

doors Q at opposite ends, sliding doors Q₁ and the feed aperture o arranged on opposite side of the central slotted platform. 5th. The detachable water and feed buckets P hinged to plates P₁ provided with parallel rods Q Q₁. 6th. The hinged shutters I provided with the eyes i and hooked rods or arms k for connecting them into feed racks. 7th. The dogs H arranged near the bottom of the car sectional doors B B₁ provided with windows or apertures C in their upper part or section, hinged shutters I and upper floor or horizontal partition D provided with the apertures o, whereby a current of air may be maintained, for ventilating purposes in the lower compartment of the car. 8th. The device for coupling and tightening the stall chains or cords F F₁ composed of a long link b, bent lever c, connecting link d and sliding locking ring e. 9th. A convertible freight car containing an upper and lower story or compartment, said upper compartment being provided with longitudinal water tanks, arranged parallel to one another on opposite sides of the car, and with apertures or openings for feeding hay and other fodder from the upper to the lower story, and the lower story or compartment adapted to be transformed into a series of stalls, fitted with detachable buckets and convertible fodder racks, whereby the car is adapted to be used either as a box car, or as a car for the transportation of live stock.

No. 12,727. Improvements on Coal Stoves.
(*Perfectionnements aux poêles à charbon.*)

The Ranson Stove Works, Albany, (Assignee of Charles A. Hamlin, Greenbush,) N. Y., 3rd May, 1881; for 5 years.

Claim.—1st. A stove for burning bituminous fuel, by igniting and cooking it in one inclosure, and further burning it in the form of gas in a connected adjacent flame chamber, a fuel chamber constructed with oppositely arranged ingress and egress draught openings near its base for limiting the direction of the draught currents to a horizontal passage, in combination with an imperforate bottom plate for supporting the fuel, and an air opening formed at the bottom of the flame chamber for the admission of air into the flame and gases, as they pass from the retorting chamber into the flame chamber. 2nd. An igniting and retorting fuel chamber arranged to utilize an enforced horizontal draught, by means of ingress and egress draft openings formed oppositely in the base of said chamber with the latter connecting by means of its egress openings with an adjacent flame chamber, in combination with a direct draft opening, provided with a damper and connecting the retorting chamber directly with the exit flue for kindling the fire at the base of the retorting chamber, and an ascending flue or flues arranged between the retorting chamber and the shell of the stove connecting the flame chamber with the exit flue, when the direct draught opening from the retorting chamber is closed. 3rd. The combination, with an ignition and retorting fuel chamber, constructed to be operated by an enforced horizontal draught current, by means of ingress and egress draft openings, arranged oppositely at or near the base of said chamber, and an adjacent flame chamber connecting with the retorting chamber, by means of the egress draught opening formed in the latter, and provided at its bottom with an inclined deflecting plate for deflecting the flame and gases issuing from the flame passage upward and forward, of an air opening, formed in or near the bottom of the flame passage, for the admission of air into the gases and flame, when passing from the retorting chamber, where they are evolved to the flame chamber where they are burned more perfectly. 4th. The combination of the ignition and retorting chamber C adapted by means of oppositely arranged ingress and egress draught openings C₁ U, to utilize and enforce horizontal draught current with an adjacent flame chamber D connecting with the chamber C, by means of the egress draught opening C₂ and containing the inclined deflecting plate G, whereby the flame emitted from the opening C₁ is deflecting upward and forward.

No. 12,728. Improvements on Car Door Hangers.
(*Perfectionnements aux pentures des portes de chars.*)

Elias E. Pratt, Norwood, Mass., U. S., 3rd May, 1881; for 5 years.

Claim.—1st. In a runlet for car doors, the improved lug described, the same consisting of the sides E F, plates d d₁ and brackets a a. 2nd. The improved lug in combination with the rails m m. 3rd. The improved runlet consisting of the lug E F d d₁ a a, rails m m, top B and sides C.

No. 12,729. Combined Steam Engine, Traction Engine, Land Roller, Plough, Seed Drill and Harrow.
(*Machine à vapeur, machine de traction, rouleau d'agriculture, charrue, herse et semoir-traceur, combinés.*)

William Stephenson, Jordan, Ont., 3rd May, 1881; for 5 years.

Claim.—1st. The construction of the vertical portion of the boiler B made funnel shaped, or tapering at the bottom. 2nd. In combination with a boiler, the two fans G G₁ or a double fan. 3rd. In combination with the fans G G₁, the sharp pointed tongue G₂ in each of the fans to render them noiseless. 4th. In combination with a boiler, a steam tight jacket K with an exhaust steam space D between it and the boiler. 5th. In combination with a boiler, the pipe I with holes a opposite each alternate space between the grate bars. 6th. In combination with the funnel-shaped bottom of boiler, the partitions g h m n. 7th. In combination with a boiler, the holes E, return flue F, fan G, flues H H₁, opening O and exit flue J. 8th. The combined wheels and land rollers, consisting of the construction of the wheels P P Q Q₁ boiler plate a₁, angle irons c₁, double hubs with two rows of spokes, spikes e passing through boiler plate and angle irons, and secured by nuts s. 9th. The rear roller C₁, the same being provided with spikes, and adjustable movable axle bearing f at one end to steer the rear end of gang ploughs. 10th. A series of adjustable ploughs U placed abreast in the frame R and provided with adjustable apparatus for driving them, and raising and lowering them, each plough so constructed and arranged that it adapts itself to the lay of the uneven ground independently, the said ploughs provided also with very short land sides w extending only as far back as the wing of the share, so as to allow the ploughs to work in such a manner, that one furrow turning over will not interfere, with the plough next to it. 11th. A device for raising and lowering the ploughs consisting of the roller Z, lever e, slotted projections b, and plough beam bars c sliding in the latter, or the equivalent thereof. 12th. In combination

with the gang plough, the supporting bar t held and working in the grooved plate V so as to hold the rear end of plough and allow of sufficient play to the plough as it adjusts itself to the uneven surface of the ground. 13th. The drill D₁ in combination with the boiler and engine gang ploughs and rollers. 14th. The harrow constructed with a series of knife-shaped teeth n, the front half of which being set at an angle of 45°, and the last or rear half upright. 15th. The combination of the fan blast, boiler and engine, seed drill, combined wheels and land rollers, adjustable gang ploughs and rear roller, with devices raising and lowering ploughs and steering them, forming a combined machine for seeding, ploughing and rolling prairie land at one operation. 16th. The combination of a harrow and fan blast, boiler and engine when the plough U and frame R are removed.

No. 12,730. Improvements on Mechanical Musical Instruments.
(*Perfectionnements aux instruments de musique mécaniques.*)

George B. Kelley, Boston, Mass., U. S., 3rd May, 1881; for 5 years.

Claim.—1st. The combination of the feeders and bellows with the reed chest situated in the said bellows, and with a perforated sheet. 2nd. The combination of the crank shaft A₁ having cranks B₁ C₁, connecting rods D₁ pivoted to the links G₁ or projections thereof, with feeders and bellows. 3rd. The combination of the feeders and bellows with reed chest situated in said bellows. 4th. The combination of an upright bellows, a reed chest situated in direct connection with the opening or air passage of said bellows, and feeders attached on the sides of said bellows. 5th. The combination of the bellows, feeders and links G₁ with an operating device for moving said links. 6th. The combination of an upright bellows and feeders with a reed chest. 7th. The combination of the movable damper or valve D₂ arranged to operate as a pressure bar or binder upon the sheet E₂ and to close the reed passages. 8th. In the outer casing, the construction and arrangement of pivoted boards G₅ operated by a treadle or similar operating device.

No. 12,731. Improvements on Farm Gates.
(*Perfectionnements aux barrières.*)

Edwin J. Hart and Walter L. Graham, Butler, Pa., U. S., 3rd May, 1881; for 5 years.

Claim.—The combination of the gate, the posts upon which the gate is hung, and against which it closes, and the bar F to which the lower hinge of the gate is secured at one end, and which bar is inserted between the two lower panels of the gate, but not fastened to or connected with the gate, and which is provided with a stop to limit the downward movement of the gate.

No. 12,732. Improvements on Stock Cars.
(*Perfectionnements aux chars à bestiaux.*)

William S. Hunter and Thomas Fuller, Belleville, Ont., 3rd May, 1881; for 5 years.

Claim.—The combination of the chain D, rods F, folding partitions G and chains I.

No. 12,733. Improvements on Cooking and Heating Stoves.
(*Perfectionnements aux poêles de cuisine et de chauffage.*)

Henry A. Brognard, Philadelphia, (Assignee of J. H. Irwin, Morton,) Pa., U. S., 3rd May, 1881; for 5 years.

Claim.—1st. A lamp having a burner B provided with a slotted cone, and an air chamber F which delivers air beneath said cone only, and an air conduit or tube to convey the air to said chamber, combined with a surmounting frame E having one or more holes for the reception of cooking utensils, whereby a lamp stove is constituted. 2nd. A lamp having a burner B provided with a slotted cone and an air chamber F which delivers air beneath said cone only, and a surmounting frame E provided with holes for the reception of cooking utensils, combined with air conduits or tubes extending from said chamber to the vicinity of the outlet of said chimney. 3rd. A stove for heating and cooking purposes having a top provided with one or more holes for the reception of cooking utensils, combined with one or more burners and chimneys, and an air chamber F below the slotted cones of said burners, and which delivers air to the flame only, air conduits or tubes and devices for injecting and ejecting air into said air chamber and out from said chimney, respectively. 4th. A stove for heating and cooking purposes with a top provided with one or more holes for the reception of cooking utensils, combined with burner B and chimney D, and with the air chamber F and air conduits or tubes provided with injectors and ejectors, to inject air into the conduit and eject air from the chimney respectively. 5th. A stove for heating and cooking purposes having a chamber H at the top provided with holes for the reception of cooking utensils, and holes e armed with injecting and ejecting devices around their edges, combined with the burner B with its chimney D and with the air chamber F, and air tube or tubes G connecting said air chamber with the chamber H. 6th. In a stove for heating or cooking purposes, a chamber H at the top having holes for reception of cooking utensils, and burner B below said chamber combined with the chimney D having the jacket d, whereby said chimney is suspended and inclosed, so that heat radiated from the wall of said chimney is saved. 7th. In a stove for heating or cooking purposes a chamber H at the top having holes for the reception of cooking utensils, and burners B below said chamber combined with chimney D and jacket d, whereby said chimney is suspended from above the burner cone b and disconnected therefrom. 8th. In a stove for heating or cooking purposes, a chamber H at the top, having holes for the reception of cooking utensils, and burner or burners B below said chamber, combined with chimney or chimneys D suspended from above the burner cone b and disconnected therefrom.

No. 12,734. Improvements on Plough Coulters.
(*Perfectionnements aux coutres des charrues.*)

Peter Donnelly and Frederick Gardiner, Oshawa, Ont., 3rd May, 1881; for 5 years.

Claim.—The combination of the movable cutting blade D with the stem