

the back frame C at any desired inclination; 8th. The combination with the suspended swaying seat E of a stay G for holding it stationary; 9th. The combination with the suspended seat bottom D and flexible seat back E of the springs I and angular rear supporting springs S; 10th. The combination with a flexible seat bottom and back of the springs S connecting the same; 11th. The combination with a flexible vertically adjustable seat bottom L of the concave central brace C between uprights A; 12th. The sectional suspension spring S consisting of a hooked section K and a bent and perforated section E, the latter being arranged in a recess in the chair arm and secured in position by the stop bolt J; 13th. The combination with the seat frame of the back support having elastic side pieces, the flexible web constituting said back and connected with the seat L, said seat being suspended by springs from the arm pieces; 14th. A chair seat suspended within the seat frame by springs and by a flexible webbing, the latter forming the back support by means of which universal horizontal motion is secured.

No. 6766. Table Bedstead. (*Table-couchette.*)

Emerick Kiss, New York, U. S. 14th November 1876, for 5 years.

Claim.—1st. A table bedstead in which is combined the stationary head frame A a series of independent sections C hinged together and to the head frame, the hinged foot board D the sectional hinged rails H B; and the table leaf I hinged near the upper end of the head part A of the head frame A; 2nd. The combination of the stationary head frame A series of hinged sections C hinged foot board D braces F having slots c and the studs d on one of the sections C; 3rd. The stationary frame in connection with the sectional side rails H B hinged together and to the head frame and the series of hinged sections C and hinged foot board D; 4th. The combination with the table leaf I and head frame A of the hook and staple A I or their equivalent devices for retaining the leaf in an elevated position.

No. 6767. Bush Cutting Implement.

(*Outil pour abattre les arbres.*)

Oliver Pickering Needham Mass. U. S. 14th November 1876, for 5 years.

Claim.—An improved bush cutting implement formed of the recessed and flanged back plate A made with a V-rib in the bottom of its recess, the face plate B and the cutters C made with V shaped forward ends and V-shaped cross grooves upon their rear sides.

No. 6768. Turbine Water Wheel.

(*Roue-turbine hydraulique.*)

Anna G. Wagner, (wife of Asbert H Wagner) Chicago Ill. U. S. 14th November, 1876, for 15 years.

Claim.—1st. The water wheel proper with a concave periphery having its projecting upper and lower rims in the same vertical plane, and a horizontal annular flange arranged midway between said rims and partially dividing the concavity in the wheel into two equal parts with a contracted water way between them; 2nd. A two part water wheel bucket with a curved top back and bottom, an inclined upper portion a vertical lower portion and a horizontal twist or bent between the upper and lower portions; 3rd. The combination of the horizontal concave faced wheel, its annular dividing flange and the two part buckets having their upper portions inclined to the axis of the wheel and radial thereto, and their lower portions for the greater part vertical and tangential to the axis; 4th. The combination of the wheel casing having a vertical face or periphery, the double chutes therein, the partitions between the chutes, the series of swinging gates pivoted in the double chutes and formed to correspond with the partitions separating the chutes, and the buckets, whereby each gate controls a two part or double chute and regulates the admission of water to two buckets; 5th. The combination of the casing having an annular vertical face or periphery the chutes therein the series of pivoted gates, the gate regulating ring the arms connecting the gates and regulating ring, and the adjusting bolts or pivots working in the connecting arms; 6th. In the combination of the casing, the regulating ring, the operating shaft adjustably connected therewith, the swinging gates and the independently adjustable connections between the gates and the regulating ring, whereby the gates are rendered both independently and simultaneously adjustable; 7th. The combination of the casing having a vertical face or periphery a flange a and an internal shoulder a and the wheel having a concave periphery, an upper rim bearing against the internal shoulder of the casing and a central annular flange bearing against the aforesaid flange of the casing.

No. 6769. Process and Apparatus for Converting Nitrogenous Substances into a Fertilizer.

(*Procédé et appareil pour convertir les substances nitrogenées en engrais.*)

Henri O. P. Lassargay, Pantin, France, 14th November, 1876, for 5 years.

Claim.—1st. The process for converting nitrogenous substances into a fertilizer consisting essentially in steeping such substances in a diluted sulphuric acid bath holding in solution a sulphate or other mineral salt in the proportion or about the proportions described, then partially drying the material and finally subjecting it to the action of heat; 2nd. The apparatus consisting essentially of the chambers C D and flue B, each provided with suitable apertures c d and dampers c d in combination with the steam pipes B; B; the pipes i i fan I, chest k and pipe k; and a steam generator and superheater; 3rd. The chamber D having a perforated false bottom or diaphragm E, inlet and outlet apertures F and a tramway or track e in combination with the chamber C, and the steam pipes B; B and the pipe M; 4th. The chamber D provided with a diaphragm or partition H having apertures h and dampers h, in combination with the pipes i i and fan I; 5th. The chamber D having diaphragm H provided with apertures and dampers h h, the fan I and pipes i i in combination with the chest K having thermometer L, and the pipes k; k having a suitable valve; 6th. The combination of the chambers C D with a generator of chlorine; 7th. The combination of the chambers C D and flue B, the steam pipes B; B and the furnace of a generator with the aperture B; and dampers b; and an exhaust fan.

No. 6770. Apparatus for Generating, and Engine for utilizing, a motive Gas obtained from Water.

(*Appareil à produire et machine pour utiliser le gaz à l'eau.*)

Robert D. Bradley, Preston, Md., U. S. 14th November, 1876, for 5 years.

Claim.—1st. The process for producing the intensely energetic non-condensing, non-explosive gas from water, by mechanically disintegrating the same by forcing in through minute perforations which are of a size too small to permit the formation of drops and the assuming of the spheroidal state and injecting it in this condition against the heated surface of a generating cell. 2nd. The generating cells B; constructed of strong material arranged radially and communicating with a central compound chamber, in combination with the water B; passing through compound chamber B and having radial branches or glands b; entering the generators and terminating in bulbs provided with minute perforations, 3rd. The generator cells B; compound chamber B and the contained water pipe B; with glands b; in combination with a series of superposed intensifier cells C connected with chamber B through pipes b; and communicating with each other through perforated diaphragms c; 4th. The air tight chamber A having a hollow base and containing the generators and furnace, in combination with the air-pipe I having cock D and the smoke pipe H communicating with the furnace above and hollow base below; 5th. The combination with the case A having a hollow base of the waste pipe G coiled about the generators and leading through the hollow base to the furnace; 6th. The combination with the case having a hollow base and an air pipe I and smoke pipe H communicating therewith, of the waste pipe G leading through the hollow base to the furnace and adapted to feed the air and smoke to the same by induction; 7th. The combination with a set of pistons, of a case or block containing cylinders arranged and connected by valves and ports so as to permit the motive fluid to operate consecutively on the smallest area of pressure and expansively upon the largest for the return stroke; 8th. The combination with a set of stationary pistons having ports for the induction and discharge of the motive fluid, of a reciprocating case containing cylinders corresponding to the pistons arranged for the different areas of pressure for the different strokes and connected by a valve and ports; 9th. The stationary pistons L; having discharge ports b; and the stationary piston L; having the induction ports I, in combination with the heart-shaped block M having cylinders M; M arranged and connected by valve I through t; 10th. In reciprocating case containing three or more cylinders arranged with different areas of pressure for the different movements and connected by ports, in combination with the plug valve I having a projecting arm and the stationary tappets t; t; for the purpose of effecting a communication between the cylinders; 11th. The reciprocating case M carrying the cylinders and the stationary pistons L; having the induction and discharge ports, in combination with the valves L; L; and the connecting rods p; p; receiving motion from a lock shaft and eccentric or other suitable mechanism for imparting reciprocating motion; 12th. The combination with the crank shaft O and a pitman N of the reciprocating heart-shaped block M moving upon its stationary pistons as guides and having a cross head pin m; 13th. The stationary solid pistons having central induction and discharge ports with controlling valves.

No. 6771. Tack Machine. (*Machine à broquette.*)

Charles P. Weaver Norristown, Pa. U. S. 14th November 1876, for 5 years.

Claim.—The combination with a handle lever pivoted in front, of pivoted strap B, are bar C having slotted chord C and the pin D fitting loosely in sockets a c and passing through middle of are-bar.

No. 6772. Improvements on Reaping Machines. (*Perfectionnements aux faucheuses.*)

David Maxwell, Paris, Ont., 14th November, 1876, for 5 years.

Claim.—1st. The combined use of the wood portion a and the cast iron portion A in constructing the main frame of the machine, and the manner in which the pipe box h and box e are secured to it and of adjusting the box e by the set screw e; 2nd. The application and form of the hubs of the driving wheel C and spur wheel D, with the clutch teeth c and d on their contiguous surfaces; 3rd. The combination whereby the tilting of the machine is effected by means of the rocking bar I having castings keyed on each end, viz: to plate i is attached the tongue J and to the bracket K, the lever L for tilting the machine, the rocking bar I acts as a hinge joint betwixt tongue J and frame A of machine, and also by the rocking movement by means of the tilting lever, it answers as a medium by which the guards are raised or lowered to pass over obstructions or take up lodged grain; 4th. The position and mode of attaching the tongue J and the brace K to main frame A; 5th. The manner in which the finger beam S is attached to the main frame A by the wrought iron bracket P Q R being bolted to the finger beam S, rod P passing up through lug n cast on main frame A; 6th. The combination of the driving wheel C and spur wheel D on slip key b with coupling lever s, spring latch s and notch m; 7th. The combination and arrangement of the whole.

No. 6773. Artificial Stone. (*Pierre factice.*)

Llewellyn L. Leathers, Oakland, Cal., U. S. 16th November, 1876, for 5 years.

Claim.—1st. The process for making a saponaceous mixture or solution; 2nd. An artificial stone composed of sand and cement moistened with a saponaceous mixture or solution before tamping, in about the proportions named.

No. 6774. Improvements on Grinding and Pulverizing Machines.

(*Perfectionnements aux machines à mouler et triturer.*)

Jerome J. Webster, Magog, Que., 16th November, 1876 (extension of Patent No. 1224) for 5 years.

Claim.—1st. The novel combination of the frame a, bed d, plunger blocks c, discs d, cylinder e, shaft f, strap g, pulley h, superfluous h, wheel i, supplement k, feed pipe l, discharge pipe o and door p with or without projections m and n; 2nd. The novel combination of the discs d, cylinder e, shaft f, wheel i, superfluous h, supplement k, pipes l and o with or without projections m and n.