

No. 2158. CYPRIEN M. TESSIÉ DU MOTAY, Paris, France, 17th March, 1873, for 5 years: "Process for Treating Lyes Resulting from the Preparation of Woody and other Fibres and Waste Waters after the Cleansing of Fabrics." *Procédé de traitement des lessives résultant de la préparation des ligneux et des eaux sales après le lavage des tissus.*

Claim.—1st. The process described for recovering for re-use the lyes and waters after the boiling down of woody fibres and the washing of fabrics and filaments; 2nd. The boiling of spent lyes or wash waters after their impregnation with a gas or a bicarbonate and a sulphuret for producing a precipitation of the impurities contained in such lyes and wash-waters; 3rd. The precipitation of the resinates or the ulmates after they or one of them, have been acted upon by a gas or a sulphuret in the manner described, whether the precipitation be assisted by the adding of sulphydric-acid to the heated liquor or not.

No. 2159. WILLIAM A. COGSWELL, Rochester, N. Y., U. S., 20th March, 1873, for 5 years: "Improvement on the 'Judson Governor' for Steam Engines." (*Perfectionnement au régulateur dit 'de Judson' pour les machines à vapeur.*)

Consists in the employment of a hardened seat in the casing and of a hardened removable piston head.

Claim.—1st. The governor valve described, the hardened seat *b*, when arranged and applied as and for the purpose set forth; 2nd. The hardened piston-head *B*, when arranged and applied as described.

No. 2160. JOSEPH GILLESPIE, Hamilton, Ont., 20th March, 1873, for 5 years: "A Grain Threshing Machine." (*Machine à battre les grains.*)

Claim.—The shoe *C*, fixed in the threshing machine (immovable) having the screen frame *F*, and screen *A*, working on it with an end to end (or lengthwise) motion by means of the crank *B*; In the combination of the crank *B*, with the screen *A*, and frame *F*, also the revolving screw *G*, for carrying the grain, etc., to elevator, also in the adjustable wind-board *E*, with the ratchet *N*, and handle *O*, together with the combination and arrangement of the several parts, all operating as and for the purposes set forth.

No. 2161. THOMAS WHITWELL, Stockton-on-Tees, Eng., 20th March, 1873, for 5 years: "Apparatus for Heating Air and Gases." (*Appareil à chauffer l'air et les gaz.*)

Consists of two furnaces, ovens, or chambers, each enclosed by walls contained in an iron case and divided by other walls into several narrow compartments.

Claim.—1st. The oven or heating chamber, constructed with partition and stay-walls and having openings fitted with plugs and doors *D*, *D*; 2nd. The oven or heating chamber constructed with partition and stay-walls and having air-passages *M*, *N*.

No. 2162. JOHN LAWRENCE, Philadelphia, Pa., U. S., 20th March, 1873, for 15 years: "Cut Nail Machine." (*Machine à clou taillé.*)

Claim.—1st. The box *J*, constructed as described for the receptor and retention of a pile of nail plates, and for feeding the same successively to the cutters of a nail machine; 2nd. A nail plate box *J*, to which the desired vibrating and lateral motion is imparted by a vibrating lever through the medium of links *T*, *T*; 3rd. The said links *T*, *T*, rendered adjustable on the nail box, or on the vibrating arm or on both; 4th. A nail box to which the combined lateral and vibrating motion is imparted in combination with the radial link *S*, for controlling the box longitudinally; 5th. The combination of a nail box pivoted to a transverse slide *V*, as shown in fig. 10, with the vibrating arm *Y*, and the adjustable links *T*, *T*; 6th. The feed box connected to the links *T*, *T*, and *S*, by pins *U*, *U*, and a bolt *Q*, so as to permit the said links to be instantly detached when it is necessary to remove the latter from the machine; 7th. The combination with the feed box and cutters of a plate or block *R*, secured to the fixed frame in respect to said cutters and feed box substantially as described; 8th. The combination of the overlying plate or block *R*, and the springs *m*, and *m*, which form the bottom and sides of the nose of the feed box; 9th. The feeding rolls *L*, *L*, cut spirally in opposite directions as shown in fig. 7; 10th. The combination with the geared feed rolls and their ratchet wheels *f*, of the pawl *M*, connecting lever *M*, and rod *M*, operated from the cutter head (see fig. 6); 11th. The combination of the ratchet wheels *f*, of the feed rolls the alternately operating pawls *M*, and *M*, their connecting lever *M*, hung to the feed box and the inclined groove *k*, in the fixed bracket as shown in figs. 4 and 5; 12th. The combination of the cam lever *P*, with the pawl or pawls which act upon the ratchet wheel of the feed rolls; 13th. The combination with the feed rolls of the supplemental feed *N*, *N*, acting in conjunction with and operated by the said feed rolls (see figs. 1, 2 and 3).

No. 2163. ALMER H. LIGHTHALL & ROBERT PALEN, Buffalo, N. Y., U. S., 20th March, 1873, for 5 years: "Wood Screw and Screw Driver." (*Vis à bois et tourne-vis.*)

Claim.—The screw *A*, with the head *B*, having the peculiarly shaped slot *a*, *b*, *c*, formed in it and in combination with the screw-driver *c*, having the bent edge *d*, both constructed as described and for the purpose specified.

No. 2164. GEORGE L. KITSON & GEORGE W. CAIR, Philadelphia, Pa., U. S., 20th March, 1873, for 5 years: "An Automatic Regulating Valve." (*Soupape-régulatrice automatique.*)

Claim.—A valve chest forming part of a passage for the conveyance of steam from the boiler to the engine and weighted or loaded and exposed to the action of the steam so that any alteration in the speed of the engine or any change in the pressure of steam in the boiler causing differences of pressure on opposite sides of the valve will induce the latter to obstruct or expose the passage in the chest to an extent proportionate to any increase or decrease in the speed of the engine or in the pressure of the boiler as specified.

No. 2165. WALTER C. CHURCH, London, Eng., 20th March, 1873, for 5 years: "Improvements on Steam Engines, partly applicable to Hydraulic Rams and Pumps." (*Perfectionnements aux machines à vapeur, partiellement applicables aux béliers hydrauliques et aux pompes.*)

Relating more particularly to the pistons, packing-rings and slide valves of steam engines and so improving the same as to increase the power of the engine, prevent waste of steam, balance or remove the back pressure on the slide valve, reduce the cost of manufacture and diminish the length and width of the steam passages in the cylinder.

Claim.—1st. The use of the recessed or rebated metallic packing rings *c*, in combination with the segmental joint-pieces *e*, for pistons of steam engines, and other like purposes, such as for plungers of hydraulic rams, etc., when constructed, arranged and operating as described and illustrated in the drawings annexed; 2nd. In the peculiar construction and arrangement of the equilibrium circular-slide valve *C*, and its combination with the peculiar curvilinear steam and exhaust ports *a* and *b*, as described; 3rd. The peculiar construction of curvilinear steam and exhaust ports *a* and *b*, as and for the purposes described and illustrated more particularly by fig. 7 in the drawings; 4th. The combination with a circular or with a rectangular slide valve of the jun ring or rings *F*, the cap or caps *H*, the metallic packing-rings *a*, and the springs *I*, such as are above described, all arranged and operating together as and for the purposes set forth and as illustrated in the drawings annexed.

No. 2166. ELIJAH F. PRENTISS & HENRY F. HOWELL, Sarnia, Ont., 20th March, 1873, for 5 years: "Apparatus for Distilling and Refining Petroleum, etc." (*Appareil à distiller et raffiner le pétrole, etc.*)

Has for its object the distillation and separation of crude petroleum and other hydro-carbon oils, decolorising, and rendering them non-explosive; imparting also a high degree of illuminating power without the use of acids, alkalis or other chemicals.

Claim.—1st. The combination with the still *A*, the perforated coiled-pipe *i*, arranged above the level of the overflow pipe *2*, to allow the vapors or lighter portions of such oils as flow through this pipe to escape through the perforations without mixing with the body of the oil in still *A*, for preventing the carbonization of such vapors; 2nd. The arrangement of the atomizer *D*, with relation to the still *A*, and combined still and condenser *B*, to facilitate the separation of the impurities (which arise from the contents) of still *A*, from the lighter illuminating gas; 3rd. The still and condenser *B*, with its crude oil inlet pipe *C*, overflow pipe *d*, steam-pipe *S*, and condensing worms *3* and *3*, all constructed, arranged and operating as set forth; 4th. Atomizing and decolorizing the vapors generated by distillation and rectification of crude Petroleum or other oils by passing them through broken pumice stone, or its equivalent as set forth or any mere modification of the same; 5th. The arrangement of the atomizer *E*, with relation to the vessel *B*, from the lighter products condensed in worm *4*; 6th. The combination of the still *A*, combining still and condenser *B*, condenser *C*, with their several parts, and atomizer *D* and *E*, all constructed, arranged and operating in the manner and for the purpose set forth.

No. 2167. ALGERNON S. WHITING, Cedar Dale, Assignee of Francis S. Gilbert, Oshawa, Ont., 20th March, 1873, for 5 years: "A Wrench." (*Une clef à vis.*)

Self adjustable and self tightening.

Claim.—The adaptation of the motion of the lower jaw *E*, to the purposes of a wrench by means of the segment of a pinion *D*, attached to the lever *D*, (the latter serving as handle), the fulcrum