

ble seat, in combination with a hinged foot stick L. 6th. A lifting lever N, supported by the frame I and connected to a shieve quadrant R, in combination with a chain T, passing over a shieve pulley U and connected to the table S. 7th. A reaping machine having a single driving wheel and only one pair of bevel gear used to impart motion to the knife, the rod V, fastened to the bracket W, and arranged to slide in bearings on the frame I.

No. 11,638. Improvements in Oil Cans. (*Perfectionnements dans les bidons d'huile.*)

Edwin R. Deverall, Cincinnati, Ohio, U. S., 14th August, 1880; for 5 years.

Claim.—1st. A detachable tube I, having a conical base J, an aperture K being formed through the base beneath which aperture a frusto-conical tube K₁ containing a ball valve is soldered to said base, the upper end of the discharge spout being curved or bent to the same side on which said aperture is placed. 2nd. The threaded cup C, having a flange B₁ turned inwardly at the base, which forms a seat for the base of the discharge spout, said cup C being soldered to the top of the case A. 3rd. The threaded cylindrical cap D, having on its upper end a head centrally depressed and with an opening therein into which is soldered a thimble H, part of which projects above and part below said head, said cylinder being further provided on its lower end with an annular flange projecting inwardly, and which rests on the base of the discharge spout I, when the cylindrical head is screwed home. 4th. The combination of the cam A, provided with a threaded cup C, and having a threaded cylindrical cup D and thimble H, with a discharge spout I having a conical base J provided with an aperture K, frusto conical tube K₁ containing ball valve, with the upper end of said discharge spout curved toward the side of the spout on which the aperture K is placed.

No. 11,639. Improvements on Refrigerators. (*Perfectionnements aux garde-manger.*)

John Alexander, Toronto, Ont., 14th August, 1880; for 5 years.

Claim.—1st. An air chamber I, separated from the ice chamber by an open rack and connected by the flues J G to the provision chamber B. 2nd. An open ice rack C in combination with a water shed D, and trough E. 3rd. An ice rack C, water shed D, trough E and slanting boards A, in combination with the flues J G, arranged as described, for the purpose of securing the full benefit of the ice in the chamber A, for cooling the chamber B without the air used for that purpose coming in contact with the ice in the said chamber A.

No. 11,640. Improvements in Dentists' chairs (*Perfectionnements aux fauteuils des dentistes.*)

Elilm Barritt, Elgin, Ill., U. S., 14th August, 1880; for 5 years.

Claim.—1st. The combination of two foot levers C D and an automatic detent m, acting upon a toothed or raked column G, provided with two sets of teeth. 2nd. The combination of a base B carrying the body of the chair and mechanism for adjusting the same, and revolving upon the shot i, in the base A. 3rd. The combination of a rod g, hinged to the chair body, the two loosely coiled spiral springs upon the rod g, the friction joint linking the rod g to the lug h, and the foot lever E, for locking the rod in any desired position. 4th. The combination of a supplemental foot rest N, with slot s, segment of a circle t, bolt r and rod p, with two coiled spiral springs. 5th. The combination of the back frame I, the lugs K₁, the bolt K, and thumb nut n, the slotted link t and the upholstered back K.

No. 11,641. Improvements on Anchors. (*Perfectionnements aux ancres.*)

Hypolite Martin, Ottawa, Ont., (Assignee of Edwin Buckland, New Glasgow, N. S.), 14th August, 1880; for 5 years.

Claim.—The double shoulders G on the boss of the flukes, acting in combination with plate J, the shoulders G working in the recesses D, and the plate J in oblong hole H.

No. 11,642. Process for Chlorinating Ores. (*Procédé pour chlorer les minerais.*)

The Mears Chlorination Co'y, (Assignee of James H. Mears,) Philadelphia, Penn., U. S., 14th August, 1880; (Extension of Patent No. 10,834)

No. 11,643. Process for Chlorinating ores. (*Procédé pour chlorer les minerais.*)

The Mears Chlorination Co'y (Assignee of James H. Mears,) Philadelphia, Penn., U. S., 16th August, 1880; (Extension of Patent No. 10,834.)

No. 11,644. Improvements on the Manufacture of Illuminating Gas. (*Perfectionnements dans la fabrication du gaz d'éclairage.*)

Charles W. Isbell, New York, U. S., 18th August, 1880; for 5 years.

Claim.—1st. The process for utilizing, by their conversion into permanent gas, various hydro-carbons existing in the tar which passes over from the retorts in which coal is distilled for the manufacture of gas, such process consisting in first subjecting the tar to the combined action of the hot gas from the retorts and steam, thereby separating and vaporizing such hydro-carbons, and subsequently passing the vapours so obtained, along with the gas from the retorts, through a converter heated by the waste heat from the retorts. 2nd. The combination of a retort or bench of retorts and its hydraulic main, and a steam scrubber into which are introduced the hot gas from the retorts and tar from the hydraulic main of a converter, which is heated by the waste heat from the retort furnace and into which the steam, gas and hydro-carbon vapours pass from the steam scrubber. 3rd. The combination with the converter for changing the hydro-carbon vapours obtained from tar in the distillation of coal or other bituminous substance into permanent gas, and with the flues of a bench of retorts used in distilling such coal, of slides or dampers for controlling the escape of the heated gaseous products of

combustion from said bench to, through or around said converter, or out of the way thereof. 4th. The steam scrubber constructed as described.

No. 11,645. Improvements in Rotary Engines. (*Perfectionnements aux machines rotatoires.*)

Henry Thibault and Thomas Hawkins, New York, U. S., 18th August, 1880; for 5 years.

Claim.—1st. The case R provided with the steam ports or channels F F₁. 2nd. The case R provided with the steam ports F F₁ and connected with the steam chest B. 3rd. The revolving drum L provided with eight sliding pistons M and springs N. 4th. The packing springs S, provided with the springs I and adjusted by means of the set screws J. 5th. The face packing or springs G. 6th. The arrangement of the case R provided with the steam ports F F₁, with the drum L provided with the pistons M and springs N, so as to form the steam spaces V V. 7th. The combination of the case R, provided with the steam ports F F₁, the drum L provided with the sliding pistons M and springs N, and packing ring S. 8th. The combination of the case R, provided with the steam ports F F₁, the drum L provided with the sliding pistons M and springs N, steam spaces V and packing rings S. 9th. The combination of the case R provided with steam ports F F₁, the drum provided with the sliding pistons M and springs N, steam spaces V, packing rings S and face packing G. 10th. The combination of the case R provided with the steam ports F F₁, the drum L provided with the sliding pistons M and springs N, steam spaces V, packing rings R and guide band K.

No. 11,646. Improvements on Churns. (*Perfectionnements dans les barattes.*)

William H. Baldwin, Ottawa, Ont., 18th August 1880; for 5 years.

Claim.—1st. A churn conducting the course of the cream by a horizontal and vertically undulating movement, through the path of an elongated figure of eight. 2nd. In a churn of an oblong or elliptical shape, the deflecting pieces J. 3rd. The supporting hinged levers A A pivoted at one end to the frame F, and at the other end to the bottom of the churn H. 4th. The crank L fitted to the frame G and to the part O of the bottom of the churn H. 5th. The frames F G inside of which oscillate the hinged levers A A.

No. 11,647. Improvements on Car Springs. (*Perfectionnements aux ressorts des chars.*)

Allan Middleton, Philadelphia, Pa., U. S., 18th August 1880; for 5 years.

Claim.—A car spring in which inclined spirals are combined with, and interposed between plates.

No. 11,648. Improvements on Gauge Lathes. (*Perfectionnements aux tours à jauge.*)

William Lester, Sherbrooke, Que., 18th August, 1880; for 5 years.

Claim.—1st. The combination, in a gauge lathe or lathe of any description, of the guides F F with the flanges F₁ F₂ of the bed of the same. 2nd. In the saddle of a lathe, or more especially those known as gauge lathes, the combination of the bead cutter holders H₁ H₂ and swivelled sliding angle piece P, with the saddle frame C following tools A A and sizing tool T.

No. 11,649. Improvements on Balance Valves. (*Perfectionnements aux soupapes d'équilibre.*)

James Livingston and John Kennady, Toronto, Ont., 18th August, 1880; for 5 years.

Claim.—1st. The combination with an enclosing valve case having a cylindrical chamber provided with steam inlet and exhaust ports connecting with engine cylinders, of the packed piston heads C₁ C₂ attached to a reciprocating spindle, said piston heads being continuously exposed on their outer faces to the full pressure of the steam. 2nd. The valve casing provided with the steam supply passage G, inlet exhaust ports and a cylindrical chamber extending beyond the stroke of the valve, at each end, in combination with the double packed piston head valve C₁ C₂.

No. 11,650. Improvements on Yard or Garden Gates. (*Perfectionnements aux portes cochères ou barrières de jardins.*)

Robert H. Higgins, Watby, Ont., 18th August, 1880; for 5 years.

Claim.—1st. The combination of the hinge a b with the projections S S S. 2nd. The combination of the latch plate O, latch guard H C, latch I J, together with the latch lifter g and pin n, or its equivalent.

No. 11,651. Improvements in the manufacture of Boots and Shoes. (*Perfectionnements dans la fabrication des chaussures.*)

Joseph Hogan, St. Jean, Que., 18th August, 1880; for 5 years.

Résumé.—1o. La nouvelle manière de tailler ce genre de chaussures pour que la couture soit dans le côté du quartier. 2o. La manière de tailler cette chaussure pour qu'elle soit lacée sur le dessus du pied, en tenant un bout du dessus de l'empeigne b b. 3o. La manière de tailler cette chaussure pour la faire lacer dans le côté du quartier au lieu de dessus le pied c c.

No. 11,652. Improvements in Wheel Tires and Shoes for Sleigh Runners. (*Perfectionnements aux bandages des roues et aux semelles des patins de traîneaux.*)

Louis Bredannaz, Montreal, Que., 18th August, 1880; for 5 years.

Résumé.—Dans les fers pour bandage de roues et de semelles de patins de traîneaux, le triple méplat A A A₂ A₃ et les exubérances E.