No. 9814. Improvements on Reciprocating Motors. (*Perfectionnements aux moteurs à mouvement de va-et-vient.*)

Adam Knecht, Quebec, Que., 4th April, 1879, for 5 years.

Claim.—1st. The combination of the two cylinders A B connected or separate, the two pistons C D, tube E and valves F G whether the springs I, M be used or not, 2nd A tappet or shifting cam T on the crank pin Q; 3rd. The combination of the hollow piston rod N, piston connecting rod P, valve connecting rod S, tappet or shifting cam T, crank pin Q, slotted loose disk or pulley V, slotted fast pulley X, sliding block Y and swivel screws Z and spiral springs B, with each other, with the driving shaft W and with or without the two cylinders A B, the two pistons C D, tube E and valves S G; 4th. A reciprocating apparatus or motor, having valves in its pistons and shifted automatically by the extended stroke of the piston or by the valve rod.

No. 9815. Improvements in Water Turbines.

(*Perfectionnements aux turbines hydrauliques.*)

Edwin R. Stilwell, Dayton, Ohio, U. S., 4th April, 1879, for 5 years.

Claim.—1st. A turbine water wheel composed of buckets whose faces are inclined and which extend centrally to the shaft, from thence downward, rearward and outward, forming a combined vertical and centrifugal system of discharging of the water acting on the wheel 2nd. A turbine water wheel, the buckets of which occupy the entire area of the wheel, from the shaft outward, and which form the combined vertical and outwardly discharging series of orifices; 3rd. A turbine water wheel, the buckets of which occupy the entire area of the wheel, from the shaft outward, with the face inclined to a vertical line which receives the water centrally upon the outer faces and which discharges the same downwardly therefrom; 4th. A turbine water wheel whose buckets occupy the entire area of the wheel from the shaft outward, and in which the lower portions of the buckets, which are below the chutes, are of larger circumference and have between their faces orifices, for discharging the water outwardly from the buckets; 5th. A turbine water wheel whose buckets occupy the entire area of the wheel, from the shaft outward, which have inclined faces and project outwardly below the chute, and overlapping each other so as to form an outwardly discharging orifice beneath the chute, 6th. A water wheel, the buckets of which have inclined faces and which project outwardly and under the chute case, and which are inclined rearwardly to overlap each two buckets next in rear, and forming a combined outward and downward discharge for the water.

No. 9816. Combined Umbrella and Cane.

(*Canne-parapluie.*)

John Boyd, Antigonish, N. S., and Robert D Kirk, Arthur, Ont, 8th April, 1879, for 5 years.

Claim.—The combination and arrangement of the several parts namely: the runner B, hanger A, notchet C, ribs D, stretchers E, screw point F ferrule K and knob I in connection with the hollow tube G, in the detachable rib tips H in connection with the detachable cover.

No. 9817. Picking Motion for Shuttles.

(*Chasse-navette.*)

William H. Dyson, Sherbrooke, Que., 8th April, 1879. for 5 years.

Claim.—The socket and buffer A and B, the picker F, with the rubber C, also the picking lever and hook E with the holes *h* and rocker L.

No. 9818. Improvements on Ventilating Millstones. (*Perfectionnements dans le mode de rafraichir les meules.*)

Harvey A Manderson, Maria, Que., 8th April, 1879, for 5 years.

Claim.—1st. The runner stone A provided with a peripheral band E having wings F; 2nd The casing D provided with an internal peripheral hoop G to intermediately contract the air space above the band and wings; 3rd. The combination, with the stone B, of the runner A provided with peripheral band E having wings F, the casing D provided with an internal peripheral hoop or projection G and the spout H; 4th The wings F pivotally connected to the band E for increasing or diminishing the air suction by adjustment.

No. 9819. Improvements on Waggon Tops.

(*Perfectionnements aux soufflets des voitures.*)

Samue T. S. Wicks, London, Ont., 8th April, 1879, for 5 years.

Claim.—The buggy and waggon top A constructed of rods B B1 with union C, ribs D G. stays E I, sliding ferrules F J, plate K, key projection *b*, cap L and curtains M.

No. 9820. Improvements on Ice Creepers.

(*Perfectionnements aux crampons à glace.*)

Edward D. Austin, Erie, Penn., U. S., 8th April, 1879, for 5 years.

Claim.—The plate A concaved long tudinally and transversely, or either way only, and provided with a shank a^2 having upon its end a rectangular head a^2 with pivots a^3 upon its sides, and the spring B, formed of a single strip of steel, having its end parts bent back upon itself and its ends bent forward and perforated to receive the pivots a^3 of the shank head a^2, and having holes formed through it near its bends to receive the fastenings screws, to adapt the device to be attached to a boot or shoe heel.

No. 9821. Improvements on Gas Shade-Holders. (*Perfectionnements aux porte abat-jour.*)

Joseph Breeden, Birmingham, England, 8th April, 1879, for 5 years.

Claim.—1st. Mounting the arms of gas, and other globes and shade-holders to work on pivots or axis, in a support on the burner tube so that the arms shall be free to describe arcs of circles; 2nd. In a gas and other globe and shade holders, the combination, with the arms mounted to work on pivots and provided with toothed sectors, of the worm mounted to rotate and gear with said sectors.

No. 9822. Improvements in Soap Compositions. (*Perfectionnements aux compositions de savon.*)

William C. Macartney, West-Flamboro, Ont., 8th April, 1879, for 5 years

Claim.—The combination of alcohol and rosin, in the proportions given

No. 9823. Improvements on Fire Kindlers.

(*Perfectionnements aux allumoirs.*)

William H Banfield, Quebec, Que., 8th April, 1879, for 5 years.

Claim.—As an improved article of manufacture, the described fire kindler consisting of the two parts A B, having perforations C and flanges *a b* secured together, filled with a non combustible absorbent material, and provided with a handle E.

No. 9824. Improvement in Curtain Cord Tighteners. (*Perfectionnement aux arrêts cordons des rideaux.*)

Frederick E. Porter, Baltimore, Md., and David A. Beatson, New York, U. S., 8th April, 1879 for 5 years.

Claim.—1st. The slotted sheet metal plate A struck up, and having perforated end pieces *a*, screw *b*, block C and roller D; 2nd. In combination with the sheet metal strip A, having slot a^1, and struck up to form end tangs *a* perforated, the milled head screw B, block C, roller D and disk C1.

No. 9825. Improvements on Mechanical Movements. (*Perfectionnements aux mouvements mécaniques.*)

James D. Foster (Assignee of John W. Mullins), London, Ken., U. S., 8th April, 1879, for 5 years.

Claim.—The combination with the wheel A, having an annular recess B in each face, the limb C in the centre of the wheel, provided with an annular groove around each end, the curved levers D D, one being placed on one side of the wheel and the other on the other side, and extended from one side of the recess to the other, the brakes E pivoted to the levers D, and having their ends placed in the grooves in the hub, the springs *a a* and the bars G G connecting the free ends of the levers D D.

No. 9826. Combined Churn and Butter Worker. (*Baratte et batte-beurre combinés.*)

Henry A. Rideout, Oliver B Rideout and Martha P. Rideout, Calais, Me., U. S., 8th April, 1879, for 5 years.

Claim.—1st. The circular board A, supporting a turn-table and having a handle projecting from its edge; 2nd. The combination, with the circular board A having handle, of the turn table C having raised centre grooved edge C^1, pipe C^2 and the anti friction rollers *a*; 3rd. The combination, with the turn table C, of the projecting strip B, having side *b* for supporting the lever standard, 4^{th} The standard D, having pivoted swivel E and pivoted ring *e*; 5th. The combination, with the strip B and sides *b*, of the pivoted standard D, the braced and removable pin d^1, 6th. The knife G having inwardly turned lower edge *g*; 7th. The combination, with the swivel standard and ring, of the rod F and removable knife G; 8th. The combination, with the swivel standard and the rod F, of the devices G and K1 for working and printing butter, each having a hole and thumb-screw for attaching it separately and removably to said rod; 9th The combination with the handle h^1 and plate I, having stud I^1, of the crank J and lever K; 10th. The combination, with the lever, crank, and dash metal plate and stud, handle and cover, of the turn-table C having rim C^1, grooved edge c^1 and pipe c^2.

No. 9827. Improvements on Valves.

(*Perfectionnements aux soupapes.*)

George H. Little, Peabody, and James S Smart, Salem, Mass., U. S., 8th April, 1879, for 5 years.

Claim.—1st. A valve provided with an expansion chamber of diameter greater than the valve opening, and with a plug or stem adapted to fit tightly in such chamber; 2nd A double seated valve, having one opening for both seats, and both seating surfaces adapted to seat simultaneously, in combination with a tight or nearly tight fitting plug for the chamber between such seats; 3rd. The two valve seats *c* and *d*, and the expansion chamber provided with the opening B therein; 4th. The plug valve *g*, constructed with its two seating surfaces *h* and *i*, and the tight fitting plug portion *g* in combination with the spindle for operating the valve, 5th. A valve having a tight fitting plug in an expansion chamber, located above the valve opening, 6th A valve provided with an opening, or chamber *e*, of larger diameter than that of the hole through the valve, and provided with a tight, or nearly tight, fitting plug, operating to prevent the steam from passing beyond it, until it is removed from such expansion chamber, 7th. A double seated valve and plug, either with a bevel seat or a flat seat, and provided with an expansion chamber between the seats, 8th. A valve, with an expansion chamber, having one seat instead of two, and with the plug either above or below the seat.

No. 9828. Safety Paper and Ink. (*Papier et encre de sûreté.*)

Gilbert P. Girdwood, Montreal, Que., 8th April, 1879, for 5 years.

Claim.—1st. A certificate of value printed upon fibrous unsized paper, and having the amount, signature, &c., written in ink, composed mainly of pure carbon or other material not acted upon by aid of alkalies; 2nd. A certificate of value printed upon fibrous unsized paper, and having the portion upon which the important parts are written, covered partially with devices printed in sensitive colours, so as to give an intermittent protection to the absorbent paper, and allow the ink to be absorbed only in a series of dots.

No. 9829. Lever Feed for Shingle Machines.

(*Levier alimentateur pour les machines à bardeau.*)

Robert Smallwood, Charlottetown, P.E.I., 8th April, 1879 (Extension of No. 3292), for 5 years.