

globe chamber or reservoir, a valved tube connecting them, means for maintaining a high degree of exhaustion in the larger reservoir or chamber and connected thereto, and a gauge for determining the degree of exhaustion. 35th. The combination, with the globe or chamber of a proving lamp, of a mercury reservoir connected to the globe or chamber, so that the stopper thereof may at will be covered or not covered by mercury. 36th. The method of testing carbons consisting in subjecting them to the action of a current in a temporarily exhausted globe or receiver, prior to their embodiment in completed lamps. 37th. The combination, in one electric lamp, of two or more incandescing conductors and means for connecting them in the electric circuit, either in series or multiple arcs. 38th. The combination, in one electric lamp, of two or more incandescing conductors and means for making or breaking an electric circuit through either one or as may be desired. 39th. The combination, in one electric lamp, of two or more incandescing conductors, and means for completing the circuit through either or through both. 40th. The combination of contact points 1 2 3 4, anvils *x z* and circuit connections. 41st. In an electric lamp, the combination with the enclosing globe or chamber of a second chamber, through and into which the conducting wires pass and are sealed, both chambers being hermetically sealed together and exhausted. 42nd. The method of sealing the enclosing globe or chamber of an electric lamp by sealing an auxiliary or secondary globe or chamber in the opening of the first or enclosing globe. 43rd. The method of preserving the vacuum in the enclosing globe of an electric lamp, consisting in sealing the conducting wires at two points in a vacuum globe hermetically sealed to the enclosing globe. 44th. The combination with the neck of the enclosing globe and the carbon supporting tube of a cup containing a liquid receiving the end of the neck of the enclosing globe and through which passes the carbon supporting tube, and washers or plugs filling the space between the neck and cup and the neck and tube.

No. 11,969. Improvements in Valves for Water Closets. (*Perfectionnements aux valves des cabinets à l'anglaise.*)

Thomas Hennessey, Oakland, Cal., U. S., 13th November, 1880; for 5 years.

Claim.—1st. The valve A formed of thin metal and filled with compressed cord or similar substance, to prevent battering, and having a rounded or conical top *a*, fitting a correspondingly shaped seat *b*, when arranged to float in a chamber and be lifted to its seat by a pressure of water in the supply pipe. 2nd. The metal float valve A, having its interior filled with cork to render it solid and provided with a rounded or conical top *a*, to fit a correspondingly shaped seat *b*, moving vertically in a valve chamber connected with the water supply pipe, in combination with a rubber-tipped rod J, suitably connected with an operating spindle F, whereby said valve is operated as described. 3rd. The stemless cork-filled float valve A, with its conical or rounded top *a*, fitting in a correspondingly shaped seat *b*, and moving vertically in the chamber B, connected with the water supply pipe C, in combination with hollow flanged piece G, having the perforations *d h*, rubber-tipped rod J, yoke *c*, regulating screw *e*, and spindle F moving vertically in the chamber D, having a discharge pipe E, whereby the valve is operated and flow or wash of water is controlled. 4th. The flange or disk G, with its cup leather or piston moving within the chamber D, and having the openings *d h*, the adjusting screw *e*, the operating stem F, and the valve opening tip or stem J, in combination with a valve A, to control the inlet passage C and the outlet passage E.

No. 11,970. Improvements on Horse Powers. (*Perfectionnements aux manèges.*)

Ibez T. Warren and The Warren Manufacturing Company, Le Roy, N. Y., U. S., 13th November, 1880; for 5 years.

Claim. The combination with a horse power of a sweep O having tubular thills P, rods Q and eveners R.

No. 11,971. Hay Rake. (*Râteau à foin.*)

George H. Preston, Ottawa, Ont., 13th November, 1880; for 5 years.

Claim. The rake G, draft bars D and short chains H H, in combination with frame C C and wheel A B.

No. 11,972. Improvements in Hand Drag-Saws. (*Perfectionnements aux scies de travers.*)

Simeon Annett, Euphemia, Ont., 13th November, 1880; for 5 years.

Claim.—1st. The swing bar F, arm G and weight H. 2nd. The arrangement and combination of all the parts framed as described.

No. 11,973. Improvements in Sewing Machines. (*Perfectionnements aux machines à coudre.*)

Jeremiah Keith, Providence, R. I., U. S., 13th November, 1880; for 5 years.

Claim.—A sewing machine provided with an eye pointed needle and a shuttle or its equivalent to operate therewith, in order to perform lock stitch sewing by the thread of the shuttle being passed through the loops formed by the needle, a "looping hook" and a "cast off," and mechanism for operating them to form with the needle chain stitch sewing. The combination of the looper and the cast off with means of raising and depressing them relatively to the needle and the shuttle, in order for the shuttle, while in operation to play free of the looper and the latter when the shuttle is out of its race, to be adjusted to operate with the needle as explained. The combination of the groove *x*, in the wall *b* of the shuttle race, with the looper and cast off, and the needle to operate therewith.

No. 11,974. Improvements on Reed Organs. (*Perfectionnements aux orgues à tuyaux.*)

James E. Treat, Boston, Mass., U. S., 13th November, 1880; for 5 years.

Claim.—1st. A valve chamber *f* located between the wind reservoir and the pipe or reed, and provided with a valve *g* covering both the pressure or chest hole *h* and pipe channel *i*, and having a relief vent *l* and a relief valve *m*. 2nd. The combination of an air chamber *f* with its valve *g* and channels *h i l*, relief valve *m*, the reciprocal wind channel *h* and reciprocal valve *n*.

No. 11,975. Improvements on Bosom-Boards.

(*Perfectionnements aux planches à repasser les devants des chemises.*)

Frank M. Wright, Palmyra, N. Y., U. S., 13th November, 1880; for 5 years.

Claim.—The combination of the board A provided with the head C having a recess *a* and aperture *x* and the frame B having corresponding recess and the protecting tongue *b*.

No. 11,976. Improvements in Roof Paint.

(*Perfectionnements dans la peinture à toiture.*)

James Butler, Ingersoll, Ont., 13th November, 1880; for 5 years.

Claim.—A composition of coal tar, salt, alum and copperas prepared in the proportions and manner described.

No. 11,977. Improvements in Horse Hitchers.

(*Perfectionnements aux entrées de cheval.*)

Israel F. Alger, Fitchburg, Mass., U. S., 13th November, 1880; for 5 years.

Claim.—The straps A B B C in combination with straps G H H H, ring I, snaps D D F F, rings E E and the breeching of a harness.

No. 11,978. Improvements on Steam Thrashing Machines. (*Perfectionnements aux machines à vapeur pour battre les grains.*)

Thomas Armstrong, Rockton, Ont., 13th November, 1880 for 5 years.

Claim.—The combination of rope F, pulley E, shaft G and frame A.

No. 11,979. Improvements on Paper Pails.

(*Perfectionnements aux seaux en papier.*)

James A. Weed, Binghamton, N. Y., U. S., 13th November, 1880; for 5 years.

Claim. 1st. The combination of the following elements: a paper vessel, the bail D, the strip B attached to the bail and secured to the vessel by a fastening device, which passes from the outside to the inside of the vessel and having the portion below the fastening device extending around the outside of the walls and the bottom of the vessel. 2nd. The combination, with the paper vessel, of the metallic strengthening strip B arranged to pass across the bottom, up the sides, through the walls near the top from the outside to the inside of the vessel, and the bail D attached to the strengthening strip on the inside of the vessel. 3rd. The combination, with the paper vessel, of the strengthening strip B arranged to pass across the bottom, up the sides, through the walls near the top, from the outside to the inside of the vessel, and thence over the top downwardly upon the outside of the vessel, and the bail D attached to the strengthening strip on the inside of the vessel.

No. 11,980. Improvements on Wind-Mills.

(*Perfectionnements aux moulins à vent.*)

Jules Roy-Desjardins, Burlington, Vt., U. S., 13th November, 1880; for 5 years.

Claim. 1st. The combination of the standards E and sails F, the standard being secured to the rim D near each edge alternately. 2nd. The sails F having the fenders *e e* in combination with the stops P. 3rd. The combination of the sails F, standards E, braces *a a* and cross braces *an*. 4th. The standards E having stiff cross braces *a* attached to their upper extremities. 5th. The stops P having their lower part slotted in combination with the circles G H, shoulders *p* and set screws *m n*. 6th. The stops P made solid, in combination with the circles G H and set screws *m n*. 7th. The stop P having their upper part slotted, in combination with the notched circle *d* and set screws *m*. 8th. The combination of the stops P, springs O and sails F. 9th. The combination of the stops P, collars I, openings *o* and gauge *g*. 10th. The combination of the rim D, circles G H, stops P, springs *o*, rotary circles H H and sails F. 11th. The combination of the rim D, circled shoulders *p*, set screws *m*, stops P and sails F. 12th. The combination of the pulleys M N, wheels L K, worm J, screw I and rotary circles H H for operating the rods P. 13th. The rods P, collar I set screw *m*, circles G H, sails F and rim D. 14th. The wheel *o* having the stops P attached to the rim D by set screws, in combination with the notched brace circle *d*. 15th. The combination of the pulley Q, brakes *r r* and right and left screw *q*.

No. 11,981. Improvements on Steam Boilers.

(*Perfectionnements aux chaudières à vapeur.*)

James Livingston and Joseph Wright, Toronto, Ont., 13th November, 1880; (Extension of Patent No. 10,310.)

No. 11,982. Improvements on Steam Boilers.

(*Perfectionnements aux chaudières à vapeur.*)

James Livingston and Joseph Wright, Toronto, Ont., 15th November, 1880; (Extension of Patent No. 10,310.)

No. 11,983. Improvements on Wringers. (*Perfectionnements aux essoreuses.*)

James Lottridge, John Harvey, Richard P. Street, James Simpson, Robert Nixon, Hamilton, Ont. and Joseph W. Calef, North Easton, (Assignees of Augustus Page, the Assignee of Cornelius E. Haynes, Boston,) Mass., U. S., 15th November, 1880; (Extension of Patent No. 5,412.)

No. 11,984. Improvements on Butter Colouring Compounds. (*Perfectionnements aux composés pour colorer le beurre.*)

Frederick Lavaek and Robert L. Cox, Gouverneur, N. Y., U. S., 15th November, 1880; for 5 years.

Claim. A compound composed of salt, mutton tallow, curcums and annotoine.