leum, or other equivalent non volatile material; 2nd. The combination of a foundation layer of two or more thicknesses of paper or felt, saturated with vegetable or mineral tar, or other suitable material, a water-proof layer of native bitumen or rosin and the residuum or heavy oil of petroleum, or other equivalent non volatile material.

No. 6607. Apparatus for Transmitting and Receiving Signals, &c.

(Appareil pour transmettre et recevoir des signaux, etc.)

John S. Gisborne, London, Eng., 28th September, 1876, for 15 years.

Claim.—1st. The novel combination of the single flexible connectors o o_1, single or double grooved pulleys f g f_1 g_1, weights or springs W W_1, in conjunction or not with the counterweights or countersprings C W C_1 W_1; 2nd. The novel combination of single flexible connector with a wheel or quadrant on the rubber post and with the pulley f and weight or spring W of the transmitter; 3rd. The novel combination of single flexible connector having a weight or spring at each end and eccentric or tappet on the engine shaft, a pulley or quadrant carrying the pointer of an indicating instrument and an engine counter for indicating the direction and speed of working of the engines of a steamship.

No. 6608. Process of Transferring the Grain Marks of Wood and other Configurations.

(Procédé d'imitation des fibres du bois et autres figures.)

John R. Cross, New York, U. S., 28th September, 1876 (extension of patent No. 2634), for 5 years.

No. 6609. Improvements on Sleigh Brakes.

(Perfectionnements aux freins de traîneaux.)

Robert Menary, Orangeville, Ont., 2nd October, 1876, for 5 years.

Claim.—The neck shaft A having radial spur brakes B and provided with a lever C, furnished with a spring catch d or other suitable device for fixing its position adjustably, in combination with a sleigh.

No. 6610. Panel Door Planing Machine.

(Machine à raboter les battants des portes.)

Orson G. Howes, William R. Norris, John Hall and Orson W. Sheldon, Fort-Ann, N. Y., U. S., 2nd October, 1876, for 5 years.

Claim.—1st The combination of the rotary head and cutters B, stationary bed C and frame A; 2nd. The combination of the rotary head and cutters B, stationary bed C, frame A, pivot a, slot E and bolt F.

No. 6611. Improvement on Sleigh Brakes.

(Perfectionnement des freins de traîneaux.)

George Campbell and Israel Oakey, Toronto, Ont., 2nd October, 1876, for 5 years.

Claim.—The brake E with its two inclined slots F, also one connecting rod H, lever I and studs G supporting the breakinside of the slots to the runner; and also the slot on top of lever K.

No. 6612. Improvements on Valves.

(Perfectionnements aux soupapes.)

Ferdinand Behr, Frankfort, Germ., and Eugene W. Lippert, Cincinnati, Ohio, U. S., 2nd October, 1876, for 5 years.

Claim.—1st. The regulating valve rod f revolvable at e_1 and supplied with screw thread at the bottom, by means of which the valve surface at s may be increased or lessened, thereby obviating the hydraulic shock in closing the valve; 2nd. The peculiarly adjusted channels n n_1 n_{11} which enable the transfer of water from O to O_1; 3rd. The peculiar construction of the channel n_{111} and the valve p by means of which the equalization of pressure is attained in the supply and in the chambers O and O_1; 4th. The valves K_1 K_{11} which cut off the escape through channel e_1 before the passage of water enters the chamber n_{111}, and in reverse order cut off the feed water before opening the entrance to channel e_1; 5th. The valve proper V in its combination and mode of operation.

No. 6613. Manufacture of Boots and Shoes.

(Fabrication des chaussures.)

Daniel A. Sutherland, Lynn, Mass., U. S., 2nd October, 1876, for 5 years.

Claim.—1st. The seam portions e e arranged on the outer side of the pieces C C_1 and covered with the stay S sewed to both of said parts C C_1, said stay being provided with the grooves g and fillets h i, and the edges of the stay being folded for the reception of the seam portions e e, all in the manner described; 2nd. A sewing machine presser foot provided with means for folding and channeling a seam stay piece, such consisting of the fillets e_2 e_2 and of the folder composed of the tapering mouth d_2, the partition d_3, all being arranged with the guide groove b_2 and needle hole f_2.

No. 6614. Stone Extractor. *(Charriot épierreur.)*

Joseph Filion, St. Eustache, Que., 2nd October, 1876, for 5 years.

Résumé.—1o. La combinaison de la charpente A, faite en comble de brisis, disposée sur quatre roues C, et composée des maitres chevrons a, des ambes de force b, des liernes d, des entrais e, des paçons f, des traverses g, avec le treuil F, le palan J et le crochet K; 2o. La combinaison de la plateforme E, portée sur la traverse c de l'avant-train, chevillée à l'essieu de devant B, avec un charriot épierreur.

Claim.—1st. The combination of the frame A, made in the shape of a curved roof, mounted on four wheels C, and composed of principal rafters a, cross stays b, rails d, tie-beams e, joggle-piece f, cross-piece g with the derrick F, tackle J and the hook K; 2nd. The combination of the platform E mounted on the cross-piece c of the fore-carriage, fastened to the fore-axle B, with a stone extracting carriage.

No. 6615. Improvements in Steam Boilers.

(Perfectionnements aux chaudières à vapeur.)

Benjamin S. Koll, Pittsburg, Pa., U. S., 2nd October, 1876, for 5 years.

Claim.—1st. The flanged, jointed, curved bearings B arranged in a cylinder or flue boiler; 2nd. The circulation plates a arranged in a cylinder or flue boiler, with a longitudinal opening between the lower adjacent edges of such plates for a downward current, to supply the upward current between the plates and the shell of the boiler; 3rd. A circulation plate a a_1 arranged in a cylinder or flue boiler, whereby a trough-shaped dead-water space c is secured above the bottom of the boiler and a little out of the line of circulation; 4th. The combination of circulation-plates a a_1 following the curvature of the boiler-shell and deflecting plate d attached to the shell: 5th. The vertical diaphragm s in combination with a system of circulation plates and passages on either side; 6th. The plates a a_1 constructed so as to form dead-water troughs c in combination with a blow-off pipe P arranged therein; 7th. The combination of blow-off pipes P and steam wash-pipes e e_1 relatively arranged in the dead-water troughs; 8th. A boiler having a system of water-circulation passages, wherein circulation is kept up in such passages by the fire heat or differences of temperature, the arrangement of the feed water-pipe in the line of water circulation, and discharging in the direction of the flow of the currents; 9th. The duplicate system of water-feed, water circulation and water blow-off, arranged in the opposite halves of a cylinder or flue boiler, and on opposite sides of a vertical longitudinal diaphragm.

No. 6616. Improvements on Hoes.

(Perfectionnements aux houes.)

John R. Reynolds, Essex Center, Vt., U. S., 2nd October, 1876, for 5 years.

Claim.—1st. A seeding attachment to hoes, consisting of a hopper A, a guide-way D and spring slide; 2nd. In combination with the hopper A and guide-way D, the spring slide composed of two parts c d adjustable relatively to each other, whereby the seed cup can be enlarged or diminished to regulate the number of kernels to be dropped simultaneously; 3rd. In combination with the slide in which the seed cup is formed, and the guide-way D in which the same operates the spiral spring I for retracting the slide.

No. 6617. Manufacture of Peat.

(Fabrication de la tourbe.)

David Aikman, Montreal, Que., 2nd October, 1876, for 5 years.

Claim.—1st. The process of manufacturing peat fuel by delivering the pulp peat direct from the excavating machine into a number of wire moulds, and then submitting it to compression, the bricks thus formed being placed on drying stages; 2nd. The boxes B divided into two or more compartments, and containing moulds of wire mesh for the reception of pulped peat: 3rd. In combination with the boxes B carried on any suitable car, the screw or other press M; 4th. In combination with any machine for the excavation of peat, the track D laid parallel to the canal cut track D_1, and drying stages L and tracks D_2 connected by turntables.

No. 6618. Improvements on Stove-Pipe Ventilators.

(Perfectionnements aux ventilateurs de tuyaux de poêles.)

Johnson Briggs, Toronto, Ont., 2nd October, 1876, for 5 years.

Claim.—A ventilator connection for stove pipes, constructed of the tubular continuation B, having an aperture C enclosed by a covering D, forming a passage E furnished with a register F and with or without the damper H, whereby the foul air ascends in the passage E before entering the smoke flue.

No. 6619. Potato Digger. *(Arrache-patates.)*

Stephen Martin, Hars, Ont., 2nd October, 1876, for 5 years.

Claim.—1st. The combination of the parallel sides A A having mould boards C C, the intermediate plough point F and apron G, and the rotatory blades M driven from the axle B by the band and pulley devices; 2nd. The flap valve R opening upwardly, pivoted to the sides A A between the point F and apron G.

No. 6620. Refrigerator Car. *(Wagon réfrigérant.)*

John M. Ayer, Chicago, Ill., U. S., 2nd October, 1876, for 5 years.

Claim.—1st. The combination of an external casing, an interior lining and an intermediate sheet of India rubber, or "rubber packing"; 2nd. The combination of an external casing, an interior lining and an intermediate sheet of India rubber, or "rubber packing" arranged so as to form an air chamber between the outer casing and the rubber lining; 3rd. The combination of the outer casing, provided with openings K, interior lining and intermediate sheathing of India rubber, or rubber packing arranged so as to form an air chamber between the outer casing and rubber lining into which the apertures K open; 4th. The combination of the outer roof covering G, and the sheathing of India rubber or rubber packing D; 5th. The combination of the interior roof lining and the sheathing of India rubber or rubber packing D; 6th. The roof boards G H with an air space between them, communicating by side openings K with the outside atmosphere in combination with the rubber sheathing D and supplementary roof I, provided with a rubber covering and forming an additional air chamber.

No. 6621. Steam Exhaust for Mill-Stone Curbs and Conveyors.

(Rafraîchissoir des meules courantes et conduits.)

Benjamin Barter, Toronto, Ont., 2nd October, 1876, for 5 years.

Claim.—1st. The pipe C having branch pipes E and F, leading respectively to the curb stone A and coveyor B, in combination with the exhaust fan D; 2nd. The exhaust pipe C, in combination with the drip bucket G.