, for the purpose specified.

28,494.—A. Leightheiser, of Reading, Pa., for an Improved Washing Machine:

I claim, first, The use of two rubber disks, with radially curved arms, constructed as described.

Second, I claim the center piece, J, furnished with hinged semicircular lids, turn latches, M, radially curved rubbers, E K, brace, B, and hand cranks, F H; the whole arranged and combined for the purposes as set forth.

28,495.—John Lovatt, of Newark, N. J., for an Improvement in Skates:

I claim the combination of the movable V-slotted blocks, E E', with the clamps, D D D' D', and the screw rod, G, when the same are arranged substantially in the manner and for the purposes set forth.

28,496.—Edwin May, of Indianapolis, Ind., for an Improvement in Window Grating for Prisons:

I claim, first, The platting of tubular iron, the tubes crossing each other at right angles, substantially as and for the purposes set forth.

Second, The bolting together of right angle tubes with the dovetail bolt, H, when the same is done for the purposes set forth; and—

Third, I claim the filling of said tubes with molten iron, in combination with the dovetail rivet, H, when all these parts and ingredients are used for the purposes described in the foregoing specification.

28,497.—John Mills, Jr., of Quincy, Ill., for an Improvement in Hemp Brakes:

I claim the rotary cleaning and beating beater, E', arranged over beater, E, when the same has also imparted to it a vibratory motion, by the arrangement substantially as described, or by any other suitable machinery, whereby a beating, and, at the same time, a forward motion is given to the hemp, as set forth.

[This invention consists in arranging in front of suitable feed break rollers, two beating or cleaning cylinders, one placed above the other, and the upper one (the speed of which is greater than that of the lower one) having a vibrating, at the same time a rotary, motion; the motions of the four cylinders are to be in such relation to each other that the hemp will be drawn out and kept straight to give the upper cleaning wheel a more efficient blow and to prevent the hemp from tangling. All the shaves are thus removed, and the perfect operation upon the hemp, before it leaves the machine, is insured.]

28,498.—J. C. Moore, of Peoria, Ill., for an Improvement in Corn Planters:

I claim the combination of the jointed bar with the operating cam and spring, arranged substantially as described, so that by bending the central joint, the bar is withdrawn from the cam, the discharge of the seed cut off and the movement of the slide to the seed box arrested.

28,499.—Wm. P. Parrott, of Boston, Mass., for an Improvement in Machines for Crushing Mineral Ores:

I claim the described combination and arrangement of one or more sets of crushing rollers, B B' C C', a sifting or screening apparatus, consisting of a rotary screen, S and its case, b2, an air blast or blower, e2, and a discharging conduit, k, provided with a separator, h, so arranged that, by the conjoint action of gravity and a blast of air, the mineral matters may be separated from the refuse ore; the whole being for crushing ore and separating the metal therefrom, substantially as specified.

I also claim so combining the air-blast fan-blower, e2, and the conduit, k, and its separator, h, that the conduit and separator may be adjusted at any desirable angle of inclination relatively to the horizon.

I also claim so combining the rotary screen case, b2, with the fan-blast or blower, e2, and the conduit, k, provided with a separator, h, that the air blown through the conduit shall first be made to pass through the rotary sieve, substantially in manner and for the purpose as described.

I also claim combining a regulating air-hole, c2, and plug, or its equivalent, with the case, b, of the rotary screen, S, and with the fan-blower, e2, applied to operate therewith and with a discharging conduit, k, furnished with a separator, h, as specified.

I also claim combining the inclined screen, a3, of the rotary sieve case with the rotary screen, S, the regulating air inlet, c2, and the fan-blast apparatus, e2, its conduit, k, and separator, h.

28,500.—O. J. Pennell, of Williamsport, Pa., for an Improvement in Apparatuses for Renovating Feathers:

I claim the arrangement and combination of a steam boiler and air-heating device applied to the hollow rotating beater shaft, H, of a feather receptacle, H, substantially as and for the purpose described.

[The object of this invention is to obtain a device by which old geese feathers may be perfectly cleansed and renovated, so as to be equal to new ones, both as regards appearance and use. The invention consists in the use of a steam boiler, in connection with an air-heating device, applied to a hollow shaft provided with radial arms, perforated at their ends, and placed within a cylindrical box which has ventilating openings provided with flaps or doors; all being so arranged that the feathers, after being thoroughly steamed, may be dried rapidly by heated air, and while within the cylinder or box in which they are steamed, thus causing the cleansing and drying to be expeditiously performed at one operation.]

28,501.—Henry Powelson, of New Brunswick, N. J., for a Fire-escape:

I claim, first, The arrangement, on the top or in one of the upper stories of a building, of the sliding platform, A, in combination with the rising and falling car or basket, E, constructed and operating substantially as and for the purposes described.

Second, The combination, with the platform, A, and basket, E, of the hinged flap, G, substantially as specified, for the purpose of dropping the rope, F, as the platform advances.

Third, The arrangement of the rope, H, with its branches, S' S'', &c., in combination with the sliding platform, A, substantially as set forth, for the purpose of enabling the inmates of the house to control the apparatus from the several stories of the building.

[This invention consists in arranging, on the top of a building, a standing platform, in combination with a rising and falling car and with suitable chains or ropes, in such a manner that, by pulling one of the chains, the platform, together with the car, is brought to the edge of the building, and the rope which controls the motion of the car is dropped where it can be reached from any of the windows situated in the same vertical plane of the car or from the street, for the purpose of enabling persons to escape from any story of a building if every way of egress is cut off by fire.]

28,502.—G. W. Rains, of Newburgh, N. Y., for an Improvement in Governors for Steam Engines:

I claim the employment, in combination with a wheel, L, having teeth on a portion only of its circumference, applied in connection with the regulating valve, substantially as described, of two teeth or sets of teeth, f f and f' f', not forming continuous series on the governor sleeve, the whole arranged and operating substantially as specified.

28,503.—T. S. Ray and A. C. Rand, of Buffalo, N. Y., for an Improvement in Vapor Lamps:

We claim the gener ting cup, F, in combination with the vaporizing tube, D, and supply or aperture, d3, the same being constructed, arranged and operating substantially as set forth.

28,504.—G. W. Richardson, of New York City, for an Improved Steam Heating Apparatus for Warming Buildings:

An ascending steam pipe with siphons, constructed and arranged substantially as described, and with radiators, to which is connected a descending water pipe, the whole forming a continuous open circuit between the steam space and the water space of a boiler.

I also claim, in combination, first, coils, or their equivalent, for radiating heat into apartments; second, siphons, constructed and arranged substantially as described, and making connection between the ascending steam pipes and the coils; and third, ascending steam pipes and descending water pipes, each varying in area, substantially as specified.

28,505.—D. F. Savage, of Boston, Mass., for an Improvement in Dumb-bells:

I claim making the balls of a dumb-bell in hollow or solid sections, substantially as set forth, and thus rendering the same capable of being increased or diminished in weight.

28,506.—Wm. Scarlett, of Aurora, Ill., for an Improvement in Skates:

I claim combining the central stiffening bar or plate, D, with the two sheet metal halves, A, in the manner and for the purpose shown and described.

This invention consists in forming the stock or foot-stand with the heel-pin for preventing the foot from moving while on the foot-stand, and the slots and pins for holding the straps, and lastly, the runner or skate-iron, all with three pieces of suitable metal struck out into the desired shape, bent up and riveted together, so as to form, when put together, a perfect skate, with a groove or channel in the runner for preventing the same from slipping sideways while skating.]

28,507.—H. H. Scoville, of Syracuse, N. Y., for an Improved Machine for making Moldboards for Plows:

I claim the use of a conical forming block for shaping moldboards of plows when the same is so arranged with the pressure roller, constructed substantially as described, and framework, as to operate in the manner set forth.

28,508.—Frederick Shuttee, of Philadelphia, Pa., for an Improved Machine for Cutting Saw Teeth:

I claim the two revolving dies, composed of the disks, m and n, and having permanent angular projections and recesses, the projections of one die being adapted to and gearing into the recesses of the other die, as and for the purpose set forth.

28,509.—Reuben Shaler, of Madison, Conn., for an Improvement in Wheel Skates:

I claim the skate described, which, in the place of the ordinary runner, is provided with rollers, the periphery of which is made elastic, substantially as and for the purposes set forth.

28,510.—J. E. Shields, of Washington, D. C., for an Improved Butt Hinge:

I claim the side projection, C, on the connecting pin, in combination with the slotted ends of the segments, a a, and cavities, i i, in the leaves, arranged and operating substantially as and for the purposes set forth.

28,511.—H. K. Smith, of Philadelphia, Pa., for an Improved Sash-supporter for Car Windows:

I claim the combination, with the window of a railroad car, of the catch, C, and hook, D, constructed and arranged for conjoint operation in the manner described and for the purpose set forth.

28,512.—S. P. Smith, of Troy, N. Y., for an Improvement in Car Wheels:

I claim, first, Making the inner side of the rim, A, with a continuous mid-rib, d, and a cylindrical or slightly flaring surface at each side of the rib and the peripheries of the supporting disks, F I, with shoulders, h h, and flanges, j j', as and for the purposes set forth; the said rim and disks being united together by means of compound band packing, k l k l, in the manner described.

Second, I also claim inclosing the elastic packing, r, when placed between the tightening device of the holding bolt and the body of the wheel, by means of a ring or recess, q, follower, S, and collar, t, all constructed and arranged together as described, so that, while the packing is left free to be compressed to any required degree, no part of the packing can be squeezed or worked out of place, nor pressed in contact with the holding bolt.

27,513.—Thos. Spencer, of Syracuse, N. Y., for an Improvement in the Manufacture of Common Salt:

I claim combining the carbonate or bi-carbonate of soda with common salt, substantially as and for the purposes set forth.

28,514.—H. J. Spiller, of Cincinnati, Ohio, for Improved Roller Boxes for Printers:

I claim the ventilating roller box, as described, consisting essentially of roller chamber, B, water chamber, C, ventilators, d d e, sliding doors, G H, and vertical reels, consisting of stock, F, stationary head, D, and movable heads, C, all constructed and arranged substantially as and for the purpose set forth.

28,515.—Canceled.

28,516.—Lemuel Stephens, of Philadelphia, Pa., for an Improvement in Fertilizers:

I claim, as an improved article of manufacture, the "Phuine," made substantially as set forth.

[This composition is a very cheap and effective fertilizer, and it is successfully used as a substitute for guano. The various ingredients are so combined that the fertilizing qualities of the animal matter are retained and concentrated, and at the same time the animal matter is rendered mor soluble and active.]

28,517.—Lee Swearingen, of Valley River Falls, Va., for an Improvement in Cars for Transporting Cattle, &c.:

I claim so hinging or connecting a series of partitions with a cattle car body, as that said partitions may be swung into a vertical position to form stalls or apartments to contain horses or cattle, or into a horizontal position for forming an upper and lower compartment for containing sheep or hogs, substantially in the manner and for the purpose set forth.

28,518.—Wm. Tansley, of Salisbury Center, N. Y., for an Improvement in Bark Mills:

I claim, first, The forming of the conical head, C, and rims, D F, of a bark mill, of eccentric sections, substantially as and for the purpose set forth.

Second, The grater, E, when formed of a series of alternate concave and convex sections, b^e c^e, as described.

Third, The crushing teeth, f g, formed respectively on the arms, a c', when used in connection with the head, C, rims, D F, and grate, E, and placed in the relation thereto, as and for the purpose set forth.

Fourth, The alternate long and short teeth or burrs, 1 2 and 3 4, respectively, on the rim, D, and conical head, C, as and for the purpose specified.

Fifth, The combination of the head, C, rims, D F, and grater, E, arranged within a case, A, for joint operation, substantially as and for the purpose set forth.

28,519.—J. R. Thomas, of Williamsburgh, N. Y., for an Improvemant in the Mode of Securing Lids on Gas Retorts:

I claim providing one end of the bar, D, with a double taper socket, d, and pivoting said end upon a pintle, c, so that said bar may be swung horizontally and also vertically upon the pintle, as and for the purpose shown and described.

[This invention consists in having a bar or bold-fast provided at one end with a socket, which is fitted on a pintle attached to the front of the retort at one side, the opposite end of the bar being fitted in a lock attached to the opposite end side of the retort, the bar or hold-fast having an eccentric connected to it at its center, and all so arranged as to form a simple and efficient fastening, and one that may be very readily manipulated for the purpose of securing the lid to the retort and detaching it therefrom without the possibility of one fastening interfering with the others in the same "bank" or furnace, each being allowed to be manipulated without being obstructed by the others.]

28,519.—John Thompson, of East Boston, Mass., for an Improvement in Locomotive Boilers:

I claim the improved smoke box, as so extended beyond the smoke current leading from the pipe-stack to the chimney, that the sparks or cinders discharged through the pipe-stack may pass out of and beyond the current of smoke, so as to be deposited in the box by the action of gravity and not be carried up the chimney.

28,521.—Thomas Towndrow, of New York City, for an Improvement in Book-binding:

I claim the combination of the plates, A and A', tubes, B, and pins, C, constructed and arranged substantially as and for the purposes set forth.

28,522.—J. G. Treadwell, of Albany, N. Y., for an Improvemont in Stoves:

I claim the employment of the corrugated or plain front plate, D, perforated as described, the close-fitting doors, E E, and slide, F, when used in connection with the double sides, G G', and the perforated air-chamber at the rear of the fire, substantially as and for the purpose specified.

28,523.—R. P. Van Horne, of Gratiot, Ohio, for an Improvement in Cultivators:

I claim the arrangement of the plate, A, draught bar, B, tooth or share bars, K, and truck or wheel bar, D, substantially as and for the purpose set forth.

I further claim, in connection with the plate, A, draught bar, B, share bar, K, and truck or wheel bar, D, the transverse bar M, provided with teeth or shares, N, substantially as and for the purpose specified.

[The object of this invention is to obtain a simple and cheap implement which may be readily adapted for the various kinds of work required in the cultivation of different crops, such as the eradicating of weeds, the pulverizing of the soil, and the plowing of the growing plants. The invention consists in a novel arrangement of tooth bars attached to a plate, the latter being connected to a bar provided with adjustable wheels, whereby the desired end is attained.]

28,524.—J. H. G. D. Wagner, of Paris, France, for an Improved Filtering Apparatus:

I claim, first, Removable horizontal shelves, p, the bottom and top surfaces of each of these shelves being provided with flanges on three sides, and the shelves being placed in relation to each other, as shown on plate 1, in combination with a steam-tight box B, water reservoir, A, and stop cock, o, substantially as and for the purposes set forth.

Second, Disks, m, provided with circular flanges on top and bottom with sockets, m', and central central holes, in combination with disks, n, provided with sockets, n', all the disks being placed in a steam-tight box, B, and in relation to each other, as represented on plate 2, substantially as and for the purposes set forth.

Third, Shelves, the top and bottom surfaces of each of which are provided with flanges on three sides, combined with a steam-tight box, B, and surrounding jacket, C', as represented on plates 3 and 4, substantially as and for the purposes set forth.

28,525.—Albin Warth, of New York City, for an Improved Fire-escape:

I claim, first, The arrangement of a tube, A or A', substantially as described, in combination with a rope, a, in such a manner that, by straining the rope, its friction on the inside of the tube is increased, and that weights attached to said tubes can be let down with any desirable speed.

Second, Arranging the tubes, A A', with a number of hooks, c, and loops, d, substantially in the manner and for the purpose specified.

Third, The combination with the rope, a, and tubes, A A', of a derrick, D, constructed of standards, i, hooks, j, lever, k, and cross-bar, l, substantially as and for the purpose set forth.

28,526.—Maximilian Wappich, of Sacramento, Cal., for an Improved Water Elevator:

I claim, first, Sustaining and buoying the screw elevator by a water chamber exterior to the shell of the screw, either in connection with the air-chamber or without it, substantially as describe .

Second, Regulating the admission of the water by the lip, j', constructed and operated as describe .

Third, The arrangement of means for suspending the upper end of the elevator set forth.

Fourth, The ring, e', and the means connected with it for packing and guiding the lower end of the cylinder, as described.

Fifth, The frames, b', as constructed and arranged and for the purposes set forth.

28,527.—J. B. Winslow, of Charlestown, Mass., for an Improved Machine for Cutting Moldings:

I claim, first, The combined action of the cams or guides, r, and the self-adjusting feed roll, h, or their equivalents, substantially as described.

Second, I claim the adjustable back guide, s, acting with the cams or guides, r, and the feed roll, h, or their equivalents, subs antially as described.

Third, I claim the connecting rods or wires, 15, or their equivalents, arranged in the machine substantially as described, whereby the action of the springs, x, is changed from the feed roll, h, to the compressure rolls, 12, for the purposes set forth.

28,528.—D. M. Woodin, of Brandon, Wis., for an Improved Churn:

I claim so arranging the two dasher shafts, which are provided with wings secured to them in a screw or spiral form, that by revolving one, the other will be revolved by it; the wings interlapping, pressing against each other and expressing the butter from the cream, as the bearings change from bottom to top, or vice versa, substantially as specified.

28,529.—S. W. Woodward, of Buffalo, N. Y., for an Improved Washing Machine:

I claim, first, The combination of the stationary tub, A, rotary shaft, B, and rotary disk, F, placed beneath and supporting the clothes—the whole being constructed, arranged and operated in the manner and for the purpose set forth.

Second, The spring rubbers, H, in combination with the revolving disk, F, substantially as set forth.

28,530.—W. C. Allison (assignor to Allison & Murphy), of Philadelphia, Pa., for an Improvement in City Railroad Cars:

I claim a seat composed of a series of transverse truss frames constructed and connected together as set forth, when the said seat is arranged on and combined with the arched roof of a railroad car in the manner and for the purposes specified.

28,531.—W. A. Bacon (assignor to himself and M. V. Reynolds), of Campello, Mass., for an Improved Machine for Skiving Counters for Boots and Shoes:

I claim the arrangement of the adjustable block, H, with the feed wheel, C, raised above the table, and with the knife, F, provided with adjusting screws, and supported by such block, as described.

28,532.—Albert Broughton (assignor to himself, Alexander Lindsay and J. R. Platt), of New York City, for an Improvement in Machinery for Grinding and Polishing Glass:

I claim the combination of the rotary, adjustable shaft, I, revolving disk, J, and independent pivoted disks, K K K, with the horizontally-reciprocating bed, C, and mechanism for effecting the intermittent oscillating motion of gear shaft, E, which reverses the movement of the traveling bed—arranged and operating in the manner and for the purpose shown and described.

28,533.—L. S. Chichester (assignor to F. S. Cabot), of New York City, for an Improvement in Filters:

I claim the combination, in the manner shown and described, of the plates, i h, and the filtering materials, with the adjustable plates, a d, when all the said parts are constructed substantially as set forth, so that by adjusting either of the plates, a d, filtered or unfiltered water may be obtained at pleasure, as specified.

[The object of this invention is to obtain a portable, simple and efficient filter, by which either filtered or unfiltered water may be drawn as required, by a very simple adjustment. For instance, when filtered water is required, for drinking or other purposes, water is made to pass through the filtering medium, and when unfiltered water is required, for washing or other purposes, the water is allowed to pass unobstructed and quickly through the filter case, thereby obviating, when not necessary, the comparatively-slow flow of the water caused by the obstruction of the filtering medium.]

28,534.—G. P. Dance (assignor to himself, J. H. Dance and D. E. Dance), of Columbia, Texas, for an Improvement in Hanging Millstones:

I claim the driver, D, provided with a taper, square opening, c, at its center, fitted in the runner, A, and resting on a rocking key, C, in the spindle—the latter passing through the taper opening of the driver, substantially as and for the purpose set forth.

[The object of this invention is to hang, by a very simple means, the runner of a pair of millstones in such a manner that it may, as it rotates, adjust itself to the position of the stationary stone, and the parallelism of the faces of the two stones be preserved whether the stationary one be perfectly horizontal or not.]

28,535.—T. G. Harold, (assignor to himself and James H. Harold), of Brooklyn, N. Y., for an Improvement in Guards for Key-holes:

I claim the blocking-piece, a, fitted on the bar, b, in combination with the sliding blocking-piece, c, that enters the key-hole, and prevents the piece, a, being turned, or picks entered into the key-hole as set forth.

28,536.—S. W. Lowe (assignor to himself, C. Wirgman and D. S. Johnson), of Philadelphia, Pa., for an Improvement in Vapor Lamps:

I claim the woven wire bag or case, B, the fibrous packing, D, and the wick, C, when the same are arranged and combined together in a lamp, substantially as, and for the purpose set forth and described.

28,537.—S. E. Pettee (assignor to the North-American Paper Bag and Envelope Manufacturing Company), of Philadelphia, Pa., for an Improved Paper Bag Machine:

I claim, First, Locating the rotating paster, F', so as to apply the paste directly to the edge of the paper, in forming the tube as set forth.

Second, Giving to the paster, F', a velocity corresponding with that of the edge of the paper on which it applies the paste, by means of the ratchet arrangement, operated as described, and for the purpose stated.

Third, The slide, Q2, constructed and operating substantially as and for the purpose specified.

Fourth, Feeding the tube of paper to the knife by the alternating operation of the reciprocating clamps, V V', as specified.

Fifth, The clamps, V V1 V 2, constructed as set forth, and operating them by darts and dogs, as described.

Sixth, Folder and paster, I1, constructed and operating substantially in the manner stated.

Seventh, In combination with the paper-bag machinery, attaching the connecting rods which operate the slides and clamps to opposite crank centres, to secure a continuous feed of the tubing to the knife, as described and shown.

Eighth, and finally, I claim the general arrangement of the parts of the machine described, for performing the various operations of making the bags, in the order and manner set forth and shown.

28,538.—Hamilton Ruddick (assignor to himself and Jonathan Pierce), of Boston, Mass., for an Improvement in Sewing Machines:

I claim adjusting the length of the crank, e, by means of the slide, or its equivalent in combination with the feed lever, b, vibrating on the adjustable fulcrum, d, in order to cause said feed lever to pass a greater or lesser distance above the surface of the table or cloth plate, substantially as and for the purpose specified.

28,539.—Thomas Shaw (assignor to himself and L. N. Brognard), of Philadelphia, Pa., for an Improvemene in Furnaces for Burning Coal Oil or other Hydro-carbon Fluids under Steam Generators:

I claim the conveying of ignitable fluids to the interior of the fire-chamber, by means of a pipe surrounded by water within the boiler, substantially as and for the purpose set forth.

I claim saturating the air with vapors of a fluid, by means of the perforated tube, H, and its box, h, when arranged in respect to the fire-chamber of the steam boiler, substantially as set forth.

I claim the bars, n, and n, arranged in respect to the grate bars and fire-chamber, subs antially as and for the purpose set forth.

28,540.—G. E. Vanderburgh of Mamoraneck, N. Y. assignor to the Liquid Quartz Company, of New York City, for an Improvement in Preparation of Soluble Silicates:

I claim reducing silicious substance to a liquid state by first incorporating therewith a small proportion of some alkaline substance and then subjecting the same to the direct action of super-heated steam whilst enclosed within a s itable vessel, substantially as set forth.

28,541.—G. E. Vanderburgh, of Mamaraneck, N. Y., assignor to the Liquid Quartz Company, of New York City, for an Improvement in Silicated Cements:

I claim a silicious cement prepared substantially in the manner set forth.

28,542.—Eldridge Weber, of Gardiner, Maine, assignor to himself, G. W. Wait, of said Gardiner, and N. B. Starbuck and G. H. Starbuck, of Troy, N. Y., for an Improved Marine Propeller.

I claim the construction of propellers with the two blades, B, B', as described, and placed at about an angle of 45° with the axis of shaft on opposite sides of a plane through said axis, and altogether forward of the rear extremity of the hub, substantially as set forth.

28,543.—George Nock, of Pittsburgh, Pa., assignor to T. G. Nock, of Windsor Locks, Conn., for an Improvement in Desulphurizing Coke.

I claim the use of a mixture of an oxydizing agent, such as peroxide of manganese, nitrate of potash, or other substance, which yields oxygen, at an elevated temperature in contact with carbon, with an aqueous solution of chloride of sodium, or other alkaline chloride, or chloride of an alkaline earth, in the process of desulphurizing coke, in the manner described.

Also, The use of a mixture of peroxide of manganese or other substance which yields oxygen at an elevated temperature in contact with carbon and colophony, (or rosin), or other easily combustible substance, with an aqueous solution of chloride of sodium, (common salt), or other alkaline chloride, or salt of an alkaline earth, for the purpose of desulphurizing coke, in the manner described.

RE-ISSUES.

C. E. Bertrand, of Williamsburgh, N. Y., for an improvement in Sugar Mold Carriages. Patented March 30, 1858:

I claim, first, The construction and arrangement of carringes for the holding and conveyance of sugar molds; the same consisting essentially in the combination of a platform provided with a suitable train of wheels, of small diameter, for vertically supporting the molds, with a series of semi-circular braces, or their equivalents and guard chains or bars, for laterally holding said moulds substantially set forth.

Second, In sugar mold carriages, constructed a described with a brace plate arranged at a higher level relatively to the platform, I claim the two wheels running on or with one or two axles fixed to the platform, in combination with a swivel wheel, the shank or standard of which is made to bear against the said brace plate, whereby the carriage may be moved about with greater facility than this has ever been done heretofore.

Third, The combination and arrangement of stationary pins and india rubber washers, or their equivalents, in the platform, so that the molds when in position upon, and supported by the platform, shall have their drip holes closed by their own weight substantially in the manner and for the purposes specified.

Fourth, The general construction, combination and arrangement of sugar mold carriages as shown, and described, so as to operate substantially in the manner and for the purposes set forth.

W. F. Shaw, of Boston, Mass., for an Improved Apparatus for Heating or Cooking by Gas. Patented, Nov. 4, 1856:

I claim the combination of an air and gas burner, and an air guide or concentrator, G, operating in the manner substantially as set forth for the purpose specified.

I claim the flue space, X, around the chamber, H2, with its openings, Y and Z, operating as an air-heater when the oven is in place, and as a passage for the escape of the gases when other utensils are employed, as set forth.

ADDITIONAL IMPROVEMENT.

Charity Pendleton, of Galena, Ill., for an Improved Washing Machine. Patented July 12, 1859:

I claim the arrangement described of the bars 1, 2, 3 and 4, and the springs, 6, in the manner described, by which I am enabled to secure particular parts of the clothing with greater facility in such a manner as to concentrate the action of the rubber upon them, while at the same time the rubbing bar, which forms a part of the arrangement, is allowed to so yield by the compression of the springs, as to protect fine fabrics and delicate articles from injury as set forth.

EXTENSION.

T. W. Harvey, late of New York City, (H. A. Harvey, Administratrix), for an Improvement in Machinery for Manufacturing Wood Screws. Patented May 30, 1846. Re-issued Dec. 28, 1858:

I claim, first, The combination and arrangement of two inclined rollers, one or both rotating and placed at a sufficient distance apart to permit the shanks of the blanks to hang therein freely suspended by their heads, substantially as described, and for the purpose of arranging the blanks, (when presented in a promiscuous mass) all in a row with their heads up, and causing the row to travel toward the lower end, and to be delivered one by one as set forth.

Second, Combining with the delivery end of the inclined rollers or equivalent ways, for supplying the blanks in order, a delivery and check slide and a receiving and conducting tube, or equivalent therefor, substantially as described, to receive the blanks from the row, deliver them one by one, and conduct them to the place where they are required for after operations, and at the periods required as set forth.

Third, Combining with the receiving and conducting tube, substantially as described, a transferer or equivalent therefor, substantially as described, to receive the blanks from the conductor, and transfer them to the mandrel or place where they are to be subjected to the cutting action, as set forth.

Fourth, Combining with the mandrel or spindle, and with suitable means for holding the screw blanks in line substantially as described, a sliding turn screw and spring, or equivalent therefor, substantially as described and for the purposes as set forth.

Fifth, Governing the motions of the chaser toward and from the axis of the blank, by combining the chaser head with a carriage and sway bar moved by a cam substantially as described, and also connecting one end of the sway bar with an adjusting slide, when this is combined with the chaser, or chaser head, as described, whereby the amount of taper to be given to the screw can be regulated at pleasure.

Sixth, Changing the direction of the various cam grooves, by means of sliding switches operated by sliding rods within the hollow cam shafts and shifted by an index cam, by which the various changes of the motions of the machine are effected substantially as described.

And finally, making the cam which operates the sway bar, adjustable on its shaft substantially as described, for the purpose of adjusting the motions of the chaser to the length of the blank, to insure the proper formation of the point of the screw, as described.