

for Carriages." (Perfectionnements dans la fabrication des ronds d'avant-train de voitures.)

*Claim.*—The process of forming the lower-half of the fifth-wheels for carriages, by subjecting the blank to operation in the series of dies 1, 2, 3 and 4, so as to form the body and clips either in one piece, or by welding them together.

No. 4879. SIMEON DUCK, Victoria, B. C., 18th June, 1875, for 5 years: "Mortising Machine." (Machine à mortaiser.)

*Claim.*—1st. The bed A, held in the shaft K; 2nd. The combination of the cog-segment I, and worm-shaft H, with the rocking-shaft K, and frame M, for tilting the bed A; 3rd. The combination of the screw-shaft L, and cog-segment I, with the rocking-shaft K, and frame M, for adjusting the bed A, laterally; 4th. A tilting bed A, having a longitudinal sliding-frame N, and adjustable-heads B, B, for holding the material; 5th. In combination with the sliding-frame N, and tilting-bed A, the rack-bar J, and cog-wheel O, for operating the frame longitudinally; 6th. The adjustable-head provided with a rotary-chuck C, and spring-pin D, for holding the material at any desired point of rotation.

No. 4880. FREDERICK VAN PATTEN, and EMEROU D. CLAPP, Auburn, N. Y., U. S., 18th June, 1875, for 5 years: "Improvements on the Manufacture of Fifth Wheels for Carriages." (Perfectionnements dans la fabrication des ronds d'avant-train de voitures.)

*Claim.*—The process of forming the upper half of fifth-wheels for carriages, by subjecting the blank to operation in the series of dies 1, 1, 2, 2, and 3, 3, so as to form the body and lug-ends either in one piece or by welding them together.

No. 4881. FREDERICK H. DATE, Niagara, Ont., and FREDERICK H. EICHBAUM, Detroit, Mich., U. S., 18th June, 1875, for 5 years: "Gas Retort." (Cornue à gaz.)

*Claim.*—1st. The mixing and decomposing retort K, L; 2nd. The combination of one or more retorts for distillation with a retort for mixing and decomposing gases, the last named retort being connected with the former; 3rd. The combination with the retorts A, B, K, and L, of the stand-pipes E, E, having suitable valves and the branch pipes G, H, having valves; 4th. The retorts L, in combination with the retort K, having stops e, and f; 5th. Providing the retort L, and K, with lugs e, f, and stops g, h; 6th. The chamber I; 7th. The combination of the chamber L, and the retort L; 8th. The pipe O, arranged and combined with the retort L.

No. 4882. EDWIN A. BEERS, DeKalb Centre, Ill., U. S., 18th June, 1875 for 15 years: "Gang Plough." (Cultivateur.)

*Claim.*—1st. In combination with the plough-beams N and N, and laterally adjustable-blocks K, and K, provided with the slots k, and k, the tongued and slotted blocks L, and L, and the clevises M, and M; 2nd. A plough-beam swivelled at its front end within a suitable attachment and locked in position therein, by means of a set-screw; 3rd. In combination with the plough-beam N, hinged at its front end, the bar W, pivoted at one end to the rear end of said beam, jointed at its longitudinal centre, and provided at its rear end with a longitudinal slot v, which embraces the pin X; 4th. In combination with the jointed-bars u, and W, the shaft Y, provided with the arms y, and y, and foot-lever v, and connected to or with said bars by means of the rods Z, and Z; 5th. In combination with the plough-beams N, and N, the bars A, and A, secured to or upon said beams, and provided at their inner ends with the interlocking loops a, and a; 6th. A pole attached to and made laterally adjustable upon the frame of a plough

No. 4883. NELSON E. SMITH, (Administrator for Russell Smith, deceased,) Richford, Vt., U. S., 18th June, 1875, for 5 years: "Milk-cooler." (Réfrigérant à lait.)

*Claim.*—1st. The milk-pan A, constructed with a rounded and inclined-bottom; 2nd. The pipes D, constructed triangularly in cross-section, and arranged with the apex downward; 3rd. The subdivision of the vertical-tube E, by the central longitudinal partitions F, for forming induction and eduction water-passages connecting with the pipes D.

No. 4884. HENRY RAGOT, Pittsburgh, Pa., U. S., 18th June, 1875, for 5 years: "Improvements on Glass Furnaces." (Perfectionnements aux fourneaux de verre.)

*Claim.*—1st. A gas generating-furnace having a series of air-flues between its outer and inner walls, and communicating with a chamber over the crown of said generator, whereby the air is heated and commingled with the results of combustion; 2nd. The gas generator A, having air-flues B, C, D, in combination with the gas chamber B, of the glass-furnace A, whereby heated air is commingled with the results of combustion, prior to entering the fire-chamber C; 3rd. The furnace A, having its fire-chamber C, surrounded with a gas-chamber B, communicating with a gas-generator; 4th. The exit-flues a and a, provided with valves m, whereby the current of heated-air through the air-flues and the flow of gas from the generator may be regulated so as to secure the desired union of heated air and gas; 5th. The furnace A, having a pot bench D, and a central fire-chamber C, communicating with a gas or heated-furnace; 6th. A gas generator or a heating-furnace, having an air chamber or chambers between its outer and inner walls for the purpose of heating air, which is subsequently commingled with the gas generated by a generator or furnace.

No. 4885. CHARLES W. HUNT, West New Brighton, N. Y., U. S., 18th June, 1875, for 5 years: "Automatic Railway." (Chemin de fer automatique.)

*Claim.*—1st. In combination with the rope B, car W, and track, the secondary-track d, wheel d, and weight g; 2nd. The weighted frame p, in combination with the track d; 3rd. The double grooved and flanged wheel d; 4th. The arrangement of the rope B, over the wheel d; 5th. The double drum t, u, rope c, weight p, and rope B; 6th. The cam m, in combination with the car W, rope B, and block i; 7th. The adjustable block i, arranged in advance of the cam m; 8th. The yoke-piece D, attached to the axis of the wheel d, and having a ring in the apex for the rope B, to pass and guide the wheel in a true line with the track d.

No. 4886. PHILEMON WRIGHT, Ottawa, Ont., 18th June, 1875, for 5 years: "Backband for Cart Saddles." (Dossière de sellettes de travail.)

*Claim.*—The combination of the parts A, C, C, and the ring or dee marked B.

No. 4887. GEORGE H. REYNOLDS, New York, U. S., 18th June, 1875, for 10 years: "Improvements on Rock Drilling Machines." (Perfectionnements aux machines à forer le roc.)

*Claim.*—1st. The combination with a stuffing-box formed on the cylinder-head, through which the drill or tool carrying portion of the piston-rod passes, of the duplicate sliding-bushings P, Q, and the interposed india-rubber, or other elastic packing N, around the piston-rod; 2nd. In combination with the elastic packing N, and the sliding-bushings P, Q, the follower R, applied to press against the outer bushing for the purpose of adjusting the compression of the packing, and affording facility for removal or renewal thereof; 3rd. The sets of induction and eduction passage arranged as shown in the cylinder, in combination with a recessed piston, a cushion to soften the shock when the piston strikes the cylinder end, and with means for rotating the piston and its attachments; 4th. The disc C, resting on the seat A, and supporting the twisted rod C, in combination with the passage a, admitting steam at a constant pressure thereto, and with the reciprocating-piston and drill; 5th. The channeled-guides A, serving as reinforcing-ribs on the cylinder, and as guides for the cylinder, in combination with the longitudinal-bolts E; 6th. In combination with the bolts E, extending from the lower end, and taking hold of the flange of the cylinder, the head A, formed with recesses adapted to take hold of, and confine the nuts e, on said bolts; 7th. The frame or cradle G, made in two separate pieces, and adapted to be pinched or clamped by the legs; 8th. The bolt K, performing the double office of holding the legs J, J, and supporting the two sides of the cradle G; 9th. The leg I, II, performing a double function: first, as one of the legs of the tripod and secondly, as a support for the cheeks of the frame G; 10th. The legs I, J, J, fitted rigidly upon the bolt K, in combination with a suitable supporting and guiding-frame G, and with one or more legs I, adjustable thereto; 11th. The combination of the legs J, J, and leg I, with the enclosed parts of the cradle G, and with the bolt K, and tightening-means L, the legs having conical bearings, and entering conical recesses in the faces of the cradle; 12th. The duplicate points m, n, formed solid on the legs of a rock-drill support adapted to allow of reversing in position; 13th. The tripod leg n, z, in combination with the weight W, having grooves adapted to match thereon; 14th. A tripod leg, the outer end carrying the weight, and allowing the leg to be lengthened and shortened, while the weight remains undisturbed; 15th. The rock-drill tripod with telescopic legs arranged with the tubular or female part, outermost, and provided with means for attaching steadying weights thereon.

No. 4888. LESSER MUNRO, DUNCAN MCARTHUR, WILLIAM H. CHALKER, Ottawa, and GEORGE MACGUIRE, Montreal, (Assignees of H. J. Hotchkiss), 24th June, 1875, for 5 years: "Spooler and Pin-cushion Combined." (Pelotte-porte-bobines.)