

**No. 6579. Rotary Gang Plough.***(Charrue rotatoire à socs multiples.)*

John K Underwood, Sank Centre, Min., U. S., 28th September, 1876, for 5 years.

**Claim.**—1st. The horizontal arm E rigidly attached at its forward end to the truck, the diagonal brace F attached to the rear part of the arm E and to the forward part of the implement the bent vertical part of the said brace forming the plough beam, guards or keepers and the pivoted and diagonally arranged plough beam having its free end arranged in the said keepers; 2nd. The combination of the bent arm E, pivoted plough beam I, beam guide F, lever H, ratchet G, pawl a, connecting rod b and dish-shaped plough wheels J set diagonally to the line of draft; 3rd. The combination of the plough beam I having a broad or flat central part, the separate axles c c, elongated loops d d, nuts e e and wheels J J journalled adjustably on the single beam.

**No. 6580. Process of Refining Petroleum and other Oils.***(Procédé de purification du pétrole et autres huiles.)*

John S Robinson, London Ont. 28th September 1876, for 5 years.

**Claim.**—The process of refining petroleum, &c., by mixing therewith chloride of sodium dissolved in water before treating it by any of the known methods.

**No. 6581. Process and Apparatus for the Manufacture of Carbonates of Soda.***(Procédé et app. de fabrication des carbonates de soude.)*

Ernest Solvay, Brussels, Belg., 28th September, 1876, for 5 years

**Claim.**—1st. With reference to the decanters in the combination of parts of decanting apparatus, that is to say: the combination of the body A and central tube B and cone K, actuated by the lever M and rod N, and the inlet and outlet pipes C E and the scraper G actuated from the hand wheel H and the draw off cock L; 2nd. The combination of a second pump barrel placed between the carbonic acid gas forcing machine and the absorber; 3rd. With reference to the absorber the combination of the guides G G with the false bottoms F in the absorbing column a, also the combination of a central rod A with the false bottoms F in the absorber a, also the combination of valves opening inwards at K and E with the absorbing column a; 4th. With reference to the apparatus for filtering liquids containing bicarbonate of soda, the combination of the vacuum filters a of a revolving pipe z perforated with holes or grooved for the purpose of spreading the liquid to be filtered, or the liquid for washing uniformly upon the filter, also the combination of the pump A and water piston B, to create a vacuum by the interposition of a reservoir Q into which the filtered liquid passes; 5th. With reference to reducing the alkaline strength or purity of the soda in the process of introducing into the filter a solution of soda; 6th. With reference to the scraping apparatus used in the treatment of bicarbonate and carbonate of soda, the combination of a rotary shaft B, arm C and scrapers D; 7th. With reference to the apparatus for the two fold purpose of drying the bicarbonate or converting it into carbonate, the combination of the distributor A, scraper M, shaft N, aperture c, cylinder G, shaft S, wings U, chest E and chimney H, also the combination of the chest A, screen B and tubes T T; 8th. With reference to the apparatus for reducing the density of the brine, the combination of the reservoir A, tube T, pipe T, float F, lever L, tank S, pipe V, elastic joint y, funnel E, tubes M N and pipe z; 9th. With reference to the self-acting forcing apparatus the combination of the reservoir R, valve boxes c c, float z, washers or stops r r, rods t, valves s, aperture s, lever L and valve z; 10th. With reference to the self-acting weighing machine, the combination of the plate or table P, counterpoise Q, plank a, table P, support s, joint p, catch e and fixed bar F.

**No. 6582. Improvements in Postage and other Stamps.***(Perfectionnements aux timbres-poste et autres.)*

Louis H. G. Ehrhardt, Joseph R. Carpenter, and Robert E. Peterson, Philadelphia, Pa., U.S., 28th September, 1876, for 5 years.

**Claim.**—A postage or revenue stamp or other monetary paper printed upon paper previously treated with a soluble non-adhesive size composed of gum tragacanth, dissolved starch and acetate of albumine or their equivalents and mixed.

**No. 6583. Improvements on Sulay Harrows and Hay Rakes.***(Perfectionnements aux herces à siege et aux râteliers à foin.)*

Solomon Frank, Strathroy, Ont., 28th September, 1876, for 5 years.

**Claim.**—1st. The segment F and lever G, in combination with coupling rods J, dog K and bridge I; 2nd. The chains M M, in combination with segment F and axle A; 3rd. The bolt N and collar and thumb screw P, in combination with throat I, tongue O and double tree Q.

**No. 6584. Process for Treating Grain.***(Procédé de traitement du grain.)*

Rudolph d'Heu, New York, U. S. (Assignee of Julius d'Heureux), 28th September, 1876, for 5 years.

**Claim.**—1st. The process for disintegrating or reducing grain seeds and similar products to a pulpy mass consisting in treating the entire grains or seeds, whole or broken in a close vessel by high pressure steam or by heat and an equivalent pressure; 2nd. The process of mashing and extracting malt and of so clarifying unmaltd material by subjecting the malt or other

material in a close vessel to pressure by direct steam from above by compressed air or other gases or to an equivalent pressure; 3rd. The process of preparing pulp or paste from cereals, grains, seeds, &c. consisting in softening the substance of the articles so as to loosen the pulp from the hull, and then forcing the mass against a sieve or filter to separate the hard from the soft portions; 4th. The process for producing wort or sweet mash from malt either alone or mixed, with starchy substances consisting in treating the material with water under pressure, at a temperature less than 212° Fahr., so as not to destroy the diastase and to more effectually digest and saccharify the material.

**No. 6585. Manufacture of Gas from Liquid Hydrocarbons and Apparatus for the same.***(Fabrication du gaz d'hydrocarbures liquides et appareil pour cet objet.)*

Silas C. Salisbury, New York, U. S., 28th September, 1876, for 5 years.

**Claim.**—1st. A continuous process for converting liquid hydrocarbon into gas, to wit: injecting by means of superheated steam at high pressure a spray or atomized jet of liquid hydrocarbon into a blast of hot air whereby it is conveyed into and through a series of hot retorts wherein its conversion into inflammable gas is completed; 2nd. An apparatus to produce a hot blast consisting essentially in the combination of a hot blast oven a steam generator and a hot blast injector taking steam from said generator at a high pressure; 3rd. A hot blast oven and a blast injector taking steam from said steam generator combined with a hot feed pipe F laid in the waste heat space of said oven; 4th. In combination of a hot blast oven and a blast injector taking steam from a steam generator through a superheater pipe I, laid in the waste space of said oven; 5th. The retorts B B arranged in parallel rows to economize space and fuel; 6th. A hot feed pipe F and retorts B B combined with a blast injector G and a jet of high pressure superheated steam; 7th. The injector G and retorts B B combined with the feed pipe F and gate f for the purpose of regulating and controlling the flow of air to the blast pipe; 8th. A superheater composed of a wrought iron steam pipe encased within and protected by a cast iron jacket; 9th. An injector G provided with two steam jet pipes within it; 10th. In combination, to form an apparatus for the continuous manufacture of gas from liquid hydrocarbon consisting essentially of a series of retorts in a hot oven, a blast injector operated by a jet of high pressure superheated steam and a supply pipe to deliver liquid hydrocarbon; 11th. The combination of a series of retorts B B set in a hot oven, a steam injector G, a hot feed pipe F and a supply pipe M entering the supplemental hot blast chamber p within the steam nozzle of said injector and delivering liquid hydrocarbon; 12th. A blast of hot air to receive and warm a jet of liquid hydrocarbon coming in with a jet of superheated steam at a high pressure to vaporize said hydrocarbon and force the same with the hot air into and through the firing retorts; 13th. In combination with the injector G steam pipe I and hot air pipe P, the hydrocarbon pipe M provided with a check valve m to check back pressure from the injector.

**No. 6586. Improvements on Freezing Apparatus.***(Perfectionnements aux appareils de congélation.)*

Joseph C. Ayer, Amherst, N. S., 28th September, 1876, for 5 years.

**Claim.**—1st. The construction of the freezing apparatus with an interior lining of plaster D; 2nd. The mode of securing the plaster coating to the wall B by contact with nails or pins F having flanged heads inserted in and projecting from the wall; 3rd. The freezing tubes G H I of rhomboid or diamond form in cross sections and acid tube L, and their arrangement in combination with each other and with the acid pipe M; 4th. The acid tank N in combination with the freezing chamber F; 5th. The acid tank N and pipe M having connection with the horizontal pipe L in combination with the freezing pipes G H I; 6th. The combination and arrangement, within the freezing chamber, of the cleats Y and rods X X provided with sliding hook Z.

**No. 6587. Meat Machine. (Hache-vande.)**

Theodore Willard and William Hinnerwadel, Quincy, Ill. U. S., 28th September, 1876, for 5 years.

**Claim.**—1st. The circular and rotary concavo-convex knives P, in combination with the block E; 2nd. The combination of two or more groups of knives P; 3rd. The spring M in combination with cone V having knives P; 4th. The stripper R; 5th. The stripper R in combination with the knives P and block E.

**No. 6588. Washing Machine. (Machine à laver.)**

John J. Shotwell, Wells, Ont., 28th September, 1876, for 5 years.

**Claim.**—1st. A series of alternately swinging plungers B operated by a revolving crank shaft C, in combination with a swinging and spring actuated roller rack D; 2nd. The combination of the swinging roller rack D having lateral brace piece e with the sliding rods f and springs of a pivoted top piece of the tub, to produce constant spring action on rack D; 3rd. The combination of the swinging spring rack D with a cord and outer pivot lever g and fastening hook for locking the spring rack to wall the tub and facilitating the handling of the clothes in the same.

**No. 6589. Improvements on Coffins.***(Perfectionnements aux cercueils.)*

James Richey and Lachlan H. McDougall, Cincinnati, Ohio, U. S., 28th September, 1876, for 5 years.

**Claim.**—A sectional coffin whose component members are securely united together by a system of dovetail grooves and correspondingly shaped tenons; 2nd. A sectional coffin whose body consists of tongued bottom A B, grooved and tenoned ends C C D D E E and corner pieces E E F F G G, which latter are provided with dovetail sockets e e f f g g, wherewith said bottom and ends are united to the sides I J and I J; 3rd. A sectional coffin whose body A B C C D D E E F F G G H H I I J J K K L L M M N N O O P P Q Q R R S S T T U U V V W W X X Y Y Z Z is secured