

No. 8827. Apparatus for Supplying Locomotive Tenders with Water. (Appareil pour servir l'eau aux fourgons des locomotives.)

Joseph Haggas, Uxbridge, and William Gooderham, Jr., Toronto, Ont., 27th May, 1878, for 5 years.

Claim.—1st. An injector A, fixed to some convenient part of a locomotive and having its discharge part d connected to the tank C, by the pipe B, in combination with steam pipe E and suction pipe G, arranged for the purpose of raising water from below the level of the tank and for ing it into a locomotive tank C; 2nd. A spherically shaped injector A provided with water inlet part b and discharge or outlet part d, and supplied with steam by the jet-pipe a; 3rd. An elbow-pipe H, fixed to a ground tank and connected to the suction pipe G by the tapered point g, in combination with an injector A, arranged in connection with a locomotive for the purpose specified.

No. 8828. Improvements on Waggon Gate Catches. (Perfectionnement aux arrêto-portes de wagons)

Frederick A. Havens, Wothersdell, Ct., U.S., 27th May, 1878, for 5 years.

Claim.—1st. The spring and latch case A, recessed as described and adapted to be used upon either side of a waggon; 2nd. In combination with the case A, recessed as described, the pivoted latch B and spring C

No. 8829. Improvements on Sewing Machines. (Perfectionnements aux machines à coudre.)

Clara P. Hoffman, (wife of Peter Hoffman) (Co-inventor with Nicholas Meyers.) Buffalo, N.Y., U.S., 27th May, 1878, for 5 years.

Claim.—1st. A needle arranged to pass horizontally through the cloth to be sewn; 2nd. A needle arranged to pass in and out of the cloth on one end the same side thereof, while passing the thread to the loop-taker; 3rd. A sewing machine in which the stitching is performed by a needle passing through the various thicknesses of cloth without puncturing the uppermost layer thereof; 4th. A curved needle arranged to pass in a curved line through the cloth without puncturing the upper surface thereof; 5th. A needle arranged to pass through the cloth while being held in a depressed state, whereby said needle can pass and re-pass the cloth without puncturing the upper surface thereof; 6th. A needle arranged to puncture the cloth to be sewn on two places, on one and the same side while passing the thread to the loop-taker; 7th. A needle located below the cloth and a presser foot above the same; 8th. The needle below the cloth plate, said cloth plate being provided with a depression; 9th. The combination with the cloth plate C having the depression C', of the presser foot E having the bend 17; 10th. The combination with a needle arranged to operate on the under side of the cloth, of a cloth plate having a depression, and a presser foot having a bend to depress the cloth into the depression to enable the needle to pass through the cloth; 11th. The arm D arranged to swing entirely away from the cloth-plate, said arm being provided with means for locking it when over the cloth plate; 12th. The combination with the shaft P, of the crank O, needle bar K and needle R, said needle being arranged to operate below the cloth plate; 13th. The combination with the needle R, of the loop-taker arranged with capability of a compound movement; 14th. The combination with the vibrating needle bar K of the hollow standard d, shaft c, with the crank e, arm b, arm k, connected with the crank i of the loop-taker a by the rod j; 15th. The combination with eccentric h, of the vibrating arm f, connecting rod g and crank e, for operating the loop-taker a; 16th. The combination with the vibrating arm Z, of the spring Z', operating the feed slide Q; 17th. The combination with vibrating arm Z of the slide 1, incline 5 and serrated feed bar 4; 18th. The combination with the casing 1, of the notched slide 2, having the incline 5, with the projection 6, the slotted feed-bar 4, sliding upon the pin 8 and provided with the projection 7, and the spiral spring 10, for producing a four motion feed; 19th. The combination with the needle R, of a cloth plate, arranged with capability of adjustment relative to the distance between said needle and cloth plate; 20th. The cloth-plate C, pivoted to the casing B, with one end, and provided with means for raising and lowering said cloth plate; 21st. The tensioning device described, consisting essentially of the fixed screw spindle 11, screw disc 12, clamping disc U and the spiral spring 13.

No. 8830. Flat Iron Heater. (Chaufferette de fers à repasser.)

James E. Underwood, Toronto, Ont., 27th May, 1878, for 5 years.

Claim.—The utensil A, provided with a suitable handle and arranged in connection with a stove or other heating appliance to form a close chamber within which flat iron may be economically and rapidly heated and protected from draughts of cold air.

No. 8831. Improvements on Stump Extractors. (Perfectionnements aux arrache-souches.)

Joseph D. Smith, Rockford, Ill., U.S., 27th May, 1878, for 5 years.

Claim.—1st. The shaft h with lever P, ratchet wheel z and pawl R, in combination with the pulley L, pulley frame M and bar N; 2nd. The combination of the pulley frame M, pulley L, roller and lever A, pawl and ratchet R, cable m and chain S, with cord or cable n; 3rd. The plate on casting K, with side flanges k k and end crochets k k; in combination with the screw I, bar T and swivelled pin f; 4th. In combination with the platform A and cap B, the shouldered legs C, pulleys D and bolts or screws C'; 5th. The bed piece A and sets A' A', when mounted on rollers a a

No. 8832. Saw Filing Machine. (Machine à timer les scies.)

Arla Martin, Big Rapids, Mich., U.S., 27th May, 1878, for 5 years.

Claim.—1st. The combination of the standard A having the slot f and lugs c c', the hinged bolt C and the spring d having the screws g; 2nd. The arc-shaped bar K, and the guide E, carrying the reciprocating file rod d, and provided with clamp screw I, and combined as described, whereby said guide is adapted to slide on and be clamped to the arc-bar in any adjustment.

No. 8833. Improvement on Stoves. (Perfectionnement aux poêles.)

Charles H. McCaw and Thomas Brown, Port Perry, Ont., 27th May, 1878, for 5 years

Claim.—1st. The smoke box F, and in combination with the fire box E; 2nd. The ventilator G, in combination with the smoke box F; 3rd. The combination of the fire box E, and outer casing C with the smoke box F and ventilator G.

No. 8834. Improvements on Bee Hives. (Perfectionnements aux ruches.)

John H. Light, Calhoun, Mo., U.S., 27th May, 1878, for 5 years.

Claim.—The hive d made of earthenware and having the inwardly curved sides and flaring mouth e, the outside of the lower end of the hive being made to conform to the inside.

No. 8835. Process of Reducing Vegetable Substances to Prepare the same for Saccharification. (Procédé pour réduire les substances végétales pour les préparer à la saccharification.)

James W. Gaff, Cincinnati, Ohio, U.S., 27th May, 1878, for 5 years.

Claim.—The process of reducing crude vegetable substances, to prepare the same for saccharification, by subjecting them to the agitating and solvent action of a current or currents of free steam under pressure.

No. 8836. Process and Apparatus for Generating and Purifying Gas. (Procédé et appareil pour produire et épurer le gaz.)

Moses W. Kidder, Boston, Mass., U.S., 27th May, 1878, for 5 years.

Claim.—1st. The process for producing non-illuminating gas, first by raising anthracite coal or coke to a lively state of combustion by the free admission of air, then excluding air or the oxygen and nitrogen thereof, as explained, then passing steam into the burning coal, and then immediately and continuously passing the mingled products through incandescent charcoal; 2nd. The process for producing illuminating gas, which consists first in heating bituminous coal in a closed chamber or retort sufficient to expel the hydro-carbon vapours from the coal without decomposing said vapours, secondly, in introducing combustible non-illuminating gases, such as water gas, hydrogen, carbonic oxide or marsh gas, beneath the coal in said chamber, and passing it upwardly through such heated coal, whereby the nascent hydro-carbon vapours are taken up and lifted out from the coal and the non-illuminant gases carburetted, the mixed gases and vapours being subsequently superheated; 3rd. The process for producing illuminating gas from bituminous coal, hydro-carbon oils, and non-illuminating gas, which consists in distilling the vapours from such coal and hydro-carbon oil, dropped upon such coal at a low temperature, and mingling with coal and oil vapours water gas, or non-illuminating gases as carbonic oxide and hydrogen, and continuously heating the mixture, and finally subjecting the same to a fixing heat; 4th. The combination, in a gas generating apparatus, of a vertical coal distilling chamber A, closed at both ends, an inclined retort A₂, and a passage E₃ and trunk A₁, as the connecting mechanism for the conveyance of mingled gases and vapours from the chamber A to the retort A₂; 5th. The combination, in a gas generating apparatus, of a vertical coal-distilling chamber A, closed at both ends, an inclined retort A₂, and passage E₃ and trunk A₁, as the connecting mechanism for the conveyance of mingled gases and vapours from the chamber A, to the retort A₂; the latter provided with gas diverting plates L₁; 6th. The sealing trough R for water, in combination with, and receiving, retaining and sealing the lower end of the coke pit U, of the chamber A and trunk A₁; 7th. The combination of the oil-pipe O, sealed and externally-heated chamber A, passage E₃, trunk A₁ and retort A₂; 8th. In a hydrogen-gas generating apparatus, the combination of grate F, steam pipes S₁, coal combustion chamber B, smoke trunk X, valve X₁ and pipe X₂, with the passage L, vertical trunk B₁, grate F₁, ash pit C₁, pipe v, hydraulic main B₂; 9th. The trunk X with its valve X₁, and the pipe X₂ with its orifice X₃, in combination with and as a conveyance for combustible gases, from the hydrogen generating chamber B, to the fire room N; 10th. The combination of the passage E, with chamber B₁ and ash pit C₁, with and as a conveyance for gases from the hydrogen generating chamber B, to hydraulic main B₂; 11th. In a gas generating apparatus, the combination of the coal or oil distilling and gas producing series consisting of the chamber A, magazine A₂, trunk A₁, retort A₂, passage E₃, pipe O₁ and trough R, with the hydrogen-generating apparatus, consisting of the combustion chamber B, passage E, vertical trunk B₁, ash-pit C₁, pipe v, hydraulic main B₂ and steam pipes S₁; the latter introducing steam in its passage to the hydrogen generator the said generator being additionally heated externally by the fire and heat in the corridors N₁; 12th. The combination of the combustion chamber B and its connected vertical trunk B₁, both having ash pits and grates for supporting coal in the first in a state of partial combustion, and in the latter incandescent with, and surrounded by the corridors N, and so as to prevent the escape of heat from the coal in the chamber B, and to induce and support incandescence of the charcoal in the trunk B₁, by heat from the corridors and from the chamber B; 13th. In a coal distilling chamber, the combination of the curved shovel Z, and friction rolls Z₁ Z₂; 14th. In a coal distilling chamber externally heated, the magazine A₃, located above the heated portion of said chamber and adapted to contain undistilled coal, whereby the more condensable oils arising with the gases d vapours from the distilling coal below are arrested, said oils being subsequently redistilled as the coal upon which they are deposited descends into the distilling chamber; 15th. In combination with the distilling chamber A₂ and retort C, the interposing hollow wall F₂.

No. 8837. Method of Preparing Paving Concrete. (Mode de préparation du béton à pavage.)

James S. Wethered, New York, U.S., 27th May, 1878, for 5 years.

Claim.—1st. The improvement in the process of preparing paving concrete containing among its ingredients limestone, or other calcareous matter, and asphalt, which improvement consists in heating the calcareous substance to