

No. 24,667. Engineer's Brake Valve.*(Valve à Frein à Air.)*

Frederick A. McArthur, Detroit Mich., U.S., 7th August, 1886: 5 years.

Claim.—1st. In a three way cock valve, for the purposes described, the cock II provided with minor ports which form an air passage through the cock controlled by a differential pressure valve placed within the body of the cock, in combination with two of the main ports of the valve shell, substantially as and for the purposes described. 2nd. In a three-way valve, for the purposes described, the cock II having the chamber O, with the valve seat e formed in its body, and two ports d, e, one entering above and one below the valve seat, in combination with the spring puppet valve P, substantially as and for the purposes described. 3rd. In a three-way valve, for the purposes described, the cock II having minor ports which form a differential pressure passage through the valve, substantially as described, in combination with the brake handle J, friction spring M and index flange N, the latter provided with the off-set or shoulder J, which forms a stop for the brake handle, thereby indicating the position in which communication through the valve is established by the minor ports in the cock, substantially as described. 4th. In an engineer's brake valve for automatic air-brakes, a three-way cock valve having the ports C, B, D and I, K, by means of which the flow of air from the main reservoir into the brake-pipe, and from the brake-pipe to the atmosphere is regulated, in combination with minor ports g, h, forming a differential air-pressure passage through the cock from the reservoir to the brake-pipe, substantially as described. 5th. In an engineer's brake-valve for automatic air-brakes, the combination of a three-way cock valve, having the usual ports for connecting the main reservoir with the brake-pipe, and the brake-pipe with the atmosphere, and a minor passage through its cock by means of which a differential air pressure passage between the reservoir and the brake-pipe is established, and the index flange N having stops i, t and z, by means of which the positions of the lever are defined, substantially as described.

No. 24,668. Process of, and Apparatus for, Manufacturing Heating and Illuminating Gas. *(Procédé et Appareil de Production du Gaz de Chauffage et d'Eclairage.)*

James Roberts, New York, N. Y., U.S., 7th August, 1886: 5 years.

Claim.—1st. The herein described process of manufacturing heating, or illuminating gas from water and hydro-carbon oils, which consists in passing said water and oil separately through heated pipes of increasing diameters, and thus subjecting the vapor therein formed to continuous and increasing expansion until said fluids are separately converted into gases, then combining said gases in a common heated mixing chamber, thereby forming a fixed gas. 2nd. In an apparatus for manufacturing heating or illuminating gas from water and hydro-carbon oils, the combination of a heating chamber, water and supply pipes, two or more series of longitudinal pipes of differing diameters for converting the water and hydro-carbon oil into gases, and a mixing chamber or receptacle, substantially as described. 3rd. In an apparatus for manufacturing heating or illuminating gas from water and hydro-carbon oils, the combination of a heating chamber, water and oil supply pipes having suitable cocks to regulate the flow of the fluids therethrough, two or more series of longitudinal pipes of differing diameters for converting the water and oils into gases, a mixing chamber and a burner for supplying the necessary heat, substantially as described. 4th. In an apparatus for manufacturing heating or illuminating gas from water and hydro-carbon oils, the combination of a heating chamber, water and oil supply pipes, two or more series of longitudinal pipes of differing diameters, and having an upward and forward downward incline for converting the water and hydro-carbon oil into gases, a mixing chamber or receptacle, and a burner having an air ingress in its front portion, substantially as described. 5th. In an apparatus for manufacturing heating and illuminating gases from water and hydro-carbon oils, the combination of a heating chamber, water and oil supply pipes having suitable cocks and gauges to regulate and indicate the flow of the liquids therethrough, two or more series of longitudinal pipes of differing diameters for converting the water and oils into gases, uniting in a mixing chamber, said series of pipes being arranged above a burner at suitable angles, substantially as described. 6th. In an apparatus for manufacturing heating and illuminating gases from water and hydro-carbon oils, the combination of a heating chamber, water and oil supply pipes 11, 11, having valves 12 and gauges 16 for regulating and indicating the flow therethrough, two or more series of pipes 9 and 6 of differing diameters, and downward incline, for converting the water and oil into gases, a common mixing chamber and a burner having apertures 2, 2, substantially as described. 7th. In an apparatus for manufacturing gas from water and hydro-carbon oils, the combination of a heating chamber, two series of longitudinal pipes 9 and 6 of differing diameters, for converting the water and hydro-carbon oil into gases, two sets of oil and water-feeding pipes 11 and 16, the oil pipes 11 having extensions 17, which pass partially through each of said series of longitudinal pipes, and are of corresponding increasing diameters therewith, and a mixing chamber C, substantially as described. 8th. In an apparatus for manufacturing gas from water and hydro-carbon oils, the combination of a heating chamber, two series of longitudinal pipes 9 and 6 of differing diameters, for converting the water and hydro-carbon oil into gases, two sets of oil and water feeding pipes 11 and 16, the oil pipes 11 having extensions 17 which pass partially through each of said series of longitudinal pipes and are of corresponding increasing diameter therewith, a mixing chamber C, a burner I, and air feeding pipes provided with suitable apertures adjacent to the said burner I, substantially as described.

No. 24,669. Machine for Cleaning Wheat.*(Machine à Nettoyer le Blé.)*

Hiram J. Livergood, Brantford, Ont., 7th August, 1886: 5 years.

Claim.—1st. In a wheat separating and scouring machine, the combination of frame A, its caps and a bearing for one end of fan shaft, with the fan shaft 2 and the long metal box X forming the journal bearing for the other end of said fan shaft, substantially as described. 2nd. In a wheat separating and scouring machine, the combination, with suction separator II provided with a hopper in which are placed a rotary brush cylinder M and the roughened plate R, substantially as and for the purpose specified. 3rd. The combination, in a wheat separating and scouring machine, of frame A, eccentric shaft P, reciprocating shoe C, pitman rods G, G, having tension nuts, the spiral springs D, D, and the attachments Z, Z, substantially as and for the purpose specified. 4th. In a wheat separating and scouring machine, the combination of frame A, the reciprocating shoe C, shaft P, adjustable eccentrics K, K, pitman rods G, G, and spiral springs D, D, substantially as and for the purpose specified. 5th. The combination, in a wheat separating and scouring machine, of the frame A, reciprocating shoe C, flanged castings L, L, L, and the upright springs E, E, E, substantially as and for the purpose specified. 6th. The combination, in a wheat separating and scouring machine, with the perpendicular suction separator I, of the independent air tube 1, 2, substantially as and for the purpose specified. 7th. In a wheat separating and scouring machine the combination, in a rotating scouring cylinder, of the oscillating scouring plates B, B, journaled in cylinder heads W, W, in combination with the adjusting wheel N, substantially as and for the purpose specified. 8th. In a wheat separating and scouring machine, of the oscillating scouring plates B, B and the adjusting wheel N and springs T, T, and tension yoke O secured to cylinder shaft, substantially as and for the purpose hereinbefore set forth. 9th. In a wheat separating and scouring machine, of the oscillating scouring plates B, B, having a pimpled scouring surface, also having elongated shaped conveying flights on them, substantially as and for the purpose specified. 10th. In a wheat separating and scouring machine, of the cylinder heads W, W, having round holes in them for the reception of the journals or the ends of the oscillating scouring plates B, B, substantially as and for the purpose specified. 11th. In a wheat separating and scouring machine, of the cast-metal scouring case S having openings lengthwise of the case, and corrugations lengthwise of the case, and corrugations crosswise of the case parallel with each other in a zig-zag manner, all substantially as and for the purpose hereinbefore set forth.

No. 24,670. Hot Air Furnace.*(Calorifère à Air.)*

Charles R. Alsop, Syracuse, N. Y., U.S., 7th August, 1886: 5 years.

Claim.—1st. A hot air furnace comprising a fire-pot, subjacent ash-pit and superposed combustion chamber, all arranged central of the furnace, a radiator surrounding the fire-pot and combustion chamber, and communicating with the latter at the upper end thereof, a smoke jacket surrounding the aforesaid radiator and communicating with the bottom portion thereof, and an exit flue connected to said jacket, two air passages extending around the space between the radiator and combustion chamber and fire-pot, the air passage adjacent to the latter being provided with air inlets at the base, and connected with the other air passage at the top, a third air passage between the radiator and smoke jacket and extending around the same, and communicating with the second air passage at the base thereof, an air passage extending across the top of the furnace, and communicating with the third air passage and hot air pipes extending from the top air passage, all combined to operate substantially as set forth. 2nd. In combination with the fire pot A and combustion chamber B, the annular radiator C extended horizontally or laterally outward from the upper end of the combustion chamber, the radiator D extending downward from the peripheral portion of the radiator C, and surrounding the combustion chamber and fire-pot, the smoke jacket E surrounding the radiator D and communicating with the same at the base thereof, the exit flue F connected to the smoke jacket E, the annular vertical air passage 1 adjacent to the fire-pot and combustion chamber, and provided with cold air inlets a, the annular vertical air passage 2 between the passage 1 and radiator D, and communicating with passage 1 at the upper end, the annular vertical air passage 3 between the radiator D and jacket E, the annular horizontal air passage 4 under the radiator D, and connecting the passages 2 and 3, and the annular horizontal air passages 5 extended across the top of the radiator C, and connected with the passage 3, and hot air pipes 11 extended from the passage 5, substantially as described and shown. 3rd. The combination, with the combustion chamber, of a magazine projecting above said combustion chamber, and provided therewith with ports communicating with the open air, stoppers removably applied to said ports, and removable covers respectively on top and bottom of the magazine, substantially as and for the purpose set forth.

No. 24,671. Cream Separator. *(Garde-Lait.)*

Morriss C. Barden, West Pawlet, Vt., U.S., 7th August, 1886: 5 years.

Claim.—1st. The combination, with the milk receiver A, provided with the conical bottom B, and stop cock C having the inner stoppe seat d, of the floating stopper F, substantially as herein shown and described. 2nd. The combination, with the milk receiver A, having the conical bottom B and stop cock C, of the floating stopper F, having a specific gravity greater than that of new milk and less than that of milk from which the cream has been removed, substantially as shown and described.

No. 24,672. Steam Engine. *(Machine à Vapeur.)*

David L. Cross, Austin, Texas, U.S., 7th August, 1886: 5 years.

Claim.—1st. A cam wheel, applicable to a steam engine and adapted to move in a plane at right angles to the axis of the driving shaft, provided with two cam grooves, each of which is parallel with a right central plane of said wheel, one half of said wheel's circumference, the other half of said grooves having direction inward, toward said central plane, with the greatest inward variance of the one at an angle of 180° to the greatest inward variance of the other, sub-