

under a profitable water rent to the city. Thrown open on safe and liberal terms to the enterprise of all, in lots of some limited extent, and under supervision of government, a perfect system of piers and warehouses may be made a public benefit without becoming a public charge, a center of monopoly, or a source of corruption.

The trouble now-a-days with about every new project of a public character, is, that the promoters start off with a gigantic stock operation; we have heard this objection raised to the New York Pier and Warehouse Company's scheme, which we hope is not true.

Volkman's Self-holding Plow.

Our attention has recently been called to a novel self-holding plow which seems to possess much merit. The peculiarity of the plow is such that the share will keep in the furrow without being guided. A boy old enough to drive a team is capable of managing the implement; or rather the plow will take care of itself without the attention of the driver. The share and beam are similar in construction to the ordinary plow. The front end of the beam rests in a light carriage and is so arranged as to turn freely in every direction. When in use, the plow is set so that it points slightly toward the land side, the draft being from the opposite direction, which renders it impossible, with the arrangement for supporting it in position, to be thrown out of the furrow unless it strikes some obstruction, and then as soon as passed it resumes its former position. Any depth may be plowed by setting the implement the desired scale before starting.

If we are not mistaken Mr. Volkman's patent plow will come into quite general use. For further information see advertisement in another column.

LYNN contains 220 manufactories, turning out an aggregate of not far from twelve million dollars' worth of boots and shoes, annually.

THE Agricultural College of Massachusetts is to be opened for students on the first of September next. Five buildings are to be erected, including a chemical laboratory and a model barn, at a cost of \$65,000.

THE exhaustion of the British coal-fields proceeds at the rate of nearly one hundred million tons per annum, or five times the present product of the American mines. On the other hand, the extent of the American coal-fields is more than twelve times that of the British.

AN extensive system of adult schools has been inaugurated in France, under the auspices of the Minister of Public Instruction. Last winter, nearly 5000 such schools were opened, with 30,000 teachers, and about 600,000 pupils of both sexes; nearly half of whom were unable to read.

PITTSBURGH contains five hundred large manufacturing establishments. It has fifty glass factories and sixteen potteries, forty-six iron foundries, thirty-one rolling-mills, thirty-three machinery establishments, and fifty-eight oil refineries; beside miscellaneous works of almost every variety; the whole turning out an annual product worth \$100,000,000.

THE Public School System of Lower Canada, by a recent report, comprises 10 universities and professional institutions, with 818 students; 210 secondary institutions, as classical and industrial colleges and academies, with 28,613 students; 3 normal schools; 4 special schools; and 3,479 primary schools, with 172,733 pupils. The total amount levied for the support of this system, in 1865, was nearly \$600,000.

SUBTERRANEAN PHOTOGRAPHY.—A firm in Cincinnati have obtained the exclusive right of taking views in the Mammoth Cave of Kentucky, for five years. The process successfully used in taking pictures of the interior of the Great Pyramid is adopted, using the magnesium light. The dampness of the cave, the smoke arising in the consumption of large quantities of magnesium, the divergency of the artificial light, and the magnitude and proximity of the objects to be photographed, present a number of serious difficulties. Powerful reflectors are used to throw a flood of light upon the object, and the plate is allowed about twice the exposure required by the light of the sun.



ISSUED FROM THE U. S. PATENT OFFICE

FOR THE WEEK ENDING DEC. 11, 1866.

Reported Officially for the Scientific American.

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

60,319.—HAME FASTENING.—W. J. Alexander, Manchester, Iowa.

First, I claim the hame fastening consisting of the catch piece, B, and the socket, C, with the spring catch, D, and catches, E, respectively, and united to the loops of the hames, substantially as and for the purpose described.

Second, The arrangement of the button, F, shaft, G, eccentric, H, and spring, M, operating as described.

Third, The pin, L, as and for the purpose described.

60,320.—MANUFACTURE OF BRICK OR BUILDING BLOCKS.—Henry W. Angell, Waukesha, Wis.

I claim a brick composed of lime, sand, small stones, and gravel, prepared and molded in the manner described.

60,321.—SAW.—James E. Atwood, Trenton, N. J.

I claim the teeth, H, H, when inserted and secured in the manner herein described and for the purposes set forth.

60,322.—MACHINE FOR ROLLING METAL.—Hugh Baines, Manchester, England.

First, I claim the combination of the hollow perforated rollers, C, with the reversible gearing, H, I, when constructed, arranged, and connected for the purpose as to operate substantially in the manner described and for the purposes set forth.

Second, In combination with the above, the movable table, 7, arranged and operating substantially as and for the purpose specified.

60,323.—BRICK MACHINE.—William C. Bartol, Huntingdon, Pa.

First, I claim in operating the machinery for molding brick from the drive or supporting wheel or wheels of the machine, substantially in the manner herein shown and described.

Second, The combination of the slides, H, racks, C, cog wheels, G, and shaft, D, with each other, substantially as herein shown and described, for the purpose of raising and lowering the shelves and molds, as set forth.

Third, The combination of the catches, E, spring, G, and arms, B, with each other and with the racks, C, and wheels, G, substantially as herein shown and described and for the purpose set forth.

Fourth, The combination of the racks, A, and cog wheels, I, with each other and with the molds, J, and shaft, D, substantially as herein shown and described and for the purposes set forth.

Fifth, The combination of the pins, B, connecting rods, M, pivoted levers, K, and springs, L, with each other and with the projections, J, of the racks, C, substantially as herein shown and described and for the purpose set forth.

60,324.—BATTING AND WADDING.—Samuel Baxendale, Boston, Mass.

I claim the batting or wadding composed of a layer of fibrous material attached by any adhesive substance to opposite sides of a sheet of paper, as herein described, the same being a new article of manufacture.

60,325.—ROAD SCRAPER.—J. B. Beall and B. F. Grime, Westerville, Ohio.

First, I claim, in a reversible road scraper, constructing the latch, c, to a loosely-turning handle piece, b, by means which will allow of the movement of said latch by turning the handle piece without removing the hands from either of the handles, substantially as described.

Second, The combination of a vibrating latch, c, a sliding spring latch, d, and a movable hand piece, b, substantially as described, with a reversible scraper.

60,326.—WASHING MACHINE.—E. Beckwith, South Pass, Ill.

The combination of the pendulum, J, with the bar, K, counterpoise, L, uprights, G, and rubber, E, substantially as and for the purpose herein shown and described.

Second, I claim the levers, C, in combination with the box, D, and rubber, E, all constructed and operating substantially as herein shown and described.

60,327.—APPARATUS FOR DISTILLING GRAIN.—J. B. Beebe and T. F. Lloyd, Albany, N. Y.

First, We claim the generator, C, constructed with two or more chamfers, C', C'', for the purpose set forth substantially as described.

Second, We claim the drop pipe, I, in combination with the enclosing pipe, H, for the purpose set forth substantially as described.

Third, We claim the indicator, E, combining the pipes, n, n', and q, together with the permanent hydrometer, x, and thermometer, t, the bell glass or dome, o, and the cock, r, for the purpose set forth substantially as described.

Fourth, We claim the combination of the registering meter, s, or its equivalent, with the indicator, for the purpose set forth substantially as described.

60,328.—SOAP.—S. J. Beeler, Wales, Ill.

I claim the use of the ingredients herein named in the proportions and manner substantially as set forth, for the manufacture of soap.

60,329.—CAST-IRON CHAIN PULLEY.—James Bird, New York City.

I claim, in cast-iron chain pulleys, making their projections, which hold the links of the chain, with a "chill," substantially as and for the purpose above described.

60,330.—MASH MACHINE.—M. Brand and C. P. Hoffmann, Chicago, Ill.

First, We claim the adjustable scraper on bottom of tub.

Second, The vertical propeller-shaped wings in combination with the machine.

60,331.—FENCE GATE.—W. W. Bratt, Ottawa, Ill.

First, I claim the two rollers, G, G, on which the gate slides sideways.

Second, The guide board, K, fitting in the circular grooves of the rollers, G, G.

Third, The guide, L, at the lower end of the swinging post, B.

Fourth, The part, L, of the gate, H, back of the rollers, G, G, lying against the fence when closed, substantially as and for the purpose described in the foregoing specification.

60,332.—PLANING MACHINE.—Otis Bridgeman, Addison, N. Y.

First, I claim the arrangement of the cutter head, K, adjustable rollers, A, S, saw, N, feed table, U, cutter head, S, and T, frame, L, and its flange, S, strip, P, screw shaft, O, arms, A, S, and feed rollers, V, substantially as described and for the purpose set forth.

Second, The arrangement of the frame, L, carrying the circu-

lar saw blade, N, and revolving cutter head, suitable either for tonguing or grooving, substantially as described and for the purpose specified.

60,333.—TWEER.—T. E. Brinley, Louisville, Ky.

I claim the cap, E, provided with a flange, a, and hooks, e, e, e, body, A, with the raised center forming an annular air chamber, C, and ears, n, n, n, when arranged as herein set forth, and operating as and for the purpose specified.

60,334.—GRATE FOR STOVE.—Albert Brown, Troy, N. Y.

First, I claim the permanent bar, G, in combination with the frame, F, and convex center, E, or equivalents, as and for the purposes specified.

Second, I claim the cavity, C, in combination with the cross pin, I, and the convex center, E, as and for the purpose set forth.

Third, I claim the grate, B, working upon the center, E, so arranged as to dump on a line with the shank, J, at any point within the sphere of its movement, as and for the purpose set forth.

60,335.—PROPELLING HORSE.—John H. Brown, New York City.

I claim the combination and arrangement of the wheel, B, axle, C, horse, A, wheels, D, shaft, E, and levers, F, F, as herein set forth, operating in the manner and for the purpose specified.

60,336.—SPRING TOY.—John H. Brown, New York City.

First, I claim the lever, C, spring, D, and regulating drum, B, in combination with the toy, A, constructed and operating substantially as and for the purpose set forth.

Second, Graduating the lever, C, so that the leverage of the spring can be accommodated to the weight of the child occupying it.

Third, Supporting the toy on a fulcrum, a, at its back end, substantially as and for the purpose described.

60,337.—MODE OF ATTACHING HANDLES TO BOILERS AND OTHER VESSELS.—John H. Brown, New York City.

I claim the pear-shaped slots in the ears, a, in combination with the flattened ends of the ball or handle of the kettle, A, constructed and operating substantially as and for the purpose described.

60,338.—FEEDING DEVICE FOR CARDING ENGINES.—George Bruce, Corydon, Ind.

First, I claim the pitman, G, pawl, L, ratchet wheel, M, toothed wheels, C, P, and pin ons, Q, and R, in combination with the aprons, B and B', for the purposes and substantially as herein described.

Third, I claim the manner of accelerating or reducing the feed by lengthening or shortening the stroke of the pawl, L, by means of the lever, G, and cord, J, substantially as herein set forth.

60,339.—COMBINED TABLE AND BEDSTEAD.—Sanford S. Burr, Dedham, Mass.

I claim the combination of the table top, I, and its connections, with the slat frame, H, and box, A, B, C, D, E, F, and G, for the purpose and operating substantially as herein described.

I also claim a combination of the sides of the table, L, M, and b, with the top, I, and the leaf, N, so constructed and arranged by means of the pin sliding in the groove, E, that the same can be transformed into the bottom end and support of the bed, in the manner and for the purposes substantially as herein described.

I also claim the combination of a table with a bedstead, in one piece of furniture, adjustable at the will of the operator by means of the pin sliding in the groove, E, constructed and operating substantially as herein described.

60,340.—MODE OF FASTENING AND UNFASTENING DROP DOORS IN COAL CARS.—William Burt, Marquette, Mich.

I claim the combination of the lever, B, shaft, L, cams, C, attached to the said shaft, L, pins, F, with drop doors, a, when the same are constructed and arranged in the manner and for the purpose set forth.

60,341.—ROTARY CUTTING MACHINE.—James J. Butler, Cincinnati, Ohio.

I claim, First, The rotary knife or cutter, M, and arm, L, in combination with the mandrels, C and G, for the purposes and substantially as described.

Second, I claim the bevel gearing attached to a crank for driving the mandrels, to which the cutter or knife is attached, substantially as and for the purpose set forth.

Third, I claim the upright screw, D, in connection with the mandrel pressing on the disk, i, or material, substantially as herein shown and described.

60,342.—TAP BORER.—Silas S. Crocker (assignor to himself and D. R. Crocker), Maquoketa, Iowa.

I claim the volute shaped tool with a sharpened, salient, spiral edge, with the gimlet point, substantially as described.

60,343.—TOOL FOR SETTING JEWELS IN WATCHES.—A. C. Crosby, Union, Pa.

I claim the securing or setting jewels in watch plates by means of a die or tool constructed in the manner substantially as shown and described.

60,344.—MEASURING LIQUIDS.—George W. Devoe, New York, city.

I claim, First, The suspension and arrangement of the weighted funnel, M, in relation with the series of measuring vessels, E, and with the cans, C, as they are pushed under the said funnels, substantially as herein set forth for the purpose specified.

Second, A measuring apparatus consisting of one or more measuring vessels, E, arranged in relation with a reservoir, B, and furnished with inlet and outlet valves or stop cocks, F, K, and with a suspended funnel or funnels, M, and a whistle or whistles, c, substantially as herein set forth.

60,345.—FEATHERING PADDLE WHEEL.—John V. Dinsmore (assignor to himself and M. Harris), Milford, Mass.

I claim the combination for operating each of the paddles while the wheel is revolving, the same consisting of the cam, G, the sliding and rotary shaft, F, its bearing, b, s, and g, notch, f, shoulders, d, e, arm, m, cams, n, and g, and the arm, p, and the roller, o, or the equivalent thereof, the paddle being applied eccentrically upon the shaft, and the whole being in other respects, substantially as hereinbefore described.

I also claim the cam, G, as made in two parts hinged together, and applied to the side of the vessel, so that one of them may be stationary thereon, and the other movable, as and to produce with the wheel, results as above set forth.

60,346.—GRADING INSTRUMENT.—Samuel L. Donnell, Spring Creek, Tenn.

I claim the bubble block, D, mounted upon a collar, G, swiveled upon the stand, A, or its equivalent, in combination with the balance ball or weight, H, suspended from the said block, and about and around the stand, A, substantially as herein described and for the purpose specified.

Second, In combination with the above, arranging either one or both of the legs, J, J, in the bubble block, D, from which the balance ball, H, is suspended in such a manner as to be susceptible of being adjusted therein, substantially as and for the purpose described.

Third, The combination with the sights of the bubble block of the thumb or set screws, R, and fixed pointer, U, arranged substantially as described and for the purpose set forth.

Fourth, The use of a transverse swiveled block, V, for the purpose described.

60,347.—POTATO DIGGER.—M. T. Drake, Pleasant Ridge, Ohio.

I claim, First, The main frame, A, vibrating inner frame, A', gaging frame, A'', and axle, B, constructed substantially as above described and for the purpose specified.

Second, The levers, m, constructed and operating as above described and for the purpose set forth.

Third, The levers, m, and cutters, k, in combination with gaging frame, A, substantially as above described and set forth.

Fourth, The plow, F, consisting of shovel, g, share, f, and mold boards, s, as above described when used for the purpose set forth.

Fifth, The shovel, q, in combination with the vibrating inner frame, A, constructed and operating as above described and for the purpose set forth.

Sixth, The endless bucket elevator, D, constructed substantially as above described.

Seventh, The pulverizing board, s, in combination with the endless bucket elevator, D, for the purpose specified.

Eighth, The irregularly reciprocating screen, l, in combination with the crank shaft, 5, constructed and operating as above described and for the purpose set forth.

Ninth, The dumping box, 9, in combination with rod, 10, and lever, 11, constructed and operating substantially as above described and for the purpose set forth.

Tenth, The clutch, consisting of f and x, in combination with the levers, y and y', and eccentric, z, as above described and for the purpose set forth.

Eleventh, The frames, A' and A'', levers, m, circular cutters, K, plow, F, endless bucket elevator, D, pulverizing board, s, irregularly reciprocating screen, l, dumping box, 9, and clutch gears, f and x, combined and operating as above described, and for the purpose set forth.

60,348.—**SLID BRAKE**.—R. B. Dutton (assignor to himself and N. C. White), Iron Hill, Iowa.

I claim the combination and arrangement of the jointed log, G, clutch, H, lever, F, drum rod, E, ratchet bar, I, and spring, K, with each other, and with the rave, D, and runner, A, of the sled, the whole being constructed and operated substantially as herein described, and for the purpose set forth.

60,349.—**COAL SCUTTLE**.—Edgar Eltinge, Kingston, New York.

I claim the shield, D, when constructed, as described and applied as and for the purpose specified.

60,350.—**BLOWER**.—John A. Everts, Meriden, Ct.

I claim the combination of the outer cylinder, A, the inner cylinder, C, and the plate, F, when the said plate, F, is connected by a strap or straps, G, to and so as to be operated by the inner cylinder, and the whole constructed and arranged substantially in the manner and for the purpose specified.

60,351.—**BED CLOTHES CLAMP**.—William Fisher, Ripon, Wis.

I claim the combination with the spring lever arms, E, hinged and joined together in pairs, of the jaw rails or bars, C, connecting the several pairs of said levers, substantially as described for the purpose specified.

60,352.—**VACUUM VENTILATOR**.—J. W. Foard, San Francisco, Cal.

I claim the apparatus above described for raising fluids, gaseous or liquid, by means of natural or artificial currents of air, composed of horizontal tubes or pipes, a, c, which are supported by means of the collar, b, upon the vertical pipe, e, so as to be free to revolve thereon, and which are guided and maintained in proper position by means of supplementary pipe, d, that extends from pipe, a, into said vertical pipe, e, substantially as above shown.

60,353.—**NEEDLE THREADER FOR SEWING MACHINES**.—M. B. Foote, Northampton, Mass.

I claim the frame, A, with its handle, B, springs, D, and the arms, C, to the lower one of which the slotted eye, E, is secured in combination with the slotted right-angular gage, G, all operating substantially as described for the purpose specified.

60,354.—**CIRCULAR SAWING MACHINE**.—Lewis Fossee, Jeffersonville, Ind.

First, I claim the adjustable slotted frame, G, and set screw, f, for clamping the saw, arranged and operating substantially as for the purpose specified.

Second, Sluicing the plank by means of the segment racks, F, F', wheels, G, G', radiating shafts, m, m', guide rod, H, and dogs, I, I', substantially as described for the purpose specified.

60,355.—**POTATO MASHER**.—Vincent Fountain, Jr., Castleton, N. Y.

I claim as a new article of manufacture, a potato masher constructed as described to wit: the cylinder or tubular receptacle, A, provided with the detachable perforated bottom, B, and handles, one on each side, and the plunger, C, all as shown and set forth.

60,356.—**SCHOOL AND FAMILY SLATE**.—John H. French, Geddes, N. Y.

First, I claim the frame, A, made with two compartments, one of which contains a slate, while the other is so constructed as to admit of the insertion of any convenient number of cards of pasteboard or other material containing lessons or copies for writing, printing, marking or drawing, and exercises in arithmetic either any or all combined, substantially as and for the purpose described.

Second, The arrangement in one or both surfaces of a slate of permanent perpendicular and sloping lines, in combination with the ordinary horizontal lines, substantially as and for the purpose set forth.

60,357.—**CRIB FOR CHILDREN**.—William L. Gerard, Fort Wayne, Ind.

I claim the panels, A, in combination with the elastic hinges, B, and the bars, C, the whole being arranged and constructed in the manner and for the purpose described and set forth.

60,358.—**FENCE**.—Thomas Glover, Woodbury, N. J.

First, I claim the post, A, and plate, a, in combination with the braces, b, b, and detachable blot, d, or its equivalent, the whole being constructed and arranged substantially as and for the purpose described.

Second, The post, A, and plate, a, with its slots, x x, in combination with the detachable braces, b, b, enlarged at the lower ends for the purposes set forth.

Third, The shoulder, e, on the post, A, for the purpose specified.

60,359.—**MACHINE FOR PULLING HEMP AND COTTON STALKS**.—Artemus W. Goddard, Clinton, Mass.

First, I claim the sectional flexible wheels, d, d, of the form substantially as herein described, or their equivalent, arranged to gather and operate as described.

Second, The spur belts, e, e, for carrying the tops of the stalks to the rear, or their equivalent, substantially as described.

Third, The rollers, 1111, and frames, ff, for keeping the sectional flexible wheels together, arranged as and for the purpose specified.

Fourth, The combination of the whole consisting of the sectional flexible wheels, dd, the spur belts, ee, the rollers, 1111, and the frames, ff, arranged together as and for the purpose specified.

60,360.—**SEWING-MACHINE GUIDE**.—H. C. Goodrich, Chicago, Ill.

First, I claim the rigid plate, B, having its under surface corrugated, as shown when hinged to the guide plate, A, as herein set forth, so that it can be folded over back on the plate, A, when not in use.

Second, I claim the plate, B, hinged as shown to the plate, A, and having its inner end made heavier than its outer end, substantially as and for the purpose set forth.

60,361.—**GRAPPLING TOOL**.—N. W. Green, Cortland Village, N. Y.

First, I claim the self-adjusting grapple, B B, the adjustable fulcrum, c, c, in combination of the lever, D, D.

Second, I claim the frame, F F F, including the standard, A, A, in combination with the grapple, B B, the adjustable fulcrum, c, c, and the lever, D D, for the purpose described.

60,362.—**PORTABLE WASH STAND**.—Samuel B. Guernsey (assignor to himself and Richard S. Pain), Chicago, Ill. Antedated Nov. 26, 1866.

I claim, in combination with a portable wash stand, a water re-

servoir permanently attached thereto, having two compartments, C, D, and a recess, E, beneath one of them, substantially as and for the purposes specified.

Second, I claim, as arranged with the foregoing, the wash basin, H, pipes, I, J, cover, K, and can, L, as and for the purposes specified.

60,363.—**CHURN DASHER**.—A. W. Hall, New York City.

I claim an atmospheric churn dasher constructed with a series of inverted funnels or hollow cones arranged one above the other and attached firmly and air-tight to the stem of the common dasher, in combination with the plate, B, at bottom of the stem, substantially as shown and described.

60,364.—**DISH MOP**.—Aaron S. Hadley, Boston, Mass.

I claim the combination and arrangement of the auxiliary or internal mass of the fibrous material, C, projecting from the end of the socketed handle, A, with such handle and either or both the masses, D, E, of fibrous material extended from the periphery of the head of such handle, as set forth.

60,365.—**ROTARY PUMP AND ENGINE**.—Dexter D. Hardy (assignor to Thomas H. Foulds), Cincinnati, Ohio.

I claim the rotary pistons, B B', whose peripheries are formed by quarter circles, a' a' and b' b', of different diameters, connected by suitable sides, c, in the described combination with the two central inner tongues, D, D', of the case, A, as and for the purpose specified.

60,366.—**ROTARY PUMP AND ENGINE**.—D. D. Hardy and J. J. Morris, Cincinnati, Ohio.

We claim, first, constructing the rotary pistons, B B', of arcs of circles, a' a' b' b', of different diameters, connected by epicycloidal faces, c', in the described combination with the elastic gibs, G', as and for the purpose specified.

Second, We claim, as arranged with the above combination, the set screws, J, for preventing lateral play of the shafts and pistons, as set forth.

60,367.—**TOOL FOR INSERTING SCREW EYES**.—Benjamin T. Harris, Brooklyn, N. Y.

I claim the device for inserting screw eyes in picture frames, etc., consisting of the eye holder, e, formed substantially as specified, and rotated by the mechanism herein described, substantially as set forth.

60,368.—**BED BOTTOM**.—W. J. Haswell, Waverly, N. Y.

I claim the springs, d, passing down through mortises in the sides and ends of the bedstead or frame, A, in combination with movable rods, e, straps, c, and the flexible bottom, B, all constructed and operating substantially in the manner and for the purpose set forth.

60,369.—**PACKING REVOLVING JOINTS**.—Jonathan Hatch (assignor to himself, C. Smith, and H. Winchester), South Windham, Conn.

I claim the combination with the stuffing box, b, and gland, C, of the pipe, B, formed with a collar, e, and provided with packing, f, f, on each side or face of said collar, substantially as and for the purpose or purposes herein set forth.

60,370.—**CONDENSED EXTRACT OF MALT**.—Thomas Hawks, Rochester, N. Y.

I claim condensing the extract or infusion of malt by evaporation in vacuo, for the manufacture of ale, beer, and other liquors, substantially as set forth.

I also claim, as a new product, the extract of malt when condensed to a solid or nearly solid substance, substantially in the manner and for the purposes herein set forth.

I also claim, as a new product, the extract of malt, either with or without the addition of hops when condensed in vacuo, substantially in the manner and for the purposes set forth.

60,371.—**SAWHORSE OR BUCK**.—Henry M. Hayward, Boston, Mass.

I claim the improved sawhorse, as constructed with stop joints, as described.

I also claim the application or arrangement of the roller with a sawhorse so as to operate or turn on its middle connecting rod or bar, in manner and for the purpose as hereinbefore set forth.

60,372.—**STUMP EXTRACTOR**.—Nathan M. Healy, Flushing, Mich.

I claim the half-fast bars, E', slotted blocks, C', levers, F, and chains, G, in combination with the notched bar, E, cap piece, C, uprights, D, inclined supports, B, and runners, A, arranged and operating substantially as herein shown and described.

60,373.—**WATER WHEEL**.—Samuel Hicks, Orangeville, Ind.

I claim the wheel having an inverted conical head, D, with buckets, E, attached, curved at the lower ends, and secured to a ring or annular bar, F, substantially as described for the purposes specified.

60,374.—**SAWMILL**.—James A. Holford, Guionsville, Ind.

First, I claim the automatic log-setting device consisting of the head blocks, I and K, pinions, o and p, shaft, L, ratchet wheel, r, pawls, r', lever, r'', adjustable rest, t, and incline, S, all constructed substantially as and for the purpose herein shown and described.

Second, I claim the automatic feeding device, consisting of the carriage, H, reversing lever, h, spring, m, and stop levers, h2 and h3, constructed substantially in the manner and for the purpose herein shown and described.

60,375.—**CORN SHELLER**.—Michael and Simeon Housman, Huntington, Ind.

We claim the pin passing through the jaws or blades, and the coiled spring around the same, constructed and arranged as hereinbefore described and substantially set forth.

60,376.—**BALING PRESS**.—Guy D. Howe, Lewisport, Ky.

I claim the movable boxes, C, when used in combination with a suitable press, constructed and operating in the manner and for the purpose herein specified.

60,377.—**STREET LANTERN**.—A. R. and E. A. Hunt, Newark, N. J.

We claim a street lantern having its various side frames, H, and top frames, P, made of cast iron, and constructed and joined together, substantially in the manner and for the purpose described.

60,378.—**STEAM VALVE**.—G. G. Hunt, Bridgeport, Conn.

I claim the arm, G, applied to the valve rod, F, and secured thereto by means of a set screw, g, in connection with the slotted plate, h, attached to the stuffing box, i, substantially as and for the purpose specified.

60,379.—**STEAM PIPE**.—G. A. Jasper, Charlestown, Mass.

I claim the register as a device to be used in combination with a steam apparatus, for the purposes of more efficiently controlling and utilizing the steam, substantially as described.

60,380.—**TOOL FOR CUTTING TUBES**.—John V. Jepson, Brooklyn, N. Y.

I claim the combination of the stationary knife, D, with the adjustable knife, F, and the jaw, A, of the wrench, constructed and arranged substantially as described.

60,381.—**FIRE-PROOF FELT FOR ROOFING AND OTHER PURPOSES**.—Moses A. Johnson, Lowell, Mass.

I claim a felted fabric of hair or other material, covered on one or both of its sides, with paper, and with silicate of soda or soluble glass, and whether painted or otherwise, rendered water-proof or not, as herein described.

60,382.—**DRYING ARTISTS' MATERIALS**.—Gilbert D. Jones, New York City.

I claim the rotating heated drum or cylinder, A, having its periphery partially inclosed by a jacket, C, forming a hot-air passage, a, in connection with a screw, ing knife or trowel, G, and a scraper or discharging knife, H, all arranged to operate in the manner substantially as and for the purpose set forth.

I further claim the roller, F, when used in connection with the heated drum or cylinder, A, and trowel, G, to operate substantially as and for the purpose herein set forth.

60,383.—**BASKET**.—Horace C. Jones, Dowagiac, Mich.

First, I claim the combination of the inside hoop or band, g, with the outside hoop or band, g', in the construction of the stove basket, substantially in the manner described.

Second, The manner herein shown and described, of securing handles, G, G, to the basket.

60,384.—**CAR COUPLING**.—Elias H. Keith, Peoria, Ill.

First, I claim the swinging loop, B, with projections, g, and limited by stops, i and k, as described, and for the purpose set forth.

Second, The combination of the hook, C, crank, D, and rod, d, and reversing bar, a, in mortise, m, or their equivalents, as and for the purpose set forth.

60,385.—**HOMINY MILL**.—Bernard Kemp, Knoxville, Md.

I claim the arrangement of the frame, A, with its case, D, screens, H, coors, F, board, J, fan, C, arms, E, E, and teeth, G, in the manner substantially as and for the purposes herein specified.

60,386.—**WOOL-OILING APPARATUS FOR CARDING ENGINES**.—P. C. Kirk and M. Pendergast, Lawrence, Mass.

First, We claim operating the supply cocks of a wool-oiling apparatus, by the traveling motion of the reservoir, substantially as set forth.

Second, We also claim operating the cocks, i, k, by the pinions, 1, m, and rack, I, substantially in the manner and for the purpose described.

Third, We also claim the pipe, K, with its cock, n, for admitting air into the passage between the cocks, i, k, substantially as set forth.

Fourth, We also claim the agitator or mixer, o, when operated by contact with the pin, p, projecting from the ralling, L, for the purpose set forth.

60,387.—**MACHINE FOR OPENING AND CLEANING COTTON**.—Richard Kitson, Lowell, Mass.

First, I claim the fender, D, arranged beneath the seed rack, substantially in the manner and for the purpose set forth.

Second, Forming the communication between the seed chamber, C, and throat, E, so as to allow the air to pass from the seed chambers to the dust trunk, K, giving vent to the seed chamber, C, and preventing the seed being sucked back again with the cotton, substantially as set forth.

60,388.—**NARROW-WARE LOOMS**.—L. J. Knowles, Warren, Mass.

I claim the combination of the slot, v, or its equivalent, with the mechanism, substantially for operating the lay rack as set forth, such mechanism consisting not only of the link, l, the straps, e, e, and their guide wheels as applied to the lay and its rack, substantially as described, but of the crank, n, the shaft, o, and the bevel gears, t, u, or their mechanical equivalent or equivalent, operated by the crank shaft of the lay.

I also claim the above-described mode of making each of the series of take-up rollers, viz: of two heads a series of annular and cross bars or connectors, as set forth.

I also claim the application of each of the top or pressure rollers to the loom, viz: by means of an inclined hanger, to operate substantially as described.

I also claim the application of one series of take-up rollers to the others series thereof, substantially in the manner as described, that is, by means of the head, c', the journal, a', socket, d', and stud, f, arranged and applied to the two series as set forth.

60,389.—**BABY CHAIR AND TABLE**.—John Kopp, Bridgeport, Conn.

I claim the combination of the reversible chair with the table, when the table is to be used either as a high or a low chair, substantially as herein described.

60,390.—**FIRE SHIELD**.—Joel Lee, Galesburg, Ill.

I claim the arrangement of the pillars, C, C, supports and guides, B, B, chains, d, d, and stay braces, D, B, with the metallic plates, A, substantially in the manner and for the purpose specified.

60,391.—**CHURN**.—George H. Lenher, Richmond, Va. Antedated Nov. 30, 1866.

First, I claim the arrangement of the hollow spindle, L, perforated rotating tube, M, and vertical fixed counter dashers, o, o, constructed and operating in the manner and for the purpose herein specified.

Second, I also claim fastening on the covers of churns by means of hooks on opposite sides of their bodies, and of revolving cams on the edges of the covers, substantially as described.

60,392.—**HARVESTER RAKE**.—Samuel K. Lighter, Hamilton, Ohio. Antedated October 28, 1866.

I claim the arrangement of rake, E, universal joint or ulcrum, F, timber heel, G, fixed cam, H, pitman, J, and guide, K, k, the whole being constructed, combined and adapted to operate in the manner set forth.

60,393.—**BRACES FOR WAGON SPRINGS**.—James H. Lockie, Humphrey, N. Y.

I claim the combination of the short levers, C, the connecting rods, D and F, and the T braces, E and G, with each other and with the reach, A, and box frame, i, of the wagon, substantially as herein shown and described and for the purpose set forth.

60,394.—**MODE OF DISINFECTING NOXIOUS VAPORS FROM RENDERING HOUSES, HOSPITALS, ETC.**—Radcliffe B. Lockwood (assignor to Lockwood & Everett), New York City.

I claim controlling, disinfecting and deodorizing the noxious gases or vapors generated in rendering houses, slaughter houses, hospitals or sewers, by forcing or drawing said gas or vapors from said buildings, houses, or sewers through a superheated, or other furnace, or through a chamber, charged with a disinfecting and deodorizing material, by which said gases or vapors are disorganized and rendered innocuous and inodorous, or are consumed.

60,395.—**PISTON PACKING**.—Barker Lowe, Fall River, Mass.

I claim the rings, a, b, incasing the head and follower, and provided with the flanges, a' b', in combination with the beveled spiral spring, c, constructed as described, substantially as and for the purpose specified.

60,396.—**PROCESS OF DISTILLING PETROLEUM OILS AND OTHER SUBSTANCES**.—Orazio Lugo and T. O. L. Schrader, New York City.

First, We claim the admission of air or gas into the still at a temperature equal to or greater than that of the oil or substance undergoing the distilling process, substantially as herein described.

Second, The heating of the air or gas previous to its admission into the still, by the same means or medium employed for the heating of the still itself, and in such manner that the temperatures of the substance undergoing distillation and that of the air or gas admitted to the still will increase or decrease in or nearly in the same ratio, substantially as herein described.

Third, The utilization of the waste heat from the still by its employment to effect a preparatory heating of the air or gas which is to be admitted into the still, substantially as herein set forth.

Fourth, Causing the air or gas while in the heated state, but before its admission into the still, to pass through or in contact with an oil of suitable character, substantially as herein specified.

60,397.—**PEAT MACHINE**.—James B. Lyons, Cornwall, Conn.

I claim the construction of the molds, c, c, they having racks

b, b, on both sides for the action of the plinons, a, a, to convey them into and through the receiving box, D, as arranged, and operating substantially in the manner and for the purposes herein set forth.

60,398.—APPARATUS FOR GRINDING PEAT.—James B. Lyons, Cornwall, Conn.

I claim the perforated end cylinder, H, in combination with the wiping wings, I, I, cutting and grinding mechanism, F, F, h, operating to discharge the pulverized mass, substantially as and for the purposes herein set forth.

60,399.—MAKING BUTTER FROM CHEESE WHEY.—Homer C. Markham (assignor to himself and Charles G. Riggs), West Turin, N. Y.

I claim the separation of cream or butter from wheys by the means of heat and in the use of an acid liquid, substantially as herein described.

60,400.—FOLDING LOUNGE.—James W. McDonough, Chicago, Ill.

I claim the rails, A, A, of the frame of the folding lounge, constructed and operating substantially in the manner herein described and specified, and the folding head, H, of the lounge constructed and operating substantially as herein described and specified.

60,401.—HEAD BLOCK FOR SAW MILLS.—B. F. McKinley (assignor to himself and H. R. Mathias), Cincinnati, Ohio.

I claim the regulating of the movement of the slide, B, and knee, C, by means of the adjustable head, N, or its equivalent, on bar, L, substantially as and for the purpose specified.

I further claim so adjusting head, N, or its equivalent, on bar, L, as to bring the pivot centers of link, M, and the fulcrum of lever, K, all on line when starting in combination with a similar arrangement of levers or links on head block, A, the centers of which are brought in line in stopping, and the slide, I, pawls, H, H, and rack bar, G, all arranged substantially as and for the purpose set forth.

60,402.—COTTON GIN.—F. M. McMeekin, Morrison's Mills, Florida.

I claim the combination of the roller, C, roller, D, with adjustable bearings, sloped plate, E, reciprocating rake, G, and teeth, F, as described, and brush, I, arranged and operating substantially as and for the purpose specified.

60,403.—KNUCKLE JOINT.—J. H. Mears and C. W. Yale, Oshkosh, Wis.

I claim the pentagonal socket, Fig. 1, in combination with the head, Fig. 2, substantially as set forth.

60,404.—GRINDING MILL.—John M. Miller, Hamilton, Ohio.

I claim the arrangement of the tube, G, blow case, H, and receiving box, K, in combination with the case, E, provided with regulating slide, b, operating substantially as and for the purpose described.

60,405.—SAFE.—L. H. Miller, Baltimore, Md.

First, I claim a burglar proof wall for safe and other similar purposes, of wrought and cast metal, made and held together by secret studs, a, a, all constructed substantially as described.

Second, The studs, a, a, projecting from the inner surface of one of the wrought metal plates, but not extending to the inner surface of a contiguous plate, in combination with a cast metal filling between said plates, substantially as described.

60,406.—TAGS.—Charles A. Moore, West Brook, Conn.

I claim the interposing or placing between metallic fastenings, the thread, tape, or twine, substantially as specified and for the purpose herein set forth.

60,407.—TATTING SHUTTLE WINDER.—James D. Moore, Grinnell, Iowa.

I claim the frame, A, formed of a single piece of metal, and bent into form substantially as described, in combination with the wheel, G, and H, and spool, B, supported in said frame as set forth.

I also claim in combination with said frame the spring, I, which holds the shuttle in its place, and opens the jaws of the shuttle to receive the thread freely, substantially as specified.

60,408.—WATER WHEEL.—Henry G. Nelson, Lockport, N. Y.

First, I claim making the arms of the bridge tree grooved for the purpose of conducting water into the step for lubrication, substantially as described.

Second, The adjustable hub, E, in combination with the hub, D, for the purpose and substantially as described.

Third, A water-wheel bucket having the parts, f, f, f, and f, in combination substantially as set forth.

Fourth, The stationary scrolls, J, and horizontally-moving gates, L, when arranged with a segment ring, N, operating gear and arms, O, and friction rollers, S, as a means of opening and closing the gates, L, substantially as described.

60,409.—OIL CAN.—William C. Newkirk, Piqua, Ohio.

I claim an oil can with a projecting rim around the outside, either at the bottom or above it, forming a channel, substantially as described for the purpose herein set forth.

I claim the extra spout, B, in combination with the said channel, substantially as described.

60,410.—WASHING MACHINE.—L. L. Newman, Jackson, Mich., assignor to himself and A. C. Zearling, Dayton, Ohio.

I claim the combination of the parts, C, C and F, with their several rollers, pieces, D, the shaft and box, A, when arranged and operated substantially as described.

60,411.—PIN FOR ATTACHING WEARING APPAREL.—R. J. Nunn, Savannah, Ga.

I claim a pin consisting of a shank, a disk, ball, oval, or other head, an enlarged portion and a retaining shoulder, substantially as described.

60,412.—DAMPER OR DRAFT REGULATOR FOR STOVES.—Solomon Oppenheimer, Peru, Ind.

I claim the cup, A, constructed as shown, and provided with the discharge cap, E, or its equivalent.

I also claim, in combination with the above, the arm, C, and the handle, D, and the connecting rod.

60,413.—DUMPING WAGON.—J. L. Ordner, Cleveland, Ohio.

I claim the rollers, c, and frame, F, when constructed and arranged in relation to each other as set forth, in combination with the described box, A, provided with fastenings, n, the whole supported upon the bolsters, G, when used conjointly in the manner and for the purpose set forth.

60,414.—CHURN.—V. Palmer, Castalia, Ohio.

I claim the perforated dasher, I, the adjustable wings, I', and checks, d, as arranged in combination with the links, H and G, and the handle, F, in the manner and for the purpose set forth.

60,415.—FARM GATE.—Enos H. Peck, Brownhelm, Ohio.

I claim the cap, d, inclined plane, h, l, and balls, j, k, in combination with the center post, B, brace, C, and counter balance gate, as and for the purpose set forth.

60,416.—LAMP.—John M. Perkins and Mark W. House, Cleveland, Ohio.

First, We claim the combination of the annular reservoir, A, the annular air chamber, D, the burning chamber, B, the supply pipes, F, and vent tubes, V, constructed and arranged substantially as and for the purposes described.

Second, We also claim the collar, C, in combination with the perforated burner, G, when both are so constructed and arranged as to extend the cold air chamber, D, up around the perforated portion of the burner, substantially as shown and described.

60,417.—APPARATUS FOR CHARGING AIR WITH GASOLIN.—Barton Pickering, Milton, Ohio.

First, I claim the tube, O₂, to supply mixed air or gas to the vessel, C, from the vessel, D, connected substantially as described, for the purpose set forth.

Second, I claim the supply tube, O₃, connecting the vessels, C and D, substantially as described and for the purpose set forth.

Third, I claim arranging the supply vessel, C, within the vessel, A, substantially as described.

Fourth, I claim the construction of the generating vessel, D, with the partitions, I, I, bagging or other suitable material on these surfaces, the orifices, k, k, k, giving an alternating direction to each, the air and gasolin, as described and for the purposes set forth.

Fifth, I claim the vessels, A and A₁, vessels, B and B₁, the vessel C, the vessel, D, the tubes, c, f, g, h, n, the stop cocks, o₁ o₂ o₃ o₄, the whole being constructed and combined substantially for the purposes set forth.

60,418.—SEWING MACHINE.—Francis A. Pratt, Hartford, Conn.

I claim the employment of the gib or shoe, d, and cross head, a, with the way, c, substantially as and for the purpose described.

60,419.—STOVE BOILER.—Miles Pratt, Boston, Mass.

I claim the improved boiler as made, with the fire arranged against its sides & rear.

60,420.—WELDING OF IRON AND STEEL.—John P. Price (assignor to Frank K. Hipple), Philadelphia, Pa.

I claim the welding of iron or steel by the aid of kryolite, as set forth.

60,421.—DICE BOX.—Edmund W. Quincy, Lacon, Ill.

I claim the arrangement of the disk, D, and its connection with the spring, E, by means of the piston or rod, C, and the open bottom which enables an easy renewal of the spring when necessary, all as and for the purposes set forth.

60,422.—CULTIVATOR.—Barbery S. Rich, Pennsylvania, N. Y., Administratrix of the Estate of J. C. Rich, deceased.

First, I claim the standard frame, C, provided with the lugs, f, at the top, and the parts, h, l, n, at the bottom, when combined with expanding arms, E, E, of a flexible metallic cultivator, the whole operating substantially as and for the purpose specified.

Second, The gage wheel stirrups, composed of two counterparts, r, r, and provided with the projections, t, t, when combined with the flat side, a, of the cultivator frame, as herein set forth.

60,423.—HYDRANT.—J. P. Riley, Philadelphia, Pa.

First, I claim the hollow plug, H, and shank, h, in combination with the box, G, substantially as described for the purpose specified.

Second, The combination and arrangement of the stock, D, base, B, cap, C, section, A, key, K, and its shield, plug, H, as described, and box, G, substantially as described, as and for the purpose specified.

60,424.—BOTTLE STOPPER.—Daniel T. Robinson (assignor to himself and Nathaniel Jenkins), Boston, Mass.

I claim the improved bottle stopper fastening as composed of the slotted stopper or plug, B, the cammed lever, C, or its equivalent, and the wire, c, the whole being arranged and combined together in manner and to operate as specified.

And in combination with the above described arrangements of parts, I claim the rubber masher or covering, h, essentially in manner and for the purpose as described.

60,425.—MODE OF CONSTRUCTING BUILDINGS.—Frederick O. Rogers, Niles, Mich.

I claim constructing the walls and roofs of wooden buildings, whole or in sections, by the union of two or more series, or layers, of laths or battens, crossing each other transversely, the said walls and roofs, or sections thereof, being united so as to form a structure without the use of additional walls, frame work, or braces, substantially as and for the purpose herein specified.

60,426.—CURTAIN FIXTURE.—Levi Ross (assignor to himself and Oliver K. Phillips), Springfield, Mass. Antedated Nov. 24, 1866.

I claim the mode of hanging window curtains herein described by means of the two rolls, A, B, connected with the curtain by the tapes, E, E, F, F, when combined with the two cords, G, H, and their respective rollers or pulleys, c, d, arranged and operated substantially as herein set forth.

60,427.—HARVESTER.—Nathaniel Rowe, Emmitsburg, Md. Antedated Dec. 4, 1866.

First, I claim arranging the entire gear at the center of the machine and surrounding it with a casing, E, the gearing and casing being constructed and arranged substantially as set forth.

Second, I claim the detachable piece, P, in combination with the shaft, N, and casing, E, when the latter is constructed with a movable cap that covers the gearing on the axle and the pieces, P, substantially as and for the purpose set forth.

Third, I claim attaching the braces of the tongue, T, by a collar, a, flange, E, projecting from and being a part of the casing, E, substantially in the manner set forth.

Fourth, I claim the combination of the driver's seat, V, and springs, V₂, with the standards, U, when the same are permanently attached to and on the opposite side of the axle from the braces of the tongue.

Fifth, I claim the slotted and bifurcated lever, S, when connected with the cutter-bar in front and rear, substantially as and for the purpose set forth.

60,428.—CORSET.—C. D. Rutherford, Brooklyn, N. Y.

I claim a corset made of skeleton or open form, in combination with the net work, F, F, the whole being constructed substantially as herein described and for the purpose specified.

60,429.—OIL CAN.—Stephen Sargent, Lowell, Mass.

I claim the combination of the venting chamber, A, venting tube, C, passage, c, or g, or their equivalent, with the oil can, the whole arranged substantially as and for the purpose set forth.

60,430.—MACHINE FOR CUTTING BUNGS FOR BARRELS.—John George Schmidt, Rochester, N. Y.

I claim adjusting the cutters of a bung cutter by means of the screws, g, springs, f, and pins, k, so as to enable it to cut bungs of different sizes and taper, substantially as described.

60,431.—SKATE.—George Scott and John W. Smith (assignors to themselves and James Smith), Boston, Mass.

We claim, as our invention, the arrangement as well as the combination of the rocker, B, and the two runners, C, C, and the foot rest, A.

We also claim the combination of the foot rest with the inclined toe beak, a, arranged on it, and to operate with the beak, c, when applied thereto, substantially as set forth.

We also claim the mode of applying the heel screw to the skate, viz., by extending it up through the foot rest, and supporting its head in a bearing to extend into the nick of the screw, as described.

60,432.—MAGNET FOR TELEGRAPHS.—Tal. P. Shaffner, Louisville, Ky. Antedated Nov. 25, 1866.

I claim making an electro-magnet of the armature by means of a current induced by the main circuit, substantially as herein set forth, in connection with the electro magnet, A, A, or its equivalent, for telegraphic purposes.

60,433.—SEWING MACHINE.—Isaac Merritt Singer, Yonkers, N. Y.

First, I claim the combination in a sewing machine of the following instrumentalities, viz.: the reciprocating needle carrier

and an oscillating shuttle, having its delivery eye coincident with its center of oscillation, substantially as set forth.

Second, The shuttle oscillating substantially as described, having a delivery eye arranged at one side of the plane of oscillation of the shuttle point, substantially as set forth.

Third, The combination in a sewing machine of the following instrumentalities, viz.: the shuttle, spring holder, and stop for the spring holder, substantially as set forth.

Fourth, The combination in a sewing machine of the following instrumentalities, viz.: the block for holding the shuttle in place at one side, and a shuttle guide for holding the shuttle at its other side, so arranged that it guides the shuttle only when its point is in the vicinity of the needle, leaving it free at other times, substantially as set forth.

Fifth, The combination in a sewing machine of the following instrumentalities, viz.: the oscillating shuttle drivers, reciprocating connecting rod, and spring acting crosswise to said rod, substantially as set forth.

Sixth, The combination in a sewing machine of the following instrumentalities, viz.: the needle, or oscillating shuttle, take-up lever, cam, and spring, substantially as set forth.

Seventh, The combination and arrangement in a sewing machine of the following instrumentalities, viz.: the spool support, thread tension, and three-drawing mechanism, substantially as set forth.

Eighth, The combination in a sewing machine of the following instrumentalities, viz.: the feeding instrument, bar reciprocating crosswise to the movement of said instrument, and turning, slotted, regulating plate, with its slot extended at opposite sides of the center on which it turns, substantially as set forth.

Ninth, The combination in a sewing machine of the following instrumentalities, viz.: the reversing and regulating lever that controls the feed, and two stops, substantially as set forth.

60,434.—BRIDGE.—Frederick H. Smith, Baltimore, Md.

I claim constructing a suspension truss in such a manner that all posts other than the center one, C, shall be supported by bars or braces, one of which, as D₂, extends from the foot of the post, C, to be supported to an end of the straining beam, B, and the other bar or brace, D', supporting said post, C, being in a prolongation of the line of the bar or brace, B, supporting the center post, C, from the opposite end of the straining beam, substantially as described.

60,435.—GATE.—Stephen Spoor, Phelps, N. Y. Antedated Nov. 21, 1866.

I claim the combination with a vertically-revolving roller supporting the upper rail, of a roller support, C, having a horizontal joint and composed of guards, k, k, recessed standards, l, l, and bearings, h, h, socket, b, and conical bearing pin, c, constructed and arranged substantially as shown and described.

60,436.—BREAST PROTECTOR.—John Stadlermann, New York City, and Henry Sauerbier, Newark, N. J.

We claim artificial breasts formed by swaging or striking up, out of one and the same piece of wire gauze or wire cloth, two protuberances of proper dimensions, and having the other portion of the wire gauze or cloth swaged or struck up to conform to the shape of the chest of the wearer, substantially as shown and described.

60,437.—METER FOR GAS AND LIQUIDS.—Homer H. Stuart, Jamaica, N. Y.

I claim, as my invention, rotating the axle of a meter by vanes that are alternately extended and folded or retracted, substantially as described.

And I also claim by this invention to measure a fluid body by passing it transversely through a cylinder or other circular vessel containing vanes revolving in said cylinder or circular vessel, in such a manner that the said vanes, while moving in the direction of flowing body, are radii of a circle as large as the inner surface of the cylinder, and while returning through the lower part of the cylinder to the point where the fluid is received they are folded or retracted so as to be the radii of a circle smaller than the periphery of the cylinder.

60,438.—CHEESE PRESS.—William Thomas and William Rhoades, Mukwonago, Wis.

We claim the combination of the notched levers, I and K, with the pawls, T, T, arms, V, V, bed piece, M, and cross beam, B.

60,439.—STAMP FOR MARKING SHEEP.—Asahel Todd, Pultneyville, N. Y.

I claim an improved article of manufacture, the metallic skeleton marking stamps, constructed as and for the purposes herein shown and described.

60,440.—CUPOLA FURNACE.—Charles Tuedale (assignor to William Resor & Co.), Cincinnati, Ohio.

I claim the provision in a cupola or blast furnace of the several tiers of tweens in an ascending series with diminished issues, substantially as set forth.

60,441.—ELEVATOR.—Otis Tufts, Boston, Mass.

I claim attachment of a suspending rope of an elevator car by means of an intermediate device, f, adjustable with reference to the car or drum, substantially as described.

Also, in combination with an elevator car, its winding drum, and two or more ropes or chains for hoisting or lowering the car, means for relative mechanical manipulative adjustment of the length and tension of said ropes or chains, arranged to operate substantially as described.

Also, in combination with a winding drum of two rope bed curves reversed in position with respect to each other as set forth.

60,442.—ELEVATOR.—Otis Tufts, Boston, Mass.

I claim, for the purpose of automatically adjusting the strain upon the ropes or chains, h, h, the mechanism herein described, when arranged to operate substantially as specified.

60,443.—ELEVATOR GUIDE.—Otis Tufts, Boston, Mass.

I claim combining the suspended car of an elevator with the ways or rails which confine it, by means of guide skirt by springs constantly in contact with said ways or rails, when said guides are so arranged as to be capable of motion toward and from the rails.

Also, combining with the car and rails of an elevator, guide wheels provided with soft-surfaced peripheries, so as to operate as set forth.

Also, combining with the car and rails of an elevator, guide wheels having elastic peripheries, for the purpose specified.

Also, the rails or ways, a, provided with ratchet teeth, b, re-enforced by flanges, c, c.

60,444.—MEANS FOR OILING BODIES ROTATING AROUND SHAFTS.—Otis Tufts, Boston, Mass.

I claim the construction, substantially as shown, of a loose pulley, clutch, or other similar device, or the hub thereof, with a removable head or heads, when the removable head or heads are provided with suitable packing, so as to form a closed cavity for containing lubricant directly around the parts to be lubricated.

Also the oil cups, h, when arranged within the cavity aforesaid, so as to operate as described.

60,445.—CONTINUOUS PERCOLATOR AND FILTERING MACHINE.—P. H. Vander Weyde, Philadelphia, Pa.

I claim, First, The above-described upward-acting percolators, into each of which the liquid enters below the solid material and overflows at the top into the next one.

Second, The placing of them on steps so that the liquid flows from the more exhausted solid material into that which is later added, coming in its course all the time in contact with fresher material.

Third, The manner described of displacing a series of any number of them on the same track by turning the wheels, A, and B, in order to remove only the vessel above containing exhausted solid material, and supplying one with fresh material at the lower end, without interrupting the operation, thus effecting a saving in material as well as of time.

60,446.—COOKING STOVE.—Geo. W. Walker, Boston, Mass.

I claim the construction, substantially as shown and described, by which the space above the ordinary high hearth or ash pit of

the fire box of the common form of cooking stove is utilized for the purpose specified; said construction consisting of the extension of the top and sides of the stove over and to the front of a hearth or ash pit, when provided with doors which inclose the space and retain the heat therein while capable of being opened for the various purposes connected with the utilization of said space.

Also, in combination with such an inclosed space over the aforesaid hearth or ash pit, of the inclosure of the space below the same so as thereby to increase the capacity of the oven of the stove, substantially as described.

An I also claim in a cooking stove the arrangement of the oven with side and front doors and double walls or plates on either side and at the front of the oven between the front and side doors thereof, when the spaces inclosed between said double walls open into the lower flue so as to become charged with heated air and thus heating the oven as well as affording the strength needed in the structure of the stove.

60,447.—CORN PLANTER.—J. C. Walkinshaw (assignor to himself and Jos. W. McGonigle), Leavenworth, Kansas.

First, I claim the arrangement of the cans, b b, on the driving wheels, A A, in combination with the dropping bar, F, the vertical slides, k k, the seed compartments, a a, and the conductors, g g, constructed and operating substantially as and for the purposes herein described.

Second, The lever frame, 11, connected with the plows, h h, for raising and lowering them, constructed and arranged substantially as shown and described herein.

60,448.—TRAVELING-BAG FRAME.—Cornelius and Zachariah Walsh, Newark, N. J., assignors to Cornelius Walsh.

I claim the combination of jaws, A A', with the ends, a, as described, the bar, B, with tenons, c, secured in the jaw, A, all constructed and arranged in the manner and for the purpose herein specified.

60,449.—CULTIVATOR.—William T. Watson, Nottingham, Md.

First, I claim the teeth, C, of a cultivator, when constructed as set forth.

Second, The combination of the frame, A, teeth, C, and metallic sockets, D, when said several parts are respectively constructed and the whole arranged substantially as set forth.

60,450.—TYPE-DRESSING MACHINE.—Patrick Welch, New York City.

First, I claim setting up the types in lines standing upon their feet in the manner described to prepare them to be fed to the machine, substantially as herein set forth.

Second, The combination with a table or bed having a channel for the types formed upon it, substantially as described, of the knives, M M, and feed bar, D, as and for the purpose set forth.

Third, The combination with the knife beds, L L, forming a portion of a channel for the types of an adjustable support, W, substantially as herein set forth.

Fourth, The combination of the knives, N N, with the knives, M M, and feed bar, D, substantially as set forth.

Fifth, The combination of the movable guide, U, and the pusher, V, with the knife beds, L L, forming a channel for the types, and knives, M M, substantially as described.

Sixth, The combination of the feed bar, D, with the frame or pusher, J, the said pusher being operated substantially as described.

Seventh, The combination of the stop, u, with the feed bar, D, and pusher, t, substantially as herein set forth.

Eighth, The combination with the movable guide, U, and pusher, V, of the yielding guard, y, and adjustable guard, u', substantially as set forth.

Ninth, The combination with the puncher, V, and adjustable guard, u', of the stop or holder, t', substantially as herein described.

60,451.—LATHIE CARRIER FOR DOG.—L. P. Wilcox, Brooklyn, N. Y.

I claim the saddle or supplementary block, B, constructed and fitted to the carrier, substantially as herein set forth for the purpose specified.

60,452.—LANTERN.—Samuel R. Wilnot, Bridgeport, Ct.

I claim the construction of the base of the lantern with an internal reservoir and with cavities, a, on opposite sides of the said reservoir for the reception and manipulation of the spring catches, n, by which the base is attached to the body of the lantern, substantially as herein set forth for the purpose specified.

60,453.—STOVEPIPE ELBOW.—James Wilson, Wilmington, Del.

First, I claim an improved stovepipe elbow formed by combining the door frame and door, C D, the plates A and B, and the part, E, with each other, substantially as described and for the purpose set forth.

Second, The combination of the sliding damper, F, with the elbow, substantially as described and for the purpose set forth.

60,454.—PADLOCK.—John E. Wootten, Cresson, Pa.

First, The combination of the case, A, cylinder, B, and its arm, C, with the hasp, E, and the catch on the end of the same adapted to a catch on the end of the arm, C, the whole being arranged and operating substantially as and for the purpose herein set forth.

Second, The combination of the cylinder, B, circular tumblers and their projections, the hollow cylinder, h, and the cylinder, H, with its wards, the whole being arranged and adapted to the casing, A, substantially as and for the purpose herein described.

60,455.—HYDROCARBON BURNER FOR HEATING PURPOSES.—James Youmans and John Reed, Davenport, Iowa.

We claim a gas generator constructed with a chamber, C, divided by a partition, D, into two compartments, E and F, and having: so a pipe, I, burners, L, disk, m, and stem, N, said several parts being respectively connected and arranged in relation one to another substantially as set forth.

63,456.—SELF-REGULATING TENSION FOR SEWING MACHINES, ETC.—Theodore Zinck (assignor to himself and F. W. Kalbfleisch), New York City.

I claim the arm, C, in combination with the friction spring, B, and bobbin, A, constructed and operating substantially as and for the purpose described.

REISSUES.

2,414.—MACHINE FOR PULVERIZING CLAY.—George F. Blake and P. Hubbell (assignees of George F. Blake), Boston, Mass. Patented November 26, 1863.

First, We claim, in combination with a machine for cleaning and pulverizing clay or other plastic material, the reciprocating wipe or plunger, W, constructed and operating substantially as described.

Second, The revolving grate, constructed and operating as described.

Third, The stationary fingers, w, constructed, arranged and operating as set forth.

Fourth, The arrangement for conjoint operation of the inclined blades or sweeps, G, with the horizontal grate, G', in the manner described.

Fifth, We claim the arrangement for conjoint operation of reciprocating, oscillating, or rotating wipes, blades or sweeps, with rotating or stationary screens or gratings, substantially in the manner and for the purpose set forth.

2,415.—CARPET LINING.—George W. Chipman (assignee by mesne assignments of John R. Harrington), Boston, Mass. Patented April 1, 1856.

I claim, as a new article of manufacture, a carpet lining made up of a long or continuous sheet or sheets of stout paper, and a layer or layers of fibrous material applied thereto, substantially as set forth.

2,416.—MACHINE FOR MAKING CARPET LINING.—George W. Chipman (assignee by mesne assignments of John R. Harrington), Boston, Mass. Patented April 1, 1856.

I claim the process of making a carpet lining by progressively bringing into contact a sheet of sheets of stout paper, and a sheet or sheets of batting or soft fibrous material so that upon contact of the contiguous surfaces they shall be caused to adhere together, substantially as described.

Also, in combination with a roll or rolls upon which the sheet or sheets of paper are wound, feed and presser rollers, operating to compress together and feed the paper and batting, substantially as set forth.

Also, in combination with the paper roll or rolls and feeding and compressing rolls, a paste or cement-applying mechanism, operating substantially as described.

Also, in combination with a wadding-forming apparatus, creasing or fold-forming rolls, operating as and for the purpose substantially as set forth.

Also, in combination with such fold-forming mechanism, the box or platform into which the wadding is delivered in folds, and from which it is removed for baling by letting down the fall, substantially as described.

2,417.—HOOP LOCK FOR COTTON BALES.—E. Victor Fassman, New Orleans, La. Patented April 18, 1865.

I claim the plate provided with slots, when the same is constructed with ridges or projections on both sides of the plate, substantially as set forth.

2,418.—TANNING.—Sanford A. Hickel, Roane County, W. Va., Calvin, James, and Benj. F. Armstrong, Jackson Court House, West Va., assignees of Sanford A. Hickel. Patented November 7, 1865.

We claim the employment or use of manure, in combination with bark or other tanning material, substantially as and for the purpose set forth.

DESIGNS.

2,523.—PICTURE FRAME.—John H. Bellamy, Charlestown, Mass.

2,524.—BRACKET.—John H. Bellamy, Charlestown, Mass.

2,525 and 2,526.—CLOCK CASE.—William A. Giles, Chicago, Ill. Two Cases.

2,527.—TRADE MARK.—Daniel B. Kimball, New York City.

2,528.—SHAFTING HANGER.—C. C. Klein (assignor to Thomas Wood), Philadelphia, Pa.

2,529.—BUGGY.—John Reynolds, Washington, D. C.

Inventions Patented in England by Americans.

[Condensed from the "Journal of the Commissioners of Patents."] PROVISIONAL PROTECTION FOR SIX MONTHS.

2,187.—BRECK-LOADING FIRE ARM.—Thomas J. Vail, Hartford, Conn. Aug. 25, 1866.

2,470.—COMPOSITION AND PRODUCTION OF ARTIFICIAL STONE CEMENT, ETC.—George E. Vanderburg, New York City. Sept. 23, 1866.

2,517.—APPARATUS FOR FITTING GARMENTS.—Silas O. Brigham, San Francisco, Cal. Sept. 28, 1866.

2,475.—CONSTRUCTION OF LAMPS FOR BURNING VOLATILE OILS OR SPIRITS, ETC.—Philip Lichtens Nax, New York City. Oct. 6, 1866.

2,681.—MEANS FOR PREVENTING, INDICATING, AND CORRECTING AN UNDEGREE OF SUPERHEATING OF STEAM IN STEAM ENGINES, ETC.—Norman Wiard, residing at present in New York City. Oct. 17, 1866.

2,718.—SEWING MACHINERY.—Lewis B. Bruen, New York City. Oct. 20, 1866.

2,739.—MACHINERY FOR MANUFACTURING CARTRIDGES.—Timothy J. Powers, New York City. Oct. 23, 1866.

2,740.—SEWING MACHINE.—Henry W. Fuller, New York City. Oct. 23, 1866.

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