the side walls, and constructed to break joints at the ends, to form a continuous flue passage under, around one end of, and over each pan, the ingress opening I, heating chamber N and egress opening J. 3rd, In the combination and arrangement of a draw pan enclosure K, ice chamber L and cold air flue O N, so as to form beneath and adjoining the ice box, and surround on four sides, the refrigerating chamber M, (provided with a door opening exteriorly) the contents of which chamber are cut off from atmospheric connection with any of the compartments or enclosures surrounding it. 4th. In an enclosure for regulating the temperature of milk for dairy purposes, and in combination, a movable pan A, pan carrying frame D P Q provided at their ends D, with plate gears *d* attached to the upper surfaces thereof, and the superimposed engaging pinions C within the inclosure, and connected by a crank shaft F, for the purpose of moving the pans out and in the inclosure with a steady uniform motion, and preventing them from tipping or falling when moved without the inclosure, the pan frames being supported by suitable cleats and not by the plate gears. 5th. In combination, two or more draw pans A, corresponding aperatures in one of the vertical walls of the inclosure, for the passage out and in of pans, pan carrying frames D, provided with front and rear sides or doors Q and P, adapted to close said apertures, plate gears *d*, and engaging pinions C, connected by a crank shaft F, and refrigerating chamber L, with flue O, for the purpose of moving the pans out of the inclosure, and at the same time preventing the escape from the inclosure, while one or more of the pans are out of the cold air currents, coming from the refrigerating chamber, when so combined. 6th. In an inclosure K, for regulating the temperature of milk for dairy purposes, a pan A, adapted to be moved out and in the inclosure upon a carrying frame provided at its ends D with plate gears *d*, and engaging pinions C connected by a crank shaft F, in combination with sliding strips *s* which support the frame and plate gears, for the purpose of easily and steadily moving the pan wholly out and in the inclosure, and at the same time maintaining the pan, in a horizontal position when out of the inclosure. 7th. In a draw pan inclosure or bureau K, for regulating the temperature of substances, a pan A provided with a carrying frame having end pieces D with notches *n* in their lower sides, in combination with sliding strips *s* provided with dogs *o* adapted to fit into said notches *n*, for the purpose of compelling the strips *s* to accompany the pan during the first part of its movement outward, when moved out of the inclosure. 8th. In an inclosure or bureau K, the dogs *o* attached to sliding stripe *s*, in combination with notches *n* in movable frames D, and with notches *m* in stationary cleats E, the dogs fitting and entering said notches alternately. 9th. In an inclosure for regulating the temperature of substances and in combination, a pan A provided with a carrying frame, having notched end pieces D with plate gears *d*, engaging pinions C and crank shaft F, stationary notched supports E, sliding strips *s* provided with dogs *o*, and stops *p* tipped by stationary cleats *t*. 10th. A sliding frame V, provided with slats W, crank shaft Y, connecting rod *b*, in combination with ventilating openings *x*, in the side or sides of an inclosure K containing pans A, arranged one above the other, with an air space between, and the pans adapted to be moved out and in the inclosure.

No. 12,931. Improvements in Hay Presses.

(*Perfectionnements aux presses à foin.*)

Elouild Duplessis, St. John, Que., 10th June, 1881; for 5 years.

Claim.—1st. The shoe E with shoulders E^1 E_1, in combination with the main toggle lever and brace, and pendants connecting these and serving to form a double truss. 2nd. In a vertical hay press, the toggle lever formed with a brace joined to it at the head, and connected at its outer end by a cross piece or pieces. 3rd. A toggle lever having the outer gear teeth in its head with their outer faces bevelled or curved. 4th. In a vertical hay press, the expansion panel N of the bale chamber arranged to yield at its lower side. 5th. The top bars or clamps C, operated by toggle lever R S and having Clips Q Q running on ridges or rods formed on angle plates P P.

No. 12,932. Improvements on Sap Evaporators. (*Perfectionnements aux évaporateurs à sève.*)

George Cutter, Sutton, Que., 10th June, 1881; for 5 years.

Claim—1st. In combination with a furnace block A having a smoke chamber F and chimney E, over the front wall, the evaporating pan G having internal smoke flues O, passing through the bottom of the pan near the end farthest from the fire, and connecting with smoke chamber F through the front end of the pan. 2nd. An evaporating pan composed of transverse section I and longitudinal sections M, the latter containing smoke flues O. 3rd. In a removable evaporating pan G, provided with internal smoke pipes O passing through the bottom and end of the pan combined with a furnace block A, of which the pan forms the top, having the smoke stack located in front of the fire chamber.

No. 12,933. Improvements in Hydrocarbon Furnaces. (*Perfectionnements aux foyers à hydrocarbures.*)

Joshua W. Houchin and Joshua R. Houchin, Brooklon, N. Y., U. S., 10th June, 1881; for 5 years.

Claim.—1st. In a boiler furnace provided with one or more chambers having attached to them a series of perforated distributing pipes arranged in a plane parallel with the grate surface, the combination of the series of separate gas jet tubes D having air channels *d*, the grate plate C having perforations *c*, and the series of air valves E having their seats in the perforations *c*, the tubes D being placed on the grate plate C side by side, one above each perforation of the distributing pipes, with their air channels *d*, one above each channel *c* and its subjacent valve E. 2nd. In the boiler furnace, the combination of the gas chamber N and the steam chamber O, provided with their respective perforated distributing pipes *n o* arranged alternately in the same plane parallel with the grate surface, with a series of gas jet tubes placed above each pair *o n* of the said gas and steam pipes, and provided with valved air channels adjacent to said perforations and pair of pipes, for the purpose of commingling the gases at or about the points of ignition. 3rd. A fire grate for gaseous fuel consisting of the combination of the perforated plate C, the pipes *b* (or *n o*, the gas jet tubes D, having air channels *d* and the fire clay filling G. 4th. The combination, with the perforated grate plate C, tubes D and pipes *b*, or *n o*, of the series of air valves E attached to a common supporting bar H operated by suitable levers *i* I K, to raise and lower the said valves uniformly and simultaneously. 5th. The combination of the side bars H of the lateral series of valves E having their bell cranks I secured upon the rock shaft J, and operated by the lever K, with the intermediate bars H of the central series of valves E having their bell cranks I fitted to turn loosely upon the said shaft J, and operated by the lever M, for the purpose of regulating the air supply to the sides and to the middle part of the furnace, separately or simultaneously. 6th. The gas jet tubes D having rectangular base flanges *d*1 of uniform size, to adapt them to being brought in proper position relatively to the gas and air openings in the pipes *b* and grate plate C, by simply placing them side by side. 7th. The tubes D provided with rectangular base flanges *d*1 having shoulders *d*2 of equal height, at opposite sides of the tube, in combination with the bars F, bolts *f* and grate plate C, for securing the tubes D to the said plate C.

No. 12,934. Improvement on Mechanism for Operating Valves. (*Perfectionnement dans le mécanisme des soupapes.*)

The Hancock Inspirator Company, (Assignee of William R. Park), Boston, Mass. U. S., 10th June, 1881; for 5 years.

Claim.—1st. The combination, with the valve stem F provided with a screw thread I, of the nut K, sleeve N and lever M. 2nd. The combination of the adjustable pin P, lever M, slotted arm O and valve stem F. 3rd. The combination, with a valve stem and nut operating one or more valves, of an actuating lever and sleeve and an adjustable pin.

No. 12,935. Improvements on Middlings Purifiers. (*Perfectionnements aux épurateurs des gruaux.*)

John Stevens and John R. Davies, jr., Neenah, Wis., (Assignee of Wm. Doulon, Minneapolis, Min.), U.S., 10th June, 1881; for 5 years.

Claim.—1st. The combination of a hopper provided with a discharging mechanism, and a float connected with said discharging mechanism, and suspended within said hopper, and adapted to vary its position with the varying quantity of material in the hopper, for the purpose of regulating the feed in accordance with the supply to the hopper. 2nd. The combination, with middlings purifiers and similar machines, of a V-shaped float A, having an exit slot *e* in its lower edge, and so connected to the feeding apparatus that an increased flow of chop or middlings into the machine will depress the float and raise the exit slide. 3rd. The combination and arrangement of the float A, spring *d*, arms B B, segments a_1 a_2, racks b_1 b_2 and slide *c*.

No. 12,936. Improvements on Devices for Swaging Screw Threads on Eye Bolts. (*Perfectionnements aux machines à fileter les boulons à goupille.*)

Thomas Burke, Portsmouth, Va., U·S., 10th June 1881; for 5 years.

Claim.—Jointly with the dies, the groove *g*, the open under box or sleeve L and the broad plain and parallel faced side walls or branches *b*, in virtue of which obstruction of the dies by scale is prevented, the hammer die is accurately guided in its movements.

No. 12,937. Improvements on Railway Cars. (*Perfectionnements aux chars des railroutes.*)

Jacob Johnson, Newburyport, Mass., U.S., 10th June, 1881; for 5 years.

Claim.—1st. The combination, with the car body and two main seats A A^1 thereof, of the two movable auxiliary seats in manner as represented and provided with means of supporting them in position. 2nd. The combination of the main seat A and its supporting frame E with the auxiliary seat F adapted to the said frame, so as to be supported thereby and be capable of being turned into it beneath the main seat or out of such frame, into or about into level with such main seat. 3rd. The combination of the two next contiguous main seats A A^1 and their supporting main frames E E^1 with two auxiliary seats F F connected with and adapted to the said frames, so as to be capable of being moved into such and underneath the seats, or out of such frames and into, or about into level with and between the said seats, and close together. 4th. The combination, with the main seat A and its supporting frame E and the ledge or shaft *b*, of bearing at the side of the car, the auxiliary seat F adapted to the frame, so as to be capable of being turned into and out of such frame, and moved laterally on and off the ledge or bearing. 5th. The combination of the connection links I with the seat supporting frame E and the back G, and its radial arms H, such arms being adapted to the links, and the latter to the frame, essentially in manner as explained. 6th. The combination of the leg C and its carrier *d*, connected with each other and one of the auxiliary seats with the main and auxiliary seats A A^1 F F^1 combined, and to operate with the seat frames E E^1. 7th. The curtain supporter consisting of the two main sections K L and the hanger M, provided with hooks and connected as set forth. 8th. The curtain supporter, the hooked hanger M in combination with two sections K L as composed, not only of two or more rods linked together, but of a covering sleeve to each connection or joint, such sleeve being to slide on the rods, and on and off their connections or joint link R.

No. 12,938. Improvements on Hydro-Carbon Furnaces. (*Perfectionnements aux foyers à hydro-carbures.*)

Joshua W. Houchin and Joshua R. Houchin, Brooklyn, N. Y., U. S., 10th June, 1881; for 5 years.

Claim.—1st. The combination, with a furnace A, of one or more revolving fans I discharging into the said furnace, and one or more pipes R supplying liquid hydro-carbon to or into the outlet of the said fan or fans. 2nd. The air flue F continuous from the front of the boiler to the rear of, and in proximity to the furnace, in combination with the laterally opposite fans I secured upon a common shaft J revolving in the said flue F, and having their outlets N into the furnace, the liquid fuel supply pipes P R discharging at or into the outlets N of the said fans I, and the inclined fire bridge O. 3rd. The valve E arranged upon the inlet drum D, in front of the boiler, in combination with the flue F, fan I, pipes R and furnace A.