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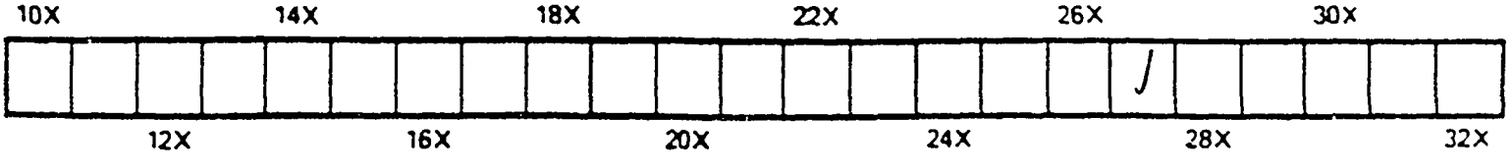

The Canadian Patent Office Record

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CONTENTS.

INVENTIONS PATENTED.

No. 8817. Improvements on Printer's Quoins.
(Perfectionnements aux coins d'imprimeries.)

Henry A. Hempel and Joseph A. Diugens, Buffalo, N Y., U S., 22nd May, 1878, for 5 years.

Claim.—1st. A pair of quoins having their contiguous faces made inclined and provided with parallel rack-bars adapted to be moved simultaneously, in opposite directions, by a pinion inserted between the rack-bars, 2nd. A pair of quoins D D having their contiguous faces, each provided with an inclined rib or feather e and a corresponding groove *f* arranged at the head of each quoin, 3rd. A pair of quoins D D having their contiguous faces each provided with an inclined central rib or feather e, a corresponding groove *f*, arranged at the head of each quoin and rack-bars *h h*, arranged on both sides of the inclined feather.

No. 8818. Improvements on Grinding Mills.
(Perfectionnements aux moulins à blé.)

Darius C. Newell, New York, U.S., 22nd May, 1878, for 15 years.

Claim.—The combination of the rollers geared to revolve at different speeds, and furnished with teeth or detents on interlocking angular ridges.

No. 8819. Improvements on Hinges.
(Perfectionnements aux pentures.)

Lemuel Patterson, Parker, Pa., U.S., 22nd May, 1878, for 5 years.

Claim.—1st. A hinge having a tapering socket, the pintle D made tapering from the head to the point; 2nd. The pintle D made tapering.

No. 8820. Improvements on Vehicle Springs.
(Perfectionnements aux ressorts des voitures.)

William McCord, Sing-Sing, N.Y., and William R. McCord, Jr., New York, U.S., 22nd May, 1878, for 5 years.

Claim.—1st. The combination with the supporting bar or axle A of two jointed beams D D, the vertical standards C C, to which said beams are pivoted, a yoke connected at its ends to the outer ends of the beams and springs E connected with the beams, so as to exert pressure on said beams between the pivotal points and jointed ends of the same; 2nd. The combination with the supporting bar A, the scale beams D D, the spring E E and yoke B, of a bell crank e 1, connecting the yoke and the scale beams.

No. 8821. Improvements on Bottle Stoppers.
(Perfectionnements aux bouchons des bouteilles.)

John M. Lewin, Lockport, N.Y., U.S., 22nd May, 1878, for 5 years.

Claim.—1st. In a machine for bottling effervescent or sparkling liquids, a plunger provided with means for retaining the stopper, 2nd. A plunger provided with means for retaining the stopper, in combination with such stopper; 3rd. A plunger having its lower extremity bifurcated, 4th. A stopper provided with means for attachment to the plunger of a bottling machine; 5th. A stopper provided with means for attachment to the plunger, and arranged to close the charging cylinder of a bottling machine, 6th. A stopper for bottles adapted to contain sparkling liquids, said stopper being provided with means for attachment to the plunger B and arranged to close the charging cylinder C, while passing through the same, and provided with means for holding it to the charged bottle; 7th. The combination with the disc D, having the overlapping packing E and the lugs G, with the cross-bar H of the open ring K, having the spring Q; 8th. The packing E, having the offset E^1 and flange E^{11}, 9th. The combination with the disc D, having the lugs G with the cross-bar H, of the opening ring K, with the spring Q, said ring being attached to the bail L, 10th. The open ring K having the spring Q; 11th. The open ring K having the lugs a a adapted to be clinched over the bail L; 12th. The detachable stopper, consisting essentially of the disc D, with the overlapping or projecting packing E and the lugs G, having the cross-bar H and notches R, open ring K, with the spring Q, handle O and stop lug P, and the bail L, pivoted to the neck of the bottle A.

No. 8822. Improvements on Electric Telegraphs. *(Perfectionnements aux télégraphes électriques.)*

John Muirhead, and Herbert A Taylor, London, Eng., 22nd May, 1878, for 5 years.

Claim.—1st. The accumulator having also power of conduction or artificial line, 2nd. The combination of the accumulator having also power of conduction or artificial line with an electric telegraph cable or line, for the purpose of duplex working; 3rd The construction of the accumulator having also power of conduction or artificial line by combining the following parts; 1, the conducting straps or strips of metal foil by which the current passes through the instrument 2 the metal foil having an earth connection through which it charges and discharges itself 3, the separating sheets of dielectric or insulating material, 4th The construction of the accumulator having also power of conduction or artificial line by combining the following parts 1, the conducting strip or strips of paper prepared with plumbago, or other conducting material, by which the current passes through the instrument, 2, the metal foil having an earth connection through which it charges and discharges itself, 3, the separating sheets of dielectric or insulating material.

No. 8823. Improvements on Brackets.
(Perfectionnements aux consoles.)

Robert B. Sanderson, Bridgewater, Pa., U.S., 22nd May, 1878, for 5 years.

Claim.—Hanging shelves constructed of slotted hangers, with top hooks and adjustable bracket-shelves secured to the hangers.

No. 8824. Improvements on Bag-holders.
(Perfectionnements aux accroche-sacs.)

Miller B. Hudson, John W. Hawley and James Wade, Canandaigua, N. Y., U.S., 22nd May, 1878, for 5 years.

Claim.—1st. The platform A, constructed with the side sockets *h h* and journals *l l*, the whole being formed in a single piece, 2nd. The attachment consisting of the spring arms D D and sliding bar or block C, connected together to form one device, in combination with the pivoted cam G, resting between the arms for the purpose of expanding them at any adjustment.

No. 8825. Improvements on Low Water Signals. *(Perfectionnements aux signaux de niveau d'eau.)*

Thomas Bingham and Thomas J. McTighe, Pittsburgh, Pa., U. S., 22nd May, 1878, for 5 years.

Claim.—1st. The combination of the following elements to wit: a longitudinally reciprocating valve e, a float B and a duplicate system of independent levers *g* independently connecting the valve and float together, 2nd The combination of the valve e, the cross-bar *d*, carrying the same and the combined pivot bearings and slotted guides c, depending from the cap C and constructed as shown, so as to form fulcra for the levers, 3rd The combination with the foot B, of the cross bar *d*, carrying the valve e, the independent levers *g* and the links *f*, respectively and independently pivoted to the cross-bar *d* and levers *g*.

No. 8826. Improvements on Window Frames and Sashes. *(Perfectionnements aux châssis et aux croisées des fenêtres.)*

Daniel E Cooke and George C. Schultz, Brantford, Ont., 22nd May, 1878, for 5 years.

Claim.—1st The combination of V-grooved slides D, with the sides L, of sash K, made to fit grooves, 2nd The combination of screws E, with washers G, attached to them at the back of slide D, 3rd The combination of spiral springs F with nuts H, on screws E, 4 h The application of screws S and nut T, to work spiral spring V, also V slide Q, having recesses R; 5th. The combination of india-rubber packing M N O, with sash K.

No. 8827. Apparatus for Supplying Locomotive Tenders with Water. (*Appareil pour servir l'eau aux fourgons des locomotives.*)

Joseph Haggas, Uxbridge, and William Gooderham, Jr., Toronto, Ont., 27th May, 1878, for 5 years.

Claim.—1st. An injector A, fixed to some convenient part of a locomotive and having its discharge part *d* connected to the tank C, by the pipe B, in combination with steam pipe E and suction pipe G, arranged for the purpose of raising water from below the level of the track and for ing it into a locomotive tank C; 2nd. A spherically shaped injector A provided with water inlet part *b* and discharge or outlet part *d*, and supplied with steam by the jet-pipe *a*; 3rd. An elbow-pipe H, fixed to a ground tank and connected to the suction pipe G by the tapered point *g*, in combination with an injector A, arranged in connection with a locomotive for the purpose specified.

No. 8828. Improvements on Waggon Gate Catches. (*Perfectionnement aux arrête-portes de wagons*)

Frederick A. Havens, Wethersfield, Ct., U.S., 27th May, 1878, for 5 years.

Claim.— 1st. The spring and latch case A, recessed as described and adapted to be used upon either side of a waggon; 2nd In combination with the case A, recessed as described, the pivoted latch B and spring C

No. 8829. Improvements on Sewing Machines. (*Perfectionnements aux machines à coudre.*)

Clara P Hoffman, (wife of Peter Hoffman) (Co-inventor with Nicholas Meyers.) Buffalo, N.Y., U. S., 27th May, 1878, for 5 years.

Claim —1st. A needle arranged to pass horizontally through the cloth to be sewn; 2nd. A needle arranged to pass in and out of the cloth on one and the same side thereof, while passing the thread to the loop-taker; 3rd A sewing machine in which the stitching is performed by a needle passing through the various thicknesses of cloth without puncturing the uppermost larger thereof; 4th. A curved needle arranged to pass in a curved line through the cloth without puncturing the upper surface thereof, 5th. A needle arranged to pass through the cloth while being held in a depressed state, whereby said needle can pass and repass the cloth without puncturing the upper surface thereof, 6th. A needle arranged to puncture the cloth to be sewn on two places, on one and the same side while passing the thread to the loop-taker, 7th. A needle located below the cloth and a presser foot above the same, 8th. The needle below the cloth plate, said cloth plate being provided with a depression, 9th. The combination with the cloth plate C having the depression C^1, of the presser foot E having the bend 17, 10th. The combination with a needle arranged to operate on the under side of the cloth, of a cloth plate having a depression, and a presser foot having a bend to depress the cloth into the depression to enable the needle to pass through the cloth, 11th. The arm D arranged to swing entirely away from the cloth-plate, said arm being provided with means for locking it when over the cloth plate, 12th. The combination with the shaft P, of the crank O, needle bar K and needle R, said needle being arranged to operate below the cloth plate, 13th. The combination with the needle R, of the loop taker *a* arranged with capability of a compound movement, 14th. The combination with the vibrating needle bar K of the hollow standard *d*, shaft *c*, with the crank *e*, arm *b*, arm *k*, connected with the crank *i* of the loop taker *a* by the rod *j*, 15th. The combination with eccentric *h*, of the vibrating arm *f*, connecting rod *g* and crank *e*, for operating the loop-taker *a*, 16th. The combination with the vibrating arm Z, of the spring Z^1, operating the feed slide Q, 17th. The combination with vibrating arm Z of the slide 2, incline 5 and serrated feed bar 4, 18th. The combination with the casing 1, of the notched slide 2, having the incline 5, with the projection 6, the slotted feed-bar 4, sliding upon the pin 8 and provided with the projection 7, and the spiral spring 10, for producing a four motion feed, 19th The combination with the needle R, of a cloth plate, arranged with capability of adjustment relative to the distance between said needle and cloth plate, 20th. The cloth-plate C, pivoted to the casing B, with one end, and provided with means for raising and lowering said cloth plate, 21st The tensioning device described, consisting essentially of the fixed screw spindle 11, screw disc 12, clamping disc U and the spiral spring 13.

No. 8830. Flat Iron Heater. (*Chaufferette de fers à repasser.*)

James E. Underwood, Toronto, Ont., 27th May, 1878, for 5 years.

Claim.—The utensil A, provided with a suitable handle and arranged in connection with a stove or other heating appliance to form a close chamber within which flat iron may be economically and rapidly heated and protected from draughts of cold air.

No. 8831. Improvements on Stump Extractors. (*Perfectionnements aux arrache-souches.*)

Joseph D. Smith, Rockford, Ill., U. S., 27th May, 1878, for 5 years.

Claim.— 1st. The shaft *h* with lever P, ratchet wheel *i* and pawl R, in combination with the pulley L, pulley frame M and bar N; 2nd The combination of the pulley frame M, pulley L, roller and lever *h* P, pawl and ratchet R *i*, cable *m* and chain S, with cord or cable *n*, 3rd. The plate on casting K, with side flanges *k k* and end crotches k^1 k^1, in combination with the sweep I I, bar T and swivelled pin *f*, 4th. In combination with the platform A and cap B, the shouldered legs C, pulleys D and bolts or screws C^1, 5th. The bed piece A and sells A^1 A^1, when mounted or rollers *a a*

No. 8832. Saw Filing Machine. (*Machine à limer les scies.*)

Arla Martin, Big Rapids, Mich., U.S., 27th May, 1878, for 5 years.

Claim.—1st. The combination of the standard A having the slot *f* and lugs *c* c^1, the hinged bolt C and the spring *d* having the screws *g*; 2nd The arc-shaped bar K, and the guide E, carrying the reciprocating file rod *d*, and provided with clamp screw *l*, and combined as described, whereby said guide is adapted to slide on and be clamped to the arc-bar in any adjustment.

No. 8833. Improvement on Stoves. (*Perfectionnement aux poêles.*)

Charles H. McCaw and Thomas Brown, Port Perry, Ont., 27th May, 1878, for 5 years

Claim.—1st The smoke box F, and in combination with the fire box E, 2nd. The ventilator C, in combination with the smoke box F, 3rd. The combination of the fire box E, and outer casing C with the smoke box F and ventilator 3.

No. 8834. Improvements on Bee Hives. (*Perfectionnements aux ruches.*)

John H. Light, Calhoun, Mo., U.S., 27th May, 1878, for 5 years.

Claim—The hive *d* made of earthenware and having the inwardly curved sides and flaring mouth *e*, the outside of the lower end of the hive being made to conform to the inside.

No. 8835. Process of Reducing Vegetable Substances to Prepare the same for Saccharification. (*Procédé pour réduire les substances végétales pour les préparer à la saccarification.*)

James W. Gaff, Cincinnati, Ohio, U. S., 27th May, 1878, for 5 years.

Claim.— The process of reducing crude vegetable substances, to prepare the same for saccharification, by subjecting them to the agitating and solvent action of a current or currents of free steam under pressure.

No 8836. Process and Apparatus for Generating and Purifying Gas. (*Procédé et appareil pour produire et épurer le gaz.*)

Moses W. Kidder, Boston, Mass., U.S., 27th May, 1878, for 5 years.

Claim.—1st. The process for producing non-illuminating gas, first by raising anthracite coal or coke to a lively state of combustion by the free admission of air, then excluding air or the oxigen and nitrogen thereof, as explained, then passing steam into the burning coal, and then immediately and continuously passing the mingled products through incandescent charcoal; 2nd. The process for producing illuminating gas, which consists first in heating bituminous coal in a closed chamber or retort sufficiently to expel the hydro-carbon vapours from the coal without decomposing said vapours, secondly, in introducing combustible non-luminant gases, such as water gas, hydrogen, carbonic oxide or marsh gas, beneath the coal in said chamber, and passing it upwardly through such heated coal, whereby the nascent hydro-carbon vapours are taken up and lifted out from the coal and the non luminant gases carburetted, the mixed gases and vapours being subsequently superheated, 3rd. The process for producing illuminating gas from bituminous coal, hydro-carbon oils, and non-illuminating gas, which consists in distilling the vapours from such coal and hydro carbon oil, dropped upon such coal at a low temperature, and mingling with coal and oil vapours water gas, or non-illuminating gases as carbonic oxide and hydrogen, and continuously heating the mixture, and finally subjecting the same to a fixing heat, 4th. The combination, in a gas generating apparatus, of a vertical coal distilling chamber A, closed at both ends, an inclined retort A_2, and a passage E_3 and trunk A_1, as the connecting mechanism for the conveyance of mingled gases and vapours from the chamber A to the retort A_2, 5th. The combination, in a gas generating apparatus, of a vertical coal-distilling chamber A, closed at both ends, an inclined retort A^2, and passage E_3 and trunk A^1, as the connecting mechanism for the conveyance of mingled gases and vapours from the chamber A, to the retort A_2, the latter provided with gas diverting plates L_2, 6th. The sealing trough R for water, in combination with, and receiving, retaining and sealing the lower end of the coke pits U U^2, of the chamber A and trunk A_1, 7th The combination of the oil-pipe O, sealed and externally-heated chamber A, passage E_3, trunk A^2 and retort A_2, 8th. In a hydrogen-gas generating apparatus, the combination of grate *f*, steam pipes S_2, coal combustion chamber B, smoke trunk X, valve X_1 and pipe X_2, with the passage L, vertical trunk B^2, grate f_1, ash pit C_2, pipe *v* and hydraulic main B_2, 9th. The trunk X with its valve X_1, and the pipe X_2 with its orifice X_3, in combination with and as a conveyance for combustible gases, from the hydrogen generating chamber B, to the fire room N; 10th. The combination of the passage E, with chamber B^2 and ash pit C_2, with and as a conveyance for gases from the hydrogen generating chamber B, to hydraulic main B_2, 11th. In a gas generating apparatus, the combination of the coal or oil distilling and gas producing series consisting of the chamber A, magazine A_3, trunk A_1, retort A_2, passage E_3, pipe O, and trough R, with the hydrogen-generating apparatus, consisting of the combustion chamber B, passage E, vertical trunk B_2, ash-pit C_2, pipe *v*, hydraulic main B_2 and steam pipes S_2, the latter introducing steam in its passage to the hydrogen generator the said generator being additionally heated externally by the fire and heat in the corridors N_2; 12th. The combination of the combustion chamber B and its connected vertical trunk B_2, both having ash pits and grates for supporting coal in the first in a state of partial combustion, and in the latter incandescent with, and surrounded by the corridors N_2, and so as to prevent the escape of heat from the coal in the chamber B, and to induce and support incandescence of the charcoal in the trunk B_2, by heat from the corridors and from the chamber B; 13th. In a coal distilling chamber, the combination of the curved shovel Z, and friction rolls Z^1 Z^2, 14th. In a coal distilling chamber externally heated, the magazine A_3, located above the heated portion of said chamber and adapted to contain undistilled coal, whereby the more condensable oils arising with the gases and vapours from the distilling coal below are arrested, said oils being subsequently redistilled as the coal upon which they are deposited descends into the distilling chamber, 15th. In combination with the distilling chamber A_2 and retort C, the interposing hollow wall F_2.

No. 8837. Method of Preparing Paving Concrete. (*Mode de préparation du beton à pavage.*)

James S. Wethered, New York, U. S., 27th May, 1878, for 5 years.

Claim.—1st. The improvement in the process of preparing paving concrete containing among its ingredients limestone, or other calcareous matter, and asphalt, which improvement consists in heating the calcareous substance to

a high degree before mixing the same with the asphalt, and in mixing these two ingredients while they are both highly heated; 2nd. The improvement in the process of manufacturing compressed concrete paving blocks, which are moulded and condensed by pressure while hot, which improvement consists in oilling the surface of the compressed block while it is hot, or as it comes from, the mould, by the application of water to the block.

No. 8838. Chemical Compound for the Treating of Hides. (*Composé chimique pour le traitement des peaux.*)

Friedrich Knapp, Brunswick, Germany, 27th May, 1878, for 5 years.

Claim.—1st. The oxide salt, basic sulphate of iron prepared as (and having the physical properties) described. 2nd The process of preparing basic sulphate of iron, consisting, first, adding nitric acid to the boiling solution, of sulphate, of protoxide of iron and subsequently adding to the resulting solution sulphate of protoxide of iron, and either allowing the salt to remain in solution or evaporating the same to dryness

No. 8839. Improvements in Churns. (*Perfectionnements dans les barattes*)

Beauchamp Cokley and James F. Shedden, Moores, N. Y., U. S., 27th May, 1878, for 5 years.

Claim—The combination with a central vertical spindle carrying blades and rotated in one direction, of a frame also carrying blades attached to a sleeve, mounted on the spindle and revolving in the contrary direction.

No. 8840. Improvements on Washing Machines. (*Perfectionnements aux machines à laver.*)

William F. Wilkins and James T. Sawyer, Montreal, Que., 27th May, 1878, for 5 years

Claim.—1st. The spiral springs or rubbing surface r, drum or cylinder e spindle *b* and journals c, having slots *o*, in combination with the box or tub *a*, 2nd The spiral springs or rubbing surface r, drum or cylinder e rounds *i*, in combination with the box or tub *a* having slots *m*, one on either side.

No. 8841. Polisher and Cleaner for Pealed Barley. (*Polisseur et nettoyeur pour l'orge mondée.*)

Frédéric Latulippe, St Michel, Que., 27th May, 1878, for 5 years.

Résumé—1o. Une nouvelle crosse mobile I pour le nettoyage des treillis, et la combinaison des roues à engrenages H H de 45° pour servir de vis de rappel, 2o Un nouveau pivot fraisé T combiné avec l'arbre P et perforé tel que décrit, 3o. La forme du treillis N dont les broches sont posées obliquement au lieu d'être perpendiculaires.

No. 8842. Improvements in Corsets. (*Perfectionnements dans les corsets.*)

Joseph Gouilliond, Montreal, Que., 27th May, 1878, for 5 years.

Résumé—1o Un corset de jonc tissé au métier ordinaire pour n'importe quelle matière textile comme chaîne; 2o. Comme trames dans des brins de jonc *b* et b_1, ou rotin, paille d'Italie, de Panama ou autre paille ou herbes marines, ou autres analogues, minces, plates et flexibles, refendues ou non colorées ou non, argentées ou dorées, et coupées en biseau pour les gousets B et B_2,3o. Réunis ensemble par la simple contexture de la chaîne *a* ou séparés entre eux par un, deux ou plusieurs fils de contre-trame c de n'importe quelle autre matière textile.

No. 8843. Improvement in Breast Collars. (*Perfectionnement dans les bricoles de harnais.*)

Lewis Gibbs and William Gibbs, Canton, Ohio, U.S., 27th May, 1878, for 5 years

Claim—1st A breast collar frame A A, having the draft arms B bent inward at M, to form bearings for pads O O and attachments for traces, and with the front portion bent downward at M, from the plane of the arms B B; 2nd A breast collar frame made in two pieces, adjustable by means of a hinged joint at its lower end at C and F F', 3rd The upright draft pads O O, in combination with the collar frame A A; 4th. The draft pads O O provided with concave sockets Q, in combination with ball N on screw pin or bar P.

No. 8844. Process for Manufacturing Artificial Stone. (*Procédé de fabrication de la pierre factice.*)

John A. Murray, Yarmouth, N.S., 27th May, 1878, for 5 years.

Claim.—1st. An artificial stone composed of sand, cement and lime, and hardened and treated by the described method of subjecting the same to the action of steam and carbonic acid gas; 2nd. The combination of the structure A, furnace B, vessel C and tank D, with the pipes F E.

No. 8845. Improvements on Wringers. (*Perfectionnements aux essoreuses.*)

Franklin F Adams, (Assignee of Melvin N. Lovell,) Erie, Pa., U. S., 27th May 1878, for 5 years.

Claim—The standards *f f* cast with the fixed sockets or bearings of the upper roll, the oblong opening for the springs and movable bearings of the lower roll, and the lugs for attaching the clamps and cross-bar.

No. 8846. Improvements in Protractors. (*Perfectionnements dans les rapporteurs.*)

Robert T. Osgood, Orland, Me., U. S., 27th May, 1878, for 5 years.

Claim—1st The vertical centre point H secured to the gauge B and extending downward through the semi-circular opening of the rotating disc E. 2nd. The horizontal gauge plate C the spring D, in combination with the rotary disc E and base A; 3rd. The square base A with its graduated sides by tenths and inches and with its discs opening through the centre.

No. 8847. Improvements on Hose Couplings. (*Perfectionnements aux manchons des boyaux.*)

Frederick Stewart and Oscar F. Soudder, St. Louis, Mo., U. S., 27th May, 1878, for 5 years.

Claim. 1st. The combination with the interior tapering sleeve of the male or female coupling, of the split and tapering screw-bend and outer tapering screw sleeve, for clamping the hose end; 2nd. The combination of the inner sleeve A of the female coupling, with an interposed collar screwed on the end of the sleeve and the female coupling E turning on the shoulder of the collar; 3rd. The sleeve A having a series of offsets or shoulders *a*, for receiving the hose end.

No. 8848. Improvements on Ships' Windlass. (*Perfectionnements aux guindeaux.*)

Daniel C Peppard, Great Village, N. S., 27th May, 187 , for 5 years.

Claim.—The combination of the wooden drum A having the end caps L, and the chain wheel D locking therewith by the keys M.

No. 8849. Improvements on Mechanical Musical Instruments. (*Perfectionnements aux instruments de musique mécaniques.*)

Oliver H. Arno, Somerville, and John E. Turner, Cambridge, Mass., U. S., 31st May, 1878, for 5 years.

Claim.—1st. The combination of a sound producing plate B, or its equivalent, a hammer head C a spring lever stem *a*, having a butt piece *c* and a bar F, with a strip of paper or other sheet material adapted to pass between the said bar and butt piece; 2nd. The rail H, having the attached spring G, in combination with the butt piece *c*, having a spring hammer C and a tail piece *d*, against the upper side of which the free end of the spring bears, whereby said spring in its reaction throws the hammer against the sounding plate, 3rd. The stem *a*, butt piece c, hinge *b* and tail piece *d*, when made in one piece of wire.

No. 8850. Machine for Cutting Hoops. (*Machine à tailler les cercles.*)

John B Dougherty, Rochester, N Y, U S, 31st May, 1878, for 5 years.

Claim—1st The method of cutting hoops from a log, by means of two cutting knives acting at right angles to each other one of them severing the side of the hoop and the other its thin edge from the solid log: 2nd A hoop cut radially from a log so that the radial lines of the cut shall give to the hoop the necessary level required to fit the taper of barrels, casks, or other articles of cooper's ware, 3rd. The vertically and longitudinally moving knife carrier and its guides, in combination with the parallel bars *e* their supports, the connecting rod *d* and crank shaft F, 4th. The horizontally moving knife carrier and knife and its supports and guides, in combination with the universal jointed connection and crank shaft F_1, for the purpose of cutting the narrow edge of the hoop from the log, 5th The vertically moving knife its carrier, the connecting rod *d* and shaft F, provided with spur gear *a*, in combination with the shaft F_1 carrying spur gear *a*1 connecting rod *g* and horizontally moving carrier and knife for the purpose of severing one side and the edge of a hoop from the log, 6th. The spring pressed and fluted feed roller S, resting and acting upon the periphery of the log in combination with its operating mechanism, 7th. The crank shaft F, cam P, lifting bar Q and rack shaft R, in combination with the toothed bar T, and ratchet S_1, for the purpose of rotating the feed roller, 8th The toothed inclines M in combination with the vertically adjustable centre chucks, for the purpose of raising the log as it rotates. 9th. The central wedge N, in combination with the pinion *l* and shaft O, for the purpose of affording a solid central support to the log, 10th The slotted swinging supports K_1 in combination with the vertically adjustable centre chucks H and H_1; 11th. The swinging support K_1, in combination with the arc-shaped shoe K, and adjusting screws *j* and j_1, 12th The removable knife carrying slide Y, in combination with the shaft Y_1, and connected pinion and rack to afford a ready means of truing the log before cutting into hoops, 13th. A machine for cutting hoops embodying the following instrumentalities, namely, a vertically reciprocating knife, a horizontally moving knife, a feed roller operating upon the periphery of the log to be cut, and a central log support; 14th In a hoop cutting machine, log holding centres or chucks sustained in swinging supports, in combination with the mechanism employed for adjusting and rotating the centres as the log becomes smaller.

No. 8851. Improvements in Sash-holders. (*Perfectionnements aux arrête-croisées.*)

William H Mead and Edwin J Davis, (Assignees of Enos Mead,) Galway, N. Y., U.S, 31st May, 1878, for 5 years.

Claim.—The combination of the excentric *b* and flexible spring or friction plate *d*.

No. 8852. Improvements on Mills for Grinding Middlings. (*Perfectionnements aux moulins à moudre les grueaux.*)

Jonathan Mills, Milwaukee Wis., U S., 31st May, 1878, for 5 years.

Claim—1st A mill for grinding middlings with stones of naraculite or onchita stone from 6 to 8 inches in diameter, and constructed to run at a very high velocity 2nd The spindle yoke D, constructed to hold the spindle firmly, take up the end shake therein and permit the vertical movement of the yoke and spindle together, thereby raising and lowering the stone without slipping the spindle in its bearings; 3rd. In combination with the yoke D, the differential screw F, 4th. In combination with a fixed upper millstone M^1, the hopper X, tightly fastened to the plate fixed to the upper stone so as to exclude the air from entrance at the eye of the stone; 5th. A millstone dress so as to do all the grinding or granulation at the skirt of the stone, with from ½ to 2 inches of the skirt of the stone, the centre of the stone being bosomed out so as to admit the free passage of the material to be ground; 6th The curb, composed of the two segments 1 and 2 fastened together with the ring 3, or other suitable means so as to be readily removed to permit access to the stone without taking the mill apart 7th. The combination of the differential screw F, yoke D, spindle L and lower stone N^1; 8th. The combination of yoke D, provided with hub *c*1, notched as shown, with spring catch *d*: 9th. The process of manufacturing flour from middlings, by first

grinding the purified middlings in the improved mill, then bolting the same and regrinding the coarser portions in the improved mill, and continuing the like operation until the whole is reduced to a proper fineness without any portion being overground.

No. 8853. Metallic Sign for Street Lamps.
(Enseigne métallique pour les reverbères.)

Charles A. Vout6 and Edward S. Piper, Toronto, Ont., 31st May, 1878, for 5years.

Claim.—The arrangement of solid letters or figures, with or without the projection *a b*, between two grooved strips A B, held together by bolts or their equivalent.

No. 8854. Improvements on Grain Doors for Freight Cars.
(Perfectionnements aux portes à grain pour les wagons à fret.)

Dennis F Van Liew, Aurora, Ill., U.S., 31st May, 1878, for 15 years.

Claim.—In a railroad freight car, the door C and rod F, in combination with the headed pin or pivot C, provided with a hole e and the socket *a*.

No. 8855. Improvements on Door Fasteners.
(Perfectionnements aux fermetures des portes.)

Nathan Thompson, London, Eng., 31st May, 1878, for 15 years.

Claim.—1st. In constructing fasteners of two plates *a b*, carrying studs or projection a^1 b^1, in combination with a locking lever *c* pivoted to one of such projections, and formed with a slot embracing and locking both of them closely together when the lever c is in its locking position, the various parts being constructed arranged and operating in the manner de-cribed, 2nd The combination of plates *a b*, double or forked studs a^1 b^1, and lockin lever *c*, provided with a bar c^3 in lieu of slot, such bar c^3 passing between two parts of the double or forked studs a^1 b^1, and the enlarged part c^4 of the lever *c* locking the studs of projections a^1 b^1, 3rd. In arranging the studs or projections a^1 b^1, at right angles to, or parallel with the plates *a b* to enable the fasteners to be applied to various purposes, 4th. Placing the handle of the locking lever *c*, either in a line with such lever or at any convenient angle therewith, 5th. The combination of plates *a b*, studs or projections a^1 b^1 and locking lever *c*, provided with an extended front plate c^7, to which is pivoted a drop hand c^8, 6th. In constructing a mortise lock or fastening of plates *a b*, studs or projections a^1 b^1 and locking lever *c*, mounted on an axis c^5, provided with a handle at either or both ends thereof.

No. 8856. Improvements in Gates. *(Perfectionnements dans les barrières.)*

Joseph Wright, Colpoys-Bay, Ont., 31st May, 1878, for 5 years.

Claim.—1st A gate divided into two sections, the upper one of which is stationary and the lower one vertically adjustable; 2nd. The vertically sliding section D, with rack E, or its equivalent, in combination with the stationary section C and pinion F.

No. 8857. Improvements in the Manufacture of Leather. *(Perfectionnements dans la fabrication du cuir.)*

Friedrich Knapp, Brunswick, Germany, 31st May, 1878, for 5 years.

Claim.—1st. The tanning and stuffing hides or skins by treating them with a solution of the compound oxide salt basic sulphate of iron, and with greases or oils dissolved by the commonly used solvents; 2nd The use of stearine and paraffine in dissolved state; 3rd. The drum W1 connected with the blower V, moving both simultaneously; 4th. The described new iron soap and its use for stuffing the leather.

No. 8858. Improvements in Feed-cutters.
(Perfectionnements dans les hache-grain.)

Richard H. Oates, Toronto, Ont., 31st May, 1878, for 5 years.

Claim.—1st. The upper stone C, suspended from above by the damsel iron spindle E^1, and guided in its revolution by the end of the spindle E^1 being fitted within a recess in the centre of the lower stone, 2nd. The bevel wheel K_2, or its equivalent pulley suitably flanged and secured to the stone C, by a lead sulphur or other cement to form an integral solid part thereof; 3rd. The girder G, provided with the bars *gg*, in combination with the nut wheel L^1, threaded spindles L, coupling sleeve M, and connections; 4th. The combined damsel iron and stone suspension spindle E, provided with vertical adjustment, 5th. The combination with the frame A, of the metal plate G_1, provided with hangers J J and boxes I.

No. 8859. Improvements on Bottle Stopples.
(Perfectionnements aux bouchons des bouteilles.)

Charles O. Hammer, Pittsburgh, Pa, U.S., 31st May, 1878, for 5 years.

Claim—1st. The combination of the bail D, lever *e*, cap *g* and stopple *h* arranged and operating with relation to each other, 2nd The combination of the hand B bail D, lever *e*, cap *g* and stopple *h*, 3rd The band B, having hooked ends, in combination with the link *i*, bail D, lever *e*, cap *g* and stopple *h*; 4th. A bottle provided with a slot for the reception of the ends of the bail D.

No. 8860. Improvements on Flying Machines.
(Perfectionnements aux machines volantes.)

Richard W. Cowan and Charles Page, Montreal, Que., 31st May, 1878, for 5 years.

Claim.—1st. The Rods R, having sails P and projections T with the bar M; 2nd The combination of the flange N, having brackets O, rod R, projections T and bar M; 3rd. The combination of the shaft I, having flange and brackets N, O, secured thereon, with paddle P and bar M; 4th. The combination of the shaft J, sleeve K, and arm and bar L M; 5th The combination of the shaft I, sleeve K, arm and bar L M, gear-wheel A_2, pinion D^2 and screw E^2, 6th The combination of the wings or paddles P, with the bar M placed in various positions, whereby the effects of said wings are changed without changing the direction of revolution of the shaft I.

No. 8861. Improvements on Gates. *(Perfectionnements aux barrières.)*

Nicias B. Cooksey, Allamont, Ill., U.S., 31st May, 1878, for 5 years.

Claim.—1st. The combination of the supporting rods F, G, with gate A, upright or post E and post H; 2nd. The combination of the upright or post E, pivoted lever I and rods J and K, with gate A and latch L.

No. 8862. Improvements on Washing Machines. *(Perfectionnements aux machines a laver.)*

Mortimer S. Harsha and Owen Connelly, Chicago, Ill., U.S., 31st May, 1878, for 5 years.

Claim.—1st The combination of the longitudinally fluted cylinder D, and the spring depressed rollers E E, having the alternating annular elevations *e* and depressions e^1, and the endwise movement; 2nd. The combination with the fluted cylinder D, of the ribbed rollers E E, the ears F, cross piece F^1 and springs H.

No. 8863. Heating Apparatus. *(Appareil de chauffage.)*

Enoch B. Butterworth, Ottawa, Ont., 31st May, 1878, for 5 years.

Claim.—1st. The combination of the arrangements for the production of steam, hot water and hot air, 2nd. The combination of two or more of the heating arrangements together, 3rd The combination in a steam and hot water furnace with the boiler H and I having the coal feeder D with chute D^1, shut off V, drop tubes J with circulators K, partition Z, hot water feed pipe Y, steam feed C, return pipe U, and water space W, 4th. The combination in a steam and hot air furnace having boiler H and I, with drop tubes J and circulators K, water space W with coal feeder D and chute D^1, shut off V draft holes L with hot hair jacket C_1, smoke space G, hot air tubes F and cold air tubes X, down to the bottom and round fire pot M and ash pit O surrounded by the hot air space E_1, and hot air chamber E with hot air pipe A all surrounded with the outside jacket T having cold air opening r 5th The combination in a hot water and hot air furnace, with boiler H and I, drop tubes J, circulators K, feeder D, chute D_1, shut off V, smoke space G, hot air tubes F, hot air jacket C_1, fitted to the lips of anti-clinker fire-pot B, and M, with grate R and shaker Q; 6th. A steam boiler having boiler H and I, with drop tubes J, with circulators K, coal feeder D, chute D_1, draft holes L with jacket C^1, smoke space G, smoke pipe B, lower feed door N, shut off V door of chute A_1, ash pit door P, anticlinker fire-pot M with opening B_1.

No. 8864. Art of Reducing Wood to Pulp.
(Art de réduire le bois en pâte.)

Alonzo N. Burbank, (Assignee of Albert H. Fisher,) Bellows Falls, Vt., U.S. 31st May, 1878, for 10 years.

Claim.—Heating the wood in the presence of water, during the process and by the action of grinding.

No. 8865. Improvements on Machines for Cutting Files. *(Perfectionnements aux machines à tailler les limes.)*

James Tirrell, Boston, Mass., (Assignee of Charles F. Mudge and George Whittaker, Brooklyn, N.Y.,) U. S., 4th June, 1878, for 5 years.

Claim.—1st. The process of cutting files from tang to toe; 2nd. The combination with a cutter operating with a series of blows, of a travelling bed for supporting file blanks, and mechanism for operating said bed with an alternate fast movement and dwell; 3rd. The combination with a cutter operating with a succession of blows, of a travelling bed and a screw or worm, for operating the same, and mechanism for imparting motion to said worm or screw, and comprising eccentric gear wheels from which alternate fast movements and dwells are imparted to the bed; 4th. The combination with a travelling bed for supporting a file blank and a feeding worm or screw there for of a nut pivoted to said bed, so that it may be disengaged from said worm or screw; 5th. The combination with a travelling bed, a feeding screw or worm thereior, and a nut pivoted to the bed, so that it may be disengaged from said worm or screw, of a locking piece for retaining said nut in engagement with said screw or worm, 6th. The combination with a travelling bed and worm or screw for feeding the same, of a train of wheels, imparting motion to said screw or worm and capable of adjustment to enable them to engage with different sized driving gears or pinions, or to enable a different one of them to engage with such driving gear or pinion, whereby a reversible feed and feeds at different speeds may be obtained. 7th The combination, in a file cutting machine, of a travelling bed gearing for imparting motion thereto, and an inverted annular gear-wheel for driving said gearing whereby dirt and shavings are more effectually precluded from dogging said driving gear-wheel, 8th The combination, in a file cutting machine with a cutter operating with a series of blows, of a travelling bed and supporting frame capable of being swivelled or regulated at different angles, 9th The combination with a travelling bed of an adjustable holder for tangs of different sized file blanks adapted to automatically impinge against the said edges and top of said tangs, and hold them laterally and vertically in place, 10th The combination of a reciprocatory cutter head and guides therefor capable of being adjusted, so as to effect the adjustment of the cutter head and cutter at different angles, 11th. The combination with a reciprocatory cutter head of a spring for impelling the same, so as to effect a blow of the cutter, a pivoted saddle supporting said spring and a setscrew impinging against said saddle, so as to provide for the adjustment of the same, and regulate the force exerted by the spring on the cutter head; 12th. The combination with a reciprocatory cutter-head of a spring for elevating the same after a blow of the cutter, a pivoted arm carrying said spring and a setscrew for adjusting said spring, 13th. The combination in a file cutting machine with a reciprocatory cutter, of a bed for supporting the file blank adapted to adjust itself, so as to compensate for the irregularities in the thickness in blanks; 14th. The combination in a file cutting machine, of a bed for supporting the file blanks made semicircular externally, and a frame for such bed made semi-circular internally.

No. 8866. Improvements on Water Turbines.
(Perfectionnements aux turbines hydrauliques.)

Elbridge G. Libby, Medford, Mass., U.S., 4th June, 1878, (extension of Patent No. 2412), for 5 years.

No. 8867. Combined Shawl Strap and Head-Rest. *(Courroie de shawl et appui-tête combinés.)*

Edward P. Cowan, Philadelphia, Pa., U.S., 4th June, 1878, for 5 years.

Claim.—1st. The shawl strap and head rest arranged as described and adapted to be interchangeably used; 2nd. The combination with the rigid shawl strap bar having fixed socket tube, of an adjustable extension rod and a detachable head-rest secured to the ends of the extension rod, to serve as handle when used as a school-strap; 3rd. In a shawl-strap and head-rest, the head rest having perforated end-lugs for attachment, as a handle to a shawl-strap bar; 4th The combination of the cushioned head rest having fixed screw-socket, with the adjustable extension-rod and fixed socket tube of shawl-strap bar, to be supported as head-rest; 5th. The combination of the main bar of the shawl-strap, carrying the fixed socket-tube and extension-rod, with an auxiliary bar, to which the straps are attached, and with means for locking the auxiliary bar below the main bar or at right angles thereto.

No. 8868. Art of Reducing Wood to Pulp.
(Art de réduire le bois en pâte.)

James G. Moore, Lisbon, N. H., U. S., 4th June, 1878, for 10 years.

Claim.—1st Attaching first the exposed ends of all the fibres, and then pulling and tearing out the remainder of the fibre, by means of a grinding surface acting in relation to the fibres, 2nd. A concave grinding surface, in combination with feed boxes or troughs therein inclosed when said boxes are so located as represented with reference to the concave grinding surface, that blocks of wood held and forced forward therein may be reduced to pulp, 3rd The combination of feeding boxes and plungers acting therein, and racks on the plunger rods with a cogwheel on a common shaft, whereby the plungers may be forced to feed blocks to the concave grinding surface; 4th. Feeding plungers operated by rack rod in combination with a contrivance for holding the racks in gear and permitting them to move out of gear.

No. 8869. Improvements on Hame Fastenings.
(Perfectionnements aux colliers de cheval.)

Madison Calhoun Cimarron, and Samuel Edge, Fort Union, N. M., U.S., 4th June, 1878, for 5 years.

Claim.—1st. The combination of the catch plate C, the hook D, the loop lever E and the lock loop F with each other and the hames A B, 2nd. The combination of the catch-plate C, the hook D, the loop lever E, the lock loop F and the spring G, with each other and the hames A B.

No. 8870. Improvements on Lifting Jacks.
(Perfectionnements aux crics.)

Vanderlyn H. Felt, Kendall, N. Y., U.S., 4th June, 1878, for 5 years.

Claim.—1st. The standard A bolted between the two bed pieces B and slanting backwards, so that the weight to be lifted at H, the point of the lever C is borne centrally by the base B, 2nd The adjustable metal link or fulcrum D, which supports and is secured to the lever C, on the underside by the staple E; 3rd. Obtaining the fulcrum (by use of the link D), for the lever C outside of the standard A, thus giving the lever C more purchase, 4th. The plate G on the upper edge of the lever C, and the metal points *g g* on the contiguous side of the rear standard F, operating conjointly; 5th. The combination of the lever C and hook H.

No. 8871. Improvements on Folding Bedsteads. *(Perfectionnements aux couchettes pliantes.)*

Sanford S. Burr, Detham, Mass., U.S., 4th June, 1878, for 5 years.

Claim.—In folding wardrobe, a case A with the folding bed frame B, and the elastic and flexible bed bottom C, also the elastic springs E and the hinged legs G with the drawers K.

No. 8872. Improvements on Electric Telephones. *(Perfectionnements aux telephones électriques.)*

Elisha Gray, Chicago, Ill., U.S., 4th June, 1878, for 15 years.

Claim.—1st. The transmitter consisting of the combination, in an electric circuit, of a diaphragm and a liquid or equivalent substance of high resistance, whereby the vibration of the diaphragm causes variations in the resistance of the electric circuit, and consequently in the strength of the current traversing said circuit, 2nd. The combination in an electric circuit, of a diaphragm, a reservoir containing liquid forming part of the circuit, a rod attached to the diaphragm and projecting into the liquid and an adjustable connection, whereby the proper relation between the parts of the circuit is maintained as shown, 3rd. The combination of the basin-shaped vessel G, mounted upon a standard H, the magnet E mounted upon a post It, and the adjusting screw K; 4th The combination, in an electric circuit, of a vocalizing chamber, the diaphragm and the magnet adjusted relatively to the diaphragm, 5th. The combination of the liquid transmitter A and the vocalizing receiver F, 6th. The combination, in an electric circuit, of a basin-shaped transmitter and receiver 7th The combination of the vocalizing receivers and transmitters; 8th. The combination, in an electric circuit, of the vibrating reed transmitters with a diaphragm receiver.

No. 8873. Improvements on Ventilators.
(Perfectionnements aux ventilateurs.)

Charles E. Darling, Lewiston, Me., U.S., 4th June, 1878, for 5 years.

Claim.—1st. The combination of radially recessed face discs clamped to the glass plane, with a correspondingly recessed inner disc that is centrally pivoted and adjusted between the same, to open or close the ventilator, 2nd. The combination of the recessed face discs B clamped to the pane, and inner disc C having central pivot and crank arms, and operating cords D.

No. 8874. Improvements on Drain Borers.
(Perfectionnements aux machines à drainage.)

Warren W. Snyder, Martinsville, Ohio, U.S., 4th June, 1878, for 5 years.

Claim.—1st. The combination of the adjustable branched standard E, the rod F, the point or cutter G, the rotating spirally corrugated or ribbed cutter H, and the rotating cutter and packer I, having its forward part spirally corrugated or ribbed, and its rear part smooth, with the beam A, handles B and upright D; 2nd. The combination of the adjustable branched standard E, the rod F, the rotating spirally corrugated or ribbed cutter H, and the rotating cutter and packer I having its forward part spirally corrugated or ribbed and its rear part smooth, with the beam A, the handles B and the upright D.

No. 8875. Improvements on Carriage Tops.
(Perfectionnements aux couvertures des voitures.)

Calvin C. Fosburgh, Louisville, Ky., U S., 4th June, 1878 for 5 years.

Claim—1st. The hollow canopy top C provided with the lid D, and combined with the curtains for which it constitutes a receptacle; 2nd. The hollow canopy top C, combined with the cover D, rollers E and curtains.

No. 8876. Improvements in Seeding Machines.
(Perfectionnements dans les semoirs traceurs.)

Thomas Galloway and John Larsen, Oshawa, Ont., 4th June, 1878, for 5 years.

Claim—1st The drag bar and tooth connected together at one end by a short link C and at an intermediate point between the ends, in such manner that they are divided into levers of say equal strength, which when the draft is applied oppose each other, forming a lock, the strength of which may be varied and utilized for the purpose of retaining the tooth in a working position, subject to the conditions mentioned, 2nd The link C with check blocks C', in combination with the tooth B, drag bar A and link D, 3rd. The tooth retaining spring F or its equivalent in combination with the locking and retaining devices 4th The tooth adjusting bracket E, in combination with the tooth B, links C D and the drag-bar A.

No. 8877. Implement for Extirpating Weeds.
(Instrument pour arracher les mauvaises herbes.)

Charles P. Rockhill, Toronto, Ont., 4th June, 1878, for 5 years.

Claim.—An agricultural implement composed of cutting blade F, with or without the prongs *f* connected to a frame A A', the said frame being supported by the wheel E at the point B, at which point the frame is made sufficiently flexible to allow the adjustment of its width upon the bar C.

No. 8878. Improvements on River and Fish-way Registers. *(Perfectionnements aux registres de rivières et de passes migratoires.)*

David E. Price, Chicoutimi, Que., 4th June, 1878, for 5 years.

Claim.—1st. An open frame work A, provided with a spring door B and connecting clock mechanism, to register the passage of the fish through the door way; 2nd. The combination with a frame A having a door B, of the lever D, connected to its opening axis a detent E operated by such lever, a spring H engaging with lever D, to close the door, and a clock mechanism operated by the detent E, for numerically recording on a dial plate N, the passage of the fish through the door way.

No. 8879. Improvements in Waggon Axles.
(Perfectionnements aux essieux de voitures.)

John Milne, Hamilton, (Assignee of George Patterson, St. Catharines.) Ont., 4th June, 1878, for 5 years.

Claim—The combination in the metal axle arm A, of the lugs B, cast thereon and forming the draw jack to which the shaft irons are to be coupled.

No. 8880. Improvements in Hay Rakes.
(Perfectionnements dans les râteaux à foin.)

Dickerson A. Calkins, Monsen, Mass., U S., and John W Elliott, Toronto, Ont., 4th June, 1878, for 5 years

Claim.—1st. In combination with the axle A and boxes C C placed thereon, the sliding frame G B provided with the staples *a a*, and the shaft *d* provided with the eccentrics *b b*, and levers *e*; 2nd The combination of the revolving shaft L, forked pins *t*, flat springs *u* and pivoted teeth *r*; 3rd. The combination with the tedder-shaft L, of the chain-wheels *x x*, chains *y y*, chain wheel *z z*, with springs *d' d'* and pinion *b' b'*, all arranged on the movable frame G, so as to throw the pinions in and out of gear with the cog wheels M, on the driving wheels B. 4th The combination with the frame G, of the hollow arms O O, and the caster wheels N N, having their stems adjusted and held in said arms by the set screws *e'*: 5th. The rods 4 connected together by the toggle-joint 6, and provided with forked ends 5, fitting into slots cut in the sleeves 2, in combination with the taper recess casting or hub I, 6th The cranked hand lever 7, in combination with the link 8 and toggle-joint 4, for operating the friction dump 7th The foot lever 9 connected by a link 12 to the lever 10, in combination with the link 13 and toggle joint 4.

No. 8881. Improvements in Wheat Heaters.
(Perfectionnements aux étuves à blé.)

Edward H. Gratiot, Platteville, Wis., U. S., 4th June, 1878, for 5 years.

Claim.—The combination of cylinder B with corrugated sides H, the outer steam or hot air chamber C, with inner corrugated side F, and with or without grain mixers or strips I.

No. 8882. Improvements on Bank Check Books. *(Perfectionnements aux livrets à mandats de banques.)*

Henry H. Norrington, West Bay, Mich. U S., 4th June, 1878, for 5 years.

Claim—A check, draft or other book of similar character made without stub sheets or stub blanks, and consisting of a leaf marked or printed on one side to form a blank for keeping a compact, continuous record of the business to which the book relates, followed by a series of leaves of blank checks for use in connection therewith, the whole arranged and bound as described.

No. 8883. Improvements in Row-locks.

(Perfectionnements dans les tolets.)

William Spelman, Portland, Me., U. S., 4th June, 1878, for 5 years.

Claim.—The combination with pin D, attached to boat and oar lock A, having the journal B, of the pin block C, having the hole for journal B a little at the inside of the hole for the pin D.

No. 8884. Improvements on Mortise Locks.

(Perfectionnements aux serrures à mortaises.)

Charles H. Labelle, Keeseville, N. Y., U.S., 4th June, 1878, for 5 years.

Claim.—1st. The combination of the bolt B, with the latch D, 2nd. The combination of the bolt B, with the latch D and spring *d*, 3rd The latch D having recess *l*, in combination with the spindle D.

No. 8885. Improvements on Hand Stamps.

(Perfectionnements aux estampes à main.)

Edward G. Randall, Boston, Mass., U. S., 5th June, 1878, for 5 years.

Claim.—1st The combination of the inking case A containing the inking pad *a*, the cover B holding the removable stamp C, hinged to fold against the end of the case, and the tubular pencil holder secured longitudinally to the back of the inking pad case. 2nd. The combination of the case A, containing an inking pad *a* and having end plate D, and the cover B holding the stamp C, hinged to fold back against said plate.

No. 8886. Improvement in Sewing Machines.

(Perfectionnement dans les machines à coudre.)

Richard M. Wanzer, (Assignee of George Webster, Jr.,) Hamilton, Ont., 8th June, 1878, for 5 years.

Claim.—1st. In combination with a sewing machine, of a swinging arm H, for carrying the thread uniformly back and forth over the bobbin during the operation of spooling it, 2nd. In combination with a sewing machine, of the pivoted swinging arm bent as shown, or the equivalent thereof and pivoted on the stud I, and held by the stud J, terminating at its upper end with an eye *e*, 3rd In combination with the bobbin frame C, of the hook E; 4th. In combination with a sewing machine, the construction of bobbin winding devices by which the thread is made to pass from the spool to the needle-bar F, thence to the hook E, thence to the eye *e* of swinging arm H, thence to the bobbin D to give it that degree of tension which is required to wind it firmly and uniformly

No. 8887. Improvements on Lightning Rods.

(Perfectionnements aux paratonnerres.)

Thomas C. Hewitt, Brantford, Ont., (Assignee of Charles H. Smith, Chicago, Ill., U.S.,) 8th June, 1878, for 5 years.

Claim—1st. The double tube or binder composed of a single strip having its edges formed into tubes, and a narrow flat web between the same adapted to receive the rod, 2nd. The combination with single rods and tubes, of the double tubes or binders *b*, whereof the barrels alternate with the single tubes or rods on the surface, and the web extends through the interior of the rod between the same.

No. 8888. Improvements on Devices for Cleaning Windows. *(Perfectionnements aux appareils à laver les croisées.)*

William C. Gayton, Chicago, Ill., U. S., 8th June, 1878, for 5 years.

Claim—1st A window cleaner the rubber strip B attached along one edge to the holder A, and sustained in an outwardly inclined position by means of a suitable support beneath it near its opposite edge; 2nd In combination with the rubber strip B, attached to the holder A, the support or cushion formed of india-rubber, whereby it yields beneath the pressure and produces uniformity of contact between the rubber strip and the glass; 3rd. In combination with rubber strip B attached to the holder A, the support or cushion C of india-rubber, made tubular in form; 4th. The cushion C, formed of a rubber strip doubled over in the form of an arch, and set into the square cut grooves in the holder A and held in place by the wooden strip E; 5th. In combination with rubber strip B and holder A, the rubber end plates D. 6th. The end plates D of rubber, forming a backing or cushion for the strip B at the extremities of the holder, and provided each with the notch or gap I; 7th The combination as a fastening for the handle H of the ring G, eye or recess *o*, in the holder and clamp screw *p*, passing through both, the handle F and ring G, 8th. The window cleaning device, consisting of the combination of the following elements, viz.: The body A, rubber strip B, cushion or support C, end pieces D, fixed handle F, and removable handle H.

No. 8889. Improvements on Potato-Bug Exterminators. *(Perfectionnements aux exterminateurs de chrysomèles.)*

Silas Ruggles, Three Rivers, and George Robinson, Palmer, Mass., U.S., 8th June, 1878, for 5 years.

Claim—1st A reservoir carried on the back of the operator and arranged with an agitator flexible hose and sprinklers, 2nd The combination of the liquid reservoir with an agitator fulcrumed to the top part of the reservoir and operated by a lever strapped to the arm of the operator, 3rd A liquid poison reservoir having spring clasps at the upper part for supporting the sprinklers when not required for use.

No. 8890. Improvements on Riveting Machines. *(Perfectionnements aux machines à river.)*

John F. Allen, Brooklyn, N. Y., U. S., 8th June, 1878, for 5 years.

Claim.—1st The combination of the cylinder A, suitable valve E, piston S, rod C, hammer P, guiding tube H, bracket or foot F, steady pin L, holding on bolt N and holding on bar W. 2nd The combination of the cylinder A, piston S, plug B, lever or horn B_1, valve E with valve rod E_{12}, 3rd. In combination with a cylinder A, piston S, and valve E, provided with piston E^1, working in suitable chamber *m*, the auxiliary passages *a* and a_{12}, and the self-acting valve a_1, in the passage *a*, 4th. Cylinder A, arranged that its pistons S will close the main passage near the end of the stroke, in combination with the main passage *w*, the auxiliary passage or passages *h*, with self-acting valve h_1; 5th. A cylinder arranged with a hammer or other suitable tool attached to the end of its piston rod, operating the valves, to admit the pressure to act upon the top of the piston by the increased accumulated pressure in the cylinder, produced between the upper end of the piston and the end of the cylinder, after the piston has passed the main port, and the manner of operating the valves to admit pressure, to act against the bottom of the piston, by the pressure acting in the cylinder, 6th In a riveting machine, the ratchet wheel M with internal teeth, feather *n*, spring bolt or tooth O in combination with the inclined groove *p*, in the guiding tube H 7th The riveting hammer P, having portion of its operating surface cut away so as to form depressions opposite each other, 8th. In combination with a riveting machine, the movable or sliding foot F, with steady pin L and movable bolt N, said foot being operated either by a wheel G^1 and fixed bolt J, or by means of a lever K; 9th. In combination with the bolt N, supporting the holding on bar W, the square guiding sleeve *t* and the elastic washer *g* under the nut *s*.

No. 8891. Machine for Manufacturing Rasps.

(Machine à fabriquer les râpes.)

James Tirrell, Boston, Mass., (Assignee of Charles F. Mudge and George Whittaker, Brooklyn, N.Y.), U.S., 8th June, 1878, for 5 years.

Claim.—1st. The combination of a ratchet wheel, for transmitting motion to the shaft moving the travelling bed of a pawl, for engaging with said ratchet wheel, and a lever for operating said pawl connected thereto so that it may be adjusted in order to provide for changing the throw or movement of the pawl; 2nd. In the combination of a travelling bed D, rack *c*, pinion *d*, shaft E, ratchet wheel F, pawl F^2, its supporting arms or lever k_2, a tripper or lever F_4 and a link F_3 connecting said tripper lever to said arm or lever F_2, and capable of being secured to said arm or lever F_2 in different positions; 3rd. The combination with a ratchet-wheel for imparting motion to a travelling bed, a pawl for engaging with said ratchet-wheel an adjustable connection between said pawl, and a tripper lever for operating the same, of a stop for holding the bed in position when not operated through the pawl and ratchet, 4th. The combination with a cutter of mechanism for effecting its traverse from the file blank, capable of being adjusted so as to regulate the traverse for blanks of different sizes, 5th. The combination with the shaft supporting the cutter helve, and a lever and cam for moving said shaft longitudinally, and effecting the traverse of the cutter of a connection between said lever and said cutter helve supporting shaft capable of adjustment so as to effect the movement of such shaft at different distances, and regulate the traverse of the cutter; 6th. The combination of the cutter helve, supporting shaft I_3, yoke N_4, lever N, cam M, for operating said lever, and stud N_3, mounted on said lever, fitting in said yoke and capable of adjustment nearer to, and further from the fulcrum of the said lever, 7th The combination with a cutter helve, pivoted loosely to a supporting shaft, of a cross-head admitting of the traverse and vertical play of said cutter helve within it, of mechanism for raising said cross-head and means for impelling it towards the bed, so as to produce the blow of the cutter, and allowing of its rebound; 8th The combination of the cutter helve I_2 supporting shaft I_3, cross-head J, with its opening *g*, tripper lever K, eye bolts J_1 and springs J_2; 9th. The combination with a cutter, adapted to traverse a rasp blank, of mechanism for operating the same and producing a dwell at the termination of the traverse of the cutter in each direction, 10th. The combination with a cutter and a tripper lever for raising the same, preparatory to blows of the cutter of a wheel provided with a series of tripper teeth or arms, and with a tooth or arm peripherally elongated so as to hold the cutter suspended once during every revolution of said wheels, 11th The combination with a bed for supporting a rasp blank or jaws for embracing the side edges of the rasp blank, and a screw engaging with said jaws, and provided from the centre to one end with a left-hand thread, and from the centre to the other end with a right-hand thread.

No. 8892. Apparatus for Pumping Fluids from Casks. *(Appareil à pomper les liquides des barils.)*

William F Class, Cleveland, Ohio, U.S., 8th June, 1878, for 5 years.

Claim.—1st. In a plug, the combination with the conical or cylindrical barrel and the eduction pipe of the elastic ring and the annular chambers formed respectively above and below the inner edge of said ring. 2nd In a plug, the combination with the barrel of the induction pipe provided with the inwardly opening valve, governing the connection between the same. 3rd A plug consisting in the combination with the barrel and induction pipe provided with an air valve, of the eduction pipe, the elastic ring, the upper and lower ring, expanding chambers and the cap-piece, 4th The combination of the chamber E, with suitable bellows for injecting air into it, outlet pipe I and valve J, 5th. The combination with or without the chamber E of a bellows provided with a plate *f*, post *h* and passage and valve *k*, 6th. The combination with or without the chamber E, of a bellows provided with a plate *f*, post *h*, passage *i*, valve *k* and treadle or handle G, 7th. The air chamber E, with vent tube I, check valve J and flexible tube K, in combination with the air chamber C D, and its valves and treadle or handle, 8th. A faucet consisting of the plug S and tube T, the latter provided with one or more vents W extending through its body, at the juncture of the passage extending through the plug S and tube T, whereby the fluid is prevented from dripping through the air vents, 9th. The tube T, provided with one or more air vents, leading from the outside air to the opening, constituting the seat for plug S, whereby the latter, when open, operates to cut off the admission of air, and when closed allows air to enter the upper portion of the chamber of said plug.

No. 8893. Machine for Sharpening Saws.

(Machine à affuter les scies.)

Thaddeus Hodgson, Amherst, N. S., 8th June, 1878, for 5 years.

Claim.—The combination of the plate A, provided with curved lugs A, and strengthening bar A_2, the pivoting bolt B, pivoted arm C provided with lug C_1 and bearings C_2, and sliding shaft D provided with pulley E emery wheel F and handle G.

No. 8894. Improvement in Saw Handles.
(Perfectionnement des bras de scies.)

Benjamin F. Moss, John D Abbott and Andrew M. R. Fitzsimmons, Reading, Mich., U.S., 8th June, 1878, for 5 years.

Claim.—1st A cross cut saw-handle made of wood composed of the parts B B^1 B^{11}, slotted for the admission of the saw and provided with the plates C C^1, in combination with the saw and screw cy D. 2nd A saw handle provided with semi-circular slotted projection B^{11} formed on the handle plates C C^1 and key D, in combination with the adjusting screws c against which the end of the saw bears. 3rd The plate C provided with the hollow hub or bearing in combination with the tapered screw key D and plate C^1; 4th. A cross-cut saw-handle composed of the handle B, and hand grip B^1, adjustably attached to a saw by means of a key D

No. 8895. Improvements on Fruit Crates.
(Perfectionnements aux mannes à fruits.)

Andrew M. Smith, Drummondville, Ont., 8th June, 1878, for 5 years.

Claim.—1st The folding of crates by means of hinges C, 2nd The fastening crates by means of strap A and rod B

No. 8896. Stocking Darning Block.
(Forme pour ravauder les bas.)

Mitchell W lls, Skowhegan, Me., U. S., 8th June, 1878, for 5 years.

Claim.—A darning block A having a semi-spherical head to which is solidly or d chably attached a stem C, turned to a handle shape and recessed to fo m a case for storing needles.

No. 8897. Apparatus for Assisting the Combustion of Coal Screenings. *(Appareil pour faciliter la combustion de la poussiere de charbon.)*

Joseph H. Killey, Hamilton, Ont., 8th June, 1878, for 5 years.

Claim.—1st. In combination with the furnace of a steam boiler or its equivalent of the apparatus single or double, consisting of the box A, inverted cones c, &c., with air spaces e between them, oil reservoir f and auxiliary cones I I, for combining steam, air and the gases of volatile hydro-carbon or other light oils, to produce a greater degree of heat to assist the perfect combustion of refuse or inferior coal or other kindred substances, 2nd In combination with the cone box A. of the auxiliary cones I to assist in the induction of air and the gases of volatile hydrocarbon or other light oils to mix with the steam, and also the lower box A^1 placed a short distance below the upper one and provided with a series of inverted cones similar to the upper one for the purpose of doubling the capacity of the device for steamboats, &c., where a sufficient pressure could not be had with a single blower; 3rd. In combination with the cone box A, of the hollow screw arbor A^2, constructed as shown; 4th. In combination with a steam boiler and cone box, of the series of tubes B^2, (longitudinal or vertical as may be) under a boiler as shown.

No. 8898. Improvements on Cultivators.
(Perfectionnements aux cultivateurs.)

William Silverthorn, Windham, Ont., 10th June, 1878, (Extension of Patent No 2456,) for 5 years.

No. 8899. Improvements on Gas Apparatus.
(Perfectionnements aux appareils à gaz.)

Francis G. Tibbitts, Philadelphia, (Assignee of Thaddeus S. C Lowe, Norristown,) Pa., U. S., 11th June, 1878, (Extension of Patent No. 6475,) for 5 years.

No. 8900. Improvements on Gas Apparatus.
(Perfectionnements aux appareils à gaz.)

Francis G. Tibbitts, Philadelphia, (Assignee of Thaddeus S. C. Lowe, Norristown,) Pa., U.S., 12th June, 1878, (Extension of Patent No. 6475,) for 5 years.

No. 8901. Improvements on Potato-diggers.
(Perfectionnements aux arrache-patates.)

Henry Parker, Gananoque, Ont., 13th June, 1878, for 5 years.

Claim.—1st The revolving drum, having radial fingers E, operating between the bars G, of a sieve on which the soil and potatoes are cast by a scoop H, 2nd. The combination of a sieve, composed of bars G, arranged transversely to the line of draft, and a scoop H discharging thereon, and a revolving drum having fingers, clearing the spaces between the b. s separate the potatoes from the soil.

No. 8902. Mode and Apparatus for Drying Fish. *(Mode et appareil de séchage du poisson)*

David H Têtu, Anticosti, Que., 13th June, 1878, for 5 years.

Claim.—1st. The method of drying fish, &c. by the employment of a vertical spindle frame, having a horizontal table or tables on which the fish, &c. is placed, and rapidly rotated to induce a current of air, whereby drying is facilitated; 2nd. The rotary fish dryer constructed of the spindle A, hub C, radial arm B props D. rings E E^1 inserted therein, having an annular net work F and a net work covering G, in sections.

No. 8903. Improvements on Force-Pumps.
(Perfectionnements aux pompes foulantes.)

Andrew J. Hopkins, (Assignee of Henry M. Wyeth,) Richmond, Ind., U.S., 13th June, 1878, for 15 years

Claim.—1st. The pump cylinder A and side-pipe B, off-set as described, and both cast in one piece, with their opposite ends open, 2nd. The valve f and its seats f^1, made together removable and combined by means of guide ways with cylinder A and pipe B, and held in place by the cylinder-head. 3rd The disc c of the piston, having circumferential groove c^1 and central boss c^2 with screw threaded perforation, in combination with the packing ring c^4, the disc d having perforation corresponding to the boss, and the piston-rod D having screw threaded end, and a washer d^1.

No. 8904. Improvement in Cooking Ranges.
(Perfectionnement dans les fourneaux de cuisine.)

Eli C Frost, Elmira, N Y., U.S., 13th June, 1878, for 5 years

Claim.—1st. The heater D provided with radial converging plates E forming air spaces E open at top and bottom, surrounded by frame passages and perforated top plates, 2nd In combination with an oven, the heater D, situated in the interior of said oven, 3rd In combination with the oven B and heater D situated in the interior of said oven the range A, surrounding the lower ends of one or two sides of the oven and provided with a flue leading into said heater, 4th The oven B, provided with the chambers A, heating tank F and heater D.

No. 8905. Improvements in Oil Stoves.
(Perfectionnements dans les poêles à huile.)

James H. Shaut, Hornellsville, N.Y., U.S, 13th June, 1878, for 5 years.

Claim.—1st. The combination of the hinged cap B, the centre portion of which is open to receive the stove body M, with the openings S, and the stove bottom L and the draft openings O around the circumference, and stove body M and cap B forming the space P; 2nd. The perforated disc F with its ...ed flange H, the gas vent V, in connection with the oil receptacle A and the wick tubes E and casting L, and draft openings I, 3rd. The combination of the top piece *u*, having the openings *x* in it with the damper *z*, and which damper *h* forms a raised grate, 4th. The opening *hi* in the stove body M.

No. 8906. Improvements in Picture Frames.
(Perfectionnements dans les cadres d'images.)

Samuel Drayton, Toronto, Ont., 13th June, 1878, for 5 years.

Claim.—The base A, upon which is built or planed marginal strips of moulding filled in between with an inserted design covered with glass, and the corners finished and strengthened in the manner described.

No. 8907. Improvements on Gas Carburetters.
(Perfectionnements aux carburateurs à gaz.)

James M. Palmer, Cambridge, and Charles A. Shaw Salem, Mass., U. S., 13th June, 1878, for 5 years.

Claim.—1st. The spiral ducts *d* d^1 d^2 d^3, and shelves G H, combined to operate with the tank E and an automatic valve mechanism, 2nd. The radial partitions *x*, in combination with the tank E shelves G H and an automatic valve mechanism, 3rd. The pipe N, 4th The improved valve mechanism consisting of the perforated plug I, valve k stem *l*, rod *s* and float J, 5th. The improved carburetter consisting of the body A B C (with or without the casing S) tank E shelves G H, ducts *d* d^1, pipes U V, pipes L M N, plug P, tube *t*, partitions *x* and the automatic valve mechanism, combined and arranged to operate as specified

No. 8908. Improvements in Door Fastenings.
(Perfectionnements dans les fermetures des portes.)

John G Phillips, Bangor, (Assignee of Charles R Arnold, Bloomingdale,) N. Y., U. S, 13th June, 1878, (Extension of Patent No. 6830,) for 5 years

No. 8909. Process and Apparatus for Manufacturing Illuminating Gas. *(Procede et appareil de fabriction du gaz d'éclairage.)*

Henry W. Adams, Philadelphia, Pa., U. S., 13th June, 1878, for 5 years.

Claim.—1st A bench of gas retorts A, connected together in reciprocating pairs as B C and D E by the cross-pipes F G placed on their front ends, which project outside of the furnace, and which pipes are provided with valves Z and D_1, steam connections L M N O and nozzles H I and J K, and pipes T^1 U^1 V^1 W^1 for feeding oil into them, the said retorts having their stand pipes placed on their rear ends and within the furnace. 2nd The aprons B^{11} B^{11} B^{11} B^{11}, in combination with gas retorts, as B C D E having pipes T^1 U^1 V^1 W^1 for feeding oil into them; 3rd. The nozzles H I and J K, in combination with the pipes F and G, and the retorts B C and D E; 4th. The arrangement of gas retorts in a furnace with jets of steam discharging into them alternately and in opposite directions, as vehicles to carry the products of a freshly charged retort into a reciprocating one whose charge is red hot, and partially or wholly distilled, and in which they shall be decomposed into fixed gas, 5th. The steam pipes L M in combination with the superheater P and Q, and with the nozzles H I, in the pipe F, and the branch steam pipe N O, in combination with the nozzles J K in the pipe G, all provided with valves V W X Y, 6th. The super heating steam pipes P and Q, arranged in the lower flues of a bench of retorts B C D E, which heat the gases of the furnace to the stack, underneath the lower retorts D E, for the purpose of super heating steam during its passage through them from the boiler to the retorts through the pipes L M by means of the spent heat of the furnace; 7th. The steam pipes R and S, with valves T and U, in combination with the super heater P and Q, 8th The oil reservoir H^1 provided the pipe I^1, for filling it, the float J^1 for indicating the quantity of oil in it, the safety pipe K^1, and the attached feed pipes L^1 M^1 N^1 O^1 and valves P^1 Q^1 R^1 S^1, 9th. The siphon feed pipes I^1 U^1 V^1 W^1, provided with funnels B^{111} C^{111} D^{111} E^{111} and valves X^1 Y^1 Z^1 A^{11}, in combination with the cross-pipes F G and retorts B C D E, for supplying them with oil or other oleginous matter. 10th The stand pipes C^{11} C^{11} C^{11} C^{11}, in combination with the rear ends of the retorts B C D E, for the purpose of causing the gas generated in them and impregnated with any tarry vapours to escape through red hot exit pipes, and to effect a more perfect decomposition of the tarry vapours, instead of allowing to escape as it is now done, from their front ends which are outside of the furnace and are never hot, and to carry off with it a large amount of tar and ammoniacal water, as secondary products, and lessen the quantity of gas; 11th. The dip pipes K^{11} L^{11} M^{11} N^{11}, having a series of holes I^{11} I^{11} I^{11} I^{11}, about three-fourths of an inch in diameter, and half an inch apart, drilled or cast in their sides, about one inch above their lower and open ends, for the purpose of causing the gas to escape from them in small and divided streams, and shoot horizontally in a ring of jets into the fluid which seals their lower ends, and to be more perfectly washed from the fine carbon with which it is so abundantly charged, 12th. The dip pipes K^{11} L^{11} M^{11} N^{11}, with discharge holes I^{11} I^{11} I^{11} I^{11}, in combination with the hydraulic main U^{11}, having an overflow pipe V^{11}, whose lowest

interior side is higher than the said holes in the dip pipes, so that they shall be constantly sealed by the fluid which fills the main U11, and overflows through the pipe V11 in order that the gas coming from the retorts may force the fluid in the dip pipes down to the holes I11 I11 I11 I11, and escape through them, in a ring of horizontal jets into the outside fluid, and be more through washed; 13th. The buckets K11 L11 M11 N11 resting on the bottom of the hydraulic main U11, under the dip pipes K11 L11 M11 N11, and provided with the attached rods O11 O11 O11 O11, which pass up centrally through said pipes and through the flanges of their tops, and connected with the levers P11 Q11 R11 S11, and the fulcrums T11 T11 T11 T11, so as to raise and lower the said buckets at pleasure, in combination with said dip pipes in such manner that when the said buckets rest on the bottom of the main U11 their tops shall be flush with the lower sides of the holes I11 I11 I11 I11, and allow the gas to shoot over them and into the superincumbent fluid which surrounds them externally, and when the long arms of the levers are pulled down, that the buckets shall be so far elevated as to submerge the said holes in the dip pipes, so deeply in the fluid which they contain, as to reverse the course of the gas and turn it into the reciprocating retort, and cause it to enter the hydraulic main through the holes of its dip pipes which are less deeply sealed, 14th. The hydraulic main U11 and the dip pipes K11 L11 M11 N11, in combination with a sealing fluid prepared in the manner explained, 15th. The tubular cutters D11 D11 D11 D11, provided with external teeth or spiral cutting edges G1, and attached rods E11 E11 E11 E11, having lugs on them F11 F11 F11 F11, to hold them up in the tops of the stand-pipes, when not in use, by resting on the tops of their flanges through which they are passed by means of oblong holes, in combination with stand pipes C11 C11 C11 C11; 16th. The combination of the steam pipes J11 J11 J11 J11, with the saddle pipes H11 H11 H11 H11, for the purpose of injecting into them jets of steam to clean them; 17th. A process of manufacturing illuminating gas, which consists in passing the tarry and aqueous vapours and gases distilled from a fresh charge of coal, wood, peat, turf or other similar materials undergoing destructive distillation in one retort in conjunction with oil, petroleum, naptha, or any suitable oleaginous matter together with steam, (preferably superheated) as an injecting, carrying and gas yielding agent into a reciprocating retort, charged with red hot coke, or partially distilled coal, wood, peat, turf or other suitable substance to be decomposed conjunctively in the same into fixed gas, and continuing this operation until the said fresh charge is partially distilled, and then shutting of the oil and steam feed and drawing the spent charge from the retort, and charging it with a fresh charge of coal, wood, peat, turf, or other similar material, and reversing the course of the gas, and turning it from the retort last charged, with its tarry and aqueous vapours and gases, in conjunction with a stream of oil, petroleum, naptha, or any other oleaginous matter, together with steam as an injecting, carrying and gas-yielding agent, into the other reciprocating retort whose charge is now red hot and partially distilled, to be decomposed together in the same into fixed gas, and continuing this operation until the last fresh charge is partially distilled and then shutting off the oil and steam feed and drawing and charging this last retort again, and reversing the gas as before, and turning its tarry and aqueous vapours and gases, with the oil and steam feed into the other retort, and so continuing this alternating process, thus generating, mixing and combining the gaseous elements of coal, or any similar material, petroleum, or any fluid, carbonaceous matter and water, or steam, in the same retort, in a nascent state and during the usual period of distillation, into a fixed gas of superior illuminating power with novel rapidity and economy.

No. 8910. Improvements on Frame Buildings.

(Perfectionnements aux bâtiments en charpente.)

William R Morris and Joseph Slauser, La Rue, Ohio, U. S., 13th June, 1878 (Extension of Patent No. 8264,) for 5 years.

No. 8911. Improvements on Frame Buildings.

(Perfectionnements aux bâtiments en charpente.)

William R. Morris and Joseph Slanser, La Rue, Ohio, U.S., 14th June, 1878, (Extension of Patent No. 8264,) for 5 years.

No. 8912. Machine for Spreading Manure.

(Machine à distribuer les engrais.)

Joseph S Kemp, Magog, Que., and William M Burpee, Derby, Vt., U S., 17th June, 1878,(Extension of Patent No. 8752,) for 5 years.

No. 8913. Machine for Spreading Manure.

(Machine à distribuer les engrais.)

Joseph S. Kemp, Magog, Que., and William M. Burpee, Derby, Vt., U. S., 18th June, 1878, (Extension of Patent No. 8752,) for 5 years.

No. 8914. Improvements in Churn Dashers.

(Perfectionnements dans les batte-beurre.)

James Farmer, Hamilton, Ont., 18th June, 1878, for 5 years.

Claim.—The combination of the sections A B C and D, in connection with the props I tenoned into the top of the said sections, and the connecting rods K K passing up through the said sections and holding them together.

No. 8915. Apparatus for the Production of Illuminating Gas. *(Appareil de fabrication du gaz d'eclairage.)*

James Livesey and James Kidd, London, Eng., 21st June, 1878, for 5 years.

Claim.—1st. A producer of combustible gas combined with apparatus for enriching the same by admixture of hydro-carbon vapour, 2nd. The combination of the stove or furnace A, boiler C, super-heating coil B and retort D, constituting apparatus for producing combustible gas; 3rd The combination of the vessel I and the heat conducting pipe, rod or plate K, with gas burners J, constituting apparatus for enriching combustible gas by admixture of hydro-carbon vapour; 4th. The combination of the vessel I with its side compartment i, the chimney casing M with its regulating valve l and the gas burners J, constituting apparatus for enriching combustible gas by admixture of hydro-carbon vapour; 5th. The use of solid naphtaline in the form of sticks, rods or pellets for the enrichment of combustible gas.

No. 8916. Apparatus for Separating or Purifying and Treating Mineral Wool, and Manufacturing the same into Wadding. *(Appareil pour séparer ou épurer et traiter la laine minerale, et en fabriquer la ouate.)*

Alexander D Elbers, Hoboken, N J., U. S, 22nd June, 1878, for 5 years.

Claim.—1st. The process of separating mineral wool from globules by subjecting it to the action of a lateral current, 2nd. In an apparatus for making mineral wool, the combination of the conduit A and jet pipe B with the jet pipe D, for producing the lateral current; 3rd The combination of the apartment C, containing the trough or conduit A and jet pipe B with the compartment E, which communicates with the apartment C 4th The pan or receptacle G placed in an apparatus for making mineral wool to receive and compress said wool, 5th. The process of making wadding of mineral wool, depositing said wool directly an without previous handling in the receptacle in which it is to be compressed. 6th The process of treating mineral wool, wadding of felting with a mixture of gume and glycerine. 7th. The process of treating mineral wool with bituminous, resinous or gummy substances, and subjecting the same to heat 8th As a new article of manufacture in mineral wool, wadding formed into sheets; 9th. As a new article of manufacture in mineral wool, wadding or felting treated with gume 10th As a new article of manufacture of mineral wool, wadding or felting treated with bituminous, resinous or gummy substances; 11th. As a new article of manufacture in paper or paper bodies, containing mineral wool 12th. In the manufacture of paper or analogous substance, the treatment of mineral wool by an acid.

No. 8917. Glove and Shoe Fastener.

(Agrafe de gants et de souliers.)

Frank G. Farnham, Hawley, Pa., U. S., 24th June, 1878, for 5 years

Claim.—1st The lever carrying plate C, having the fulcrum *b* formed solid and of one piece with the plate, 2nd. The plate C, bent up at its centre and having the bracing tongue c, 3rd. The lever carrying plate, constructed as described.

No. 8918. Machine for Raising Stumps.

(Machine à arracher les souches.)

Elias Wallis, Elgin, Que., 24th June, 1878, for 5 years.

Claim.—1st. The angular frame A, in combination with axles B 2nd The shifting rod *d* and dog 3 in combination with stirrups c, ratchet wheel *a* and lever *b*.

No. 8919. Improvements on Extension Ladders. *(Perfectionnements aux echelles à rallonge.)*

Joseph S. Smith, (Co-inventor with James M. Davis,) Bangor, Me., U.S., 24th June, 1878, for 5 years.

Claim.—1st. A friction brake A, secured to the stationary ladder C and acting upon the travelling ladder or extension *y* only when the same is descending; 2nd. The combination of the spring *a*, movable dog *e* and adjusting screw *g*; 3rd. The combination of the retaining hook *i* and arm or tripper *j*, to close the jaws of said hook when the travelling ladder *y* is descending; 4th. The combination of a ladder C and supporting poles *n* with a universal joint *o*, connecting them, 5th. The combination of the ladder C and poles *n*, and joint *o*, or its equivalent, with the rod *q* attached to said joint, nut *r* and spring jaws *s*; 6th. In combination with a ladder C, the removably attached supporting poles *n*.

No. 8920. Improvements on Nail Assorters.

(Perfectionnements aux trieuses à clous.)

Charles Ellacott, James Benny and Thomas Peck, Montreal, Que., 24th June, 1878, for 5 years.

Claim.—1st. The combination with the inclined plates A1, forming the chutes of plates secured under same, so as to leave on either side of the slot flat surfaces c c to carry the heads of the perfect nails, 2nd The combination with chutes A and plates C C, of levers to which these plates are pivoted so as to vary the distance between them, and keep them parallel; 3rd The combination of the bars C C, ring or disc D, ring D1, ring K and lock nut or holdfast K2, operating to rock the bars.

No. 8921. Improvements on Edging Machines.

(Perfectionnements aux machines à dresser.)

John Abell, Woodbridge, Ont., 24th June, 1878, for 5 years.

Claim.—1st The detachable cross bars D, in combination with the saw shifting blocks C, saws A and travelling blocks E; 2nd. The cross bars D in combination with the blocks F, sliding bars F1, standards H and graduated indicating bars H1, 3rd The slitting or track knives I, attached to the travelling blocks F, in combination with the sliding saws A; 4th. The combination with the shifting saws and gearing for altering the same, of graduated indicating bars arranged on the machine in such position and in such manner that the operator can tell at a glance the position of, and distance apart of the saws; 5th. The combination with the upper movable feed rollers J of an indicator, and graduated scale, 6th. The combination with the feed rollers of the spiral adjustable scraping knives N, 7th. The feed roller lifting mechanism, consisting of the rocking shaft L1, levers L, with link connection to boxes of rollers, rope J1 and differential wheel M with rope extending to front of machine.

No. 8922. Improvements on Trowsers' Protectors. *(Perfectionnements aux protecteurs des pantalons.)*

Frank G. Hoffman, Springfield, Ill., U.S., 24th June, 1878, for 5 years

Claim.—1st. A curved or bent body, adapted to partially cover and to guard the wearing edge of a pantaloon: the opposite longitudinal portions of said curved body being provided with barbs or pins, 2nd. A pantaloon protector whose body portion is formed with the described horizontal projection and the lower flange, the upper and lower edges of said protector

being provided with barbs formed in single piece therewith; 3rd. The flange formed on the lower body of the protector and adapted to partially cover the wearing edge of the pantaloons, said flange having its longitudinal vertical edge provided with barbs or pins, which latter are adapted to pass upward through the said wearing edge of the pantaloons, and engage the same.

No. 8923. Improvements on Oil Feeders.

(Perfectionnements aux godets à huile.)

Jackson Richards, Philadelphia, Pa., Lysander Flagg and Henry A. Stearns, Central Falls, R.I., U.S., 24th June, 1878, for 5 years.

Claim.—1st. In combination with the oil cup A, an internal chamber having a discharge opening communicating with the stem of the cup and closed or opened by a loose valve, 2nd. The combination with the oil cup A, of an internal chamber communicating therewith by apertures near its base and provided with loose valve, 3rd. The combination with the oil cup A, of an internal chamber provided with ingress apertures and loose valve to discharge opening, with a set screw for varying the throw of such valve and regulating the amount of lubricant used.

No. 8924. Improvements in Churns.

(Perfectionnements dans les baratttes.)

Spencer B. Peugh, Salem, Ind., U.S., 24th June, 1878, for 5 years.

Claim.—1st. The valve D, when placed on the end of the hollow axle a_1, in combination with the three cornered box A, 2nd. The cornered box A, with hollow axle a^1 provided with the valve D, square-axle a, opening a^2, with the cover a^3, in combination with the stand C with journals b b.

No. 8925. Improvement in Braid Holders.

(Perfectionnement dans les serre-rubans.)

John C. Lyon, New York, U.S., 24th June, 187, for 5 years.

Claim.—In combination with the spool A, the wire spring holder D, when formed on the sides into two circles, and having its ends d d^1 secured to a separate axle C.

No. 8926. Improvements on Folding Chairs.

(Perfectionnements aux pliants.)

Edwin S. Pratt, Toronto, Ont., 24th June, 1878, for 5 years.

Claim.—1st. The pivoted legs A_1 and bolt F, or its equivalent, in combination with the hinged seat rails E, provided with the groove E_1, 2nd. A folding chair having side seat, supporting rails E provided with a groove or slot, and arranged to engage with pivoted legs in such manner that the said seat may be folded up parallel with the back legs or back standards: 3rd. The combination of the standards A B, front legs A_1, pivoted together at the point of their intersection, rod or bolt I, with the slotted side rails E of the hinged seat E G.

No. 8927. Method of Tethering Cattle.

(Manière d'attacher les bestiaux.)

Adolphe P. Ritchot, Montreal, Que., 24th June, 1878, for 5 years.

Claim.—Passing round the butts of the horns, loops, each connected with or forming part of the securing rope.

No. 8928. Apparatus for Heating and Ventilating Cars. *(Appareil pour chauffer et aérer les wagons.)*

Edward S. Jenison, Chicago, Ill., U.S., 24th June, 1878, for 5 years.

Claim.—1st. Ventilating and heating apparatus in which air is supplied to each person through a separate duct or channel; 2nd. Ventilating and heating apparatus in which air is delivered to individuals through flexible or movable tubes; 3rd. Ventilating and heating apparatus in which air is thrown downward toward the floor in jets, 4th. Ventilating and heating apparatus in which a portion or the whole of the air supply may be drawn from that contained within the upper portion of the room or rooms being ventilated and heated, 5th Ventilating and heating apparatus in which the mechanism for setting in motion, the air is provided with a relief valve through which air may pass from the delivery pipe to the supply pipe whenever the pressure exceeds a given amount.

No. 8929. Improvements on Stove-pipes.

(Perfectionnements aux tuyaux de poêles.)

Joseph H. Dorion, Ste. Anne d'Yamachiche, Que., 24th June, 1878, for 5 years.

Résumé.—Les rainures ou plis obliques b, pour consolider les feuilles de tuyaux de poêle une fois agencées.

No. 8930. Improvements on Rake Tooth Machines. *(Perfectionnemnts aux machines à dents de râteaux.)*

William McDermaid, Brampton, Ont., 24th June, 1878, for 5 years.

Claim.—1st. The chuck D, having a tapered bore d, corresponding to the shape of the tooth required, and provided with a detachable rounding knife D^1, and a detachable tapering knife D^2, 2nd The shaft C, detachable chuck D and saw E.

No. 8931. Improvements on Harness Traces.

(Perfectionnements aux traits des harnais.)

Frederick M. Collier, Oliver L. Roberts, Thomas H. Roberts and Samuel H. Roberts, Boston, Mass., U. S., 24th June, 1878, for 5 years.

Claim.—1st A harness-trace composed of a wire rope provided with suitable attaching devices, 2nd. In combination with the cable wire-rope A, having the head G, the tubular piece B, having the external flange E and internal rib F, its opposite end having the external groove I forming the flange J and adapted to fit within the bar L of the tubular portion M of the eye K, and connected therewith by means of the projections N, 3rd In combination with the cable wire-rope A, having a head G, formed as described, the piece P, having the eye R, the hook S, guard piece T and ring W, 4th The swivel eye composed of the tubular piece B, having the flange E, the groove I and the flange J in combination with the eye K having the tubular portion M and projections N

No. 8932. Improvements on Hay Ricks.

(Perfectionnements aux meules de foin.)

Thomas H Burton, [illegible]right, Ont., 24th June, 1878, for 5 years

Claim.—The combination of roof E and peak plate K, with base A, box, D and pulleys G, and rope or chains F in combination with weight H

No. 8933. Process for Applying Oxygenated Air in Blast Furnaces. *(Procédé pour appliquer de l'air oxygéné dans les fourneaux à courant d'air forcé.)*

Charles Hornbostel, Brooklyn, N. Y., U S 24th June 1878 for 5 years

Claim.—The process of applying oxygen gas to metallurgical operations, and to assist in the combustion of fuel, by conducting a current of air, under pressure into contact with or through a mixture of black oxide of manganese and sulphuric acid, and from thence to the place of use.

No. 8934. Improvement in Fire-proof Chimneys. *(Perfectionnement dans les cheminées réfractaires.)*

Herman Schreier, Sheboygan, Wis., U.S., 24th June, 1878, for 5 years.

Claim.—The flue pipes A and A_1, having their respective abutting ends a a_1 and a_2 a_3 bevelled and joined together.

No. 8935. Improvements on Truss Bridges.

(Perfectionnements aux ponts de grillage en bois.)

William O Douglas, Binghampton, N.Y., U.S., 24th June, 1878, for 5 years.

Claim.—1st. The chords B C, united at their ends with the struts E, and diagonals D between them; 2nd. In combination with the elliptical truss, the suspension or tension rods F and floor girders G. 3rd In combination with the elliptical truss, the suspension or tension rods F, floor girders G and end posts H. 4th. The combination of the two or more elliptical trusses with the floor girders, tension rods F and the necessary flooring to form a through deck or swing bridge.

No. 8936. Improvement in Stove-pipe Thimbles. *(Perfectionnement dans les douilles de tuyaux de poêles.)*

Henry Dixon and Frank W Unverferth, Dayton, Ohio, U.S., 24th June, 1878, for 5 years.

Claim.—1st. The flanged plate A, cylinders B C and spring catch E; 2nd. The flanged plate A, cylinders B C, spring catch E and slide F.

No. 8937. Improvements in Cases and Adjuncts. *(Perfectionnements dans les nécessaires.)*

Hermann Gringmuth, Dresden, Germany, 24th June, 1878, for 5 years.

Claim.—1st The case companion described and illustrated in the drawings, as an organic totality, the technical arrangement of the case with its peculiar and in part newly constructed articles and instruments; 2nd. The first part of construction with its parts a b c d e f g h i, the whole arranged as shown; 3rd. The inlayer with its parts k l m n o p q r s t u; 4th. The combination with the case made in parts of the first part of constructio[illegible] second part of construction, the third part of construction, and the [illegible] part of construction, the whole arranged together as described, 5th [illegible]e spoon composed of three parts S^1 S^2 S^3; 6th. The tooth brush composed of the three parts b^1 b^2 b^3, 7th. The cork screw composed of the three parts c^1 c^2 c^3, 8th. The hull for lunar caustic composed of the two parts h^1 h^2.

No. 8938. Improvements in Washboards.

(Perfectionnements dans les planches à laver.)

Charles T. Brandon, Toronto, Ont., 24th June, 1878, for 5 years.

Claim.—A sheet metal rubbing face for washboards in which the lines of corrugation are broken by blank intervals, and in which the series of corrugations are alternately arranged in such manner that the corrugations in one series are placed opposite to the blank intervals in the next succeeding series throughout the whole rubbing face.

No. 8939. Process and Apparatus for the Manufacture of Illuminating Gas.

(Procédé et appareil pour la fabrication du gaz d'eclairage.)

George Ramsdell, Detroit, Mich., U.S., 24th June, 1878, for 15 years.

Claim.—1st. The process for the manufacture of illuminating gas, the same consisting in re-heating the gas after the latter has been generated and purified, 2nd The process of reheating wood or coal gas together with hydro carbon vapour, after the said gas and vapour have been respectively purified, 3rd. The process for the manufacture of illuminating gas, which consists of the following steps, first distilling gas from wood and separating the pyroligneous acid therefrom, then washing the said gas by passage through a body of water, and finally subjecting the same to a reheating treatment in connection and together with hydro-carbon vapour, which latter has been previously washed in water, 4th The combination with a gas generating retort or retorts, of a superheating retort, and suitable intermediate purifying apparatus; 5th. The combination with the superheating retort, of the system of plates or shelves formed in the same, and adapted to present an enlarged heating surface to the gas. 6th. The superheating retorts provided with the vertical system of horizontal plates or shelves having alternate end openings or communications between the same, 7th. The combination with the hydro-carbon retort, of one or more removable vapourizing devices, 8th. The combination with a hydro carbon retort, of one or more removable vapourizing standards, the latter being respectively made with the described systems of balls and plates arranged in vertical

alternate series upon the supporting upright; 9th. The combination with one or more wood retorts A, and suitable connections of the double compartment chambers B, in which the pyroligneous acid is separated from the gas, and the latter passed through the water, together with the superheating retort D, and the connection therewith; 10th. A hydro-carbon retort provided with one or more removable vapourizing standards made with an alternate series of balls, and a system of convex and concave plates, said concave plates being perforated, 11th In a hydro-carbon retort, a vapourizing standard made with the series of balls arranged intermediately between a system of vapourizing plates, the upper one of which is convex and smaller than its corresponding lower concave plate, which latter is perforated, said balls and plates being independent of each other and removable from the supporting upright.

No. 8940. Improvements on Sewing Machines.

(*Perfectionnements aux machines à coudre.*)

Charles W. Warner, Sturbridge, Mass., U.S., 25th June, 1878, for 15 years

Claim.—1st. The combination with driving wheel and shaft of a sewing machine, of clutching mechanism adapted to suddenly stop the movement of the needle either in the elevated or depressed position at will, without stopping the motion of the driving wheel, 2nd. The combination with the driving wheel and shaft of a sewing machine, of clutching mechanism constructed and adjusted to suddenly stop the movement of the needle either in the elevated or depressed position at will, and also to either raise or not raise the presser foot; 3rd. The combination of the lever G, the hand-lever, and the spring stop *i*, 4th. The combination of the bell-crank lever, the treadle with its three faced block and sprng and the spring stop *i*; 5th The combination of the bell-crank lever, having an opening *h* and a cut away portion with inclined sides, with the presser foot lever; 6th. The combination of the bell-crank lever, the presser foot lever, and the presser foot when so constructed and connected that the movement of the bell-crank lever either way or given distance from its vertical position, will cause it to press down one end of the presser foot lever, and elevate the presser foot at the other end; 7th The combination of the bell-crank lever with its projections L L', the dog F and the springs and incline piece on the driving wheel; 8th. The combination of the presser foot lever and notched surface on the under side of the bell-crank lever, 9th. The lever G provided with one or more inclines and stops and a notch or cut away portion with inclined sides; 10th. The combination of the springs *a b*, and the inclined piece *c*; 11th. The combination of the adjustable block and spring dog F, with the driving shaft; 12th The combination of the treadle, three faced on its lower side and spring; 13th. The combination of the hand lever and the notched spring; 14th, The combination of a lever having the opposite sides inclined or cam-shaped with the dog F, 15th. The combination of a lever having the opposite sides inclined or cam-shaped with the dog F, and driving wheel and shaft; 16th. The bell-crank lever provided with the projections L L', on its opposite sides and in reversed position with respect to each other; 17th. The combination of the hand lever, the bell-crank lever, the spring stop *i*, the dog F, the driving shaft and the driving wheel carrying the springs and inclined piece, 18th. The combination of the spring stop or clutch and the lever G.

No. 8941. Indicator for Pianos or Organs.

(*Indicateur d'orgues et de pianos.*)

John L. Curtiss, (assignee of Nathan P. B. Curtiss,) Boston, Mass., U. S., 25th June, 1878, for 5 years.

Claim—1st. The imitation key-board in combination with the connected guided slide provided with a series of horizontal spaces marked to denote the keys to be touched to play the several cords designated on, and by such slide; 2nd. A slide for a piano or organ indicator provided with seven lines to indicate the chords described and marked to designate the keys to be touched to play such chords; 3rd. An indicator provided with an imitation key-board, a slide and hook line.

No. 8942. Improvements on Scales.

(*Perfectionnements aux balances.*)

Franklin Fairbanks, St. Johnsbury, Vt., U.S., 25th June, 1878, for 5 years.

Claim.—1st. A scale beam formed in two longitudinal parts A B, jointed together between their extremities, the zero end of the graduated part A, being socketed in the end of the fulcrum part B, and rotatable thereon, to bring either of its sides into view; 2nd. In combination with a rotatable differently graduated scale beam, in a sliding weight *f*, rotatable with the beam, provided with double index points *a a*, corresponding to each graduated side of the beam and adapted to engage with either graduated side by the act of turning the required graduated side into view.

No. 8943. Method of Welding Straps to Spade or Shovel Blades.

(*Mode de soudage des douilles aux châsses des bêches et des pelles.*)

Joseph Paradis, Longueuil, Que., 25th June, 1878, for 5 years.

Claim.—The method or its equivalent, of welding together two straps over a notch cut out of a plate or blade of a spade or shovel of any kind so a to connect by welding only the straps to the blade.

No. 8944. Improvements on Scoops.

(*Perfectionnements aux pelles à main.*)

William Gardner and Oliver L. Gardner, New York, (Assignees of Nathaniel Waterbury, Baltimore, Md.,) U.S., 25th June, 1878, for 5 years.

Claim.—1st. The blade A formed of two or more layers of veneer with the grain crossing each other, 2nd. A blade formed of two or more layers of veneers, in combination with a head B; 3rd. The blade A formed of two or more layers of veneer, in combination with the head B and the detachable handle C; 4th. In a wooden scoop, the head B with an undercut shoulder or flange C.

No. 8945. Railway Snow Plough.

(*Charrue à neige de chemin de fer.*)

Silas G. Smith, Hollis, Me., U.S., 25th June, 1878, for 5 years.

Claim.—The combination of the snow plough described, having the form shown, the inclined faces E, discs *f* and shovels *h*, with the piston rods *k*, heads *l*, trucks *m*, arms *n*, eccentric *o*, shaft *p*, gears *g r* and shaft *q*, the same being caused to operate independently, as to speed, of the velocity of the engine or train.

No. 8946. Art of Manufacturing Starch.

(*Art de fabriquer l'empoi.*)

Thomas Kingsford; Oswego, N. Y., U.S., 25th June, 1878, for 5 years.

Claim.—1st. Delivering the liquified materials in drops or small masses upon a moving absorbent surface, while subjecting it in this state of subdivision to the action of heat, at ordinary pressure of air; 2nd. In a machine for drying starch, the combination of the tank *a a* provided with the stirring shaft A and perforated bottom plate B, with the endless belt D, supporting and operating mechanism and steam heating pipes F.

No. 8947. Improvements on Spring Beds.

(*Perfectionnements aux lits à ressorts.*)

James B. Weir, Blenheim, Ont., 25th June, 1878, for 5 years.

Claim.—1st. The arrangement or combination of roller D, pieces B and C, in connection with springs F, 2nd. The arrangement of the interlocking wires or cross-ties G, for keeping the springs in position.

List of Patents issued up to 18th July, 1878, but not yet Officially published in the Patent Office Record.

No. 8948. J. A. Trey, New York, U.S.A., "Oil Can," 25th June, 1878.

No. 8949. M. Henry, Kylemore Castle, Ireland, (Assignee of H. C. Spalding, Bloomfield, N.J., U. S. A.,) "Method and Apparatus for Transmitting Power by Electric Currents," 25th June, 1878.

No. 8950. E. Smart, Brockville, Ont., "Blind Hinge," 25th June, 1878.

No. 8951. S. Field, New York, U. S. A., "Candle Holder, Match Safe, and Corn or Nail File," 25th June, 1878.

No. 8952. J. Murphin and A. B. Richman, Madaga, N. J., U. S. A., "Wash Board," 26th June, 1878.

No. 8953. D. Greenwood, (Assignee of W. H. Thayer,) Nashua, N.H., U. S. A., "Map and Wringer," 27th June, 1878.

No. 8954. J. Cowan, Dramore Kinmore, Ireland, (Extension of Patent No. 2508,) 27th June, 1878.

No. 8955. C. Egener, Hamilton, Ont., "Door Knob," 27th June, 1878.

No. 8956. J. Crane, New York, U.S.A., "Wearing Apparel," 27th June, 1878.

No. 8957. J. LeButler, A. C. Johnson, Elias Souet and P. Thoreau, Osceola, Iowa, U.S.A., "Baby Walker," 27th June, 1878.

No. 8958. A. Gerard, New Orleans, La., U. S. A., "Fire and Water Annunciator and Alarm," 27th June, 1878.

No. 8959. P. T. Elting, Boston, Mass., U. S. A., "Bed Stone Support," 27th June, 1878.

No. 8960. A. Chevigny, Montreal, Que., "Bedstead Fastener," 27th June, 1878.

No. 8961. L. Alméras and J. Buessard, Quebec, Que., "Paint, 27th June, 1878.

No. 8962. C. F. Spencer, Rochester, N.Y., U. S.A., "Stand Lamp," 27th June, 1878.

No. 8963. A. Pettengill, Keene, and F. H. Colony, Harrisville, N.H., U.S.A., "Air Gun," 27th June, 1878.

No. 8964. S. C. Salisbury, New York, U. S. A., "Improvements in the Manufacture of Gas," 3rd July, 1878.

No. 8965. J. W. Close, St. Thomas, Ont., "Railway Rail Chair," (Extension of Patent No. 2514,) 4th July, 1878.

No. 8966. C. A. Howard, Pontiac, Mich., U.S.A., "Self-Acting Air Carburetting Machine," 6th July, 1878.

No. 8967. C. A. Howard, Pontiac, Mich., U.S.A., "Air Carburetting Machine," 6th July, 1878.

No. 8968. E. F. Austin, Rochester, N.Y., U.S.A., "Mats and Robes," 6th July, 1878.

No. 8969. J. Tiffany, Chicago, Ill., U.S.A., "Refrigerator Car," 6th July, 1878.

No. 8970. A. H. Randall and E. Foster, Leamington, Ont., "Washing Machine," 6th July, 1878.

No. 8971. C. E. Lipe, Syracuse, E. D. Bronson, Amsterdam, A. Wabrath, Fort Plain, N.Y., U.S.A., "Sewing Machine," 6th July, 1878.

No. 8972. W. H. Tucker, Indianapolis, R. S. Dorsey, Indianapolis, C. H. Sohn Hamilton, and G. A. Reutschler Hamilton, (Assignees of A. C. Caldwell, Hamilton, Ohio, U. S. A.,) "Furniture Caster," 6th July, 1878.

No. 8973. W. A. Scott, London, Ont., "Floor, Oil and Leather Cloth and Paper," 6th July, 1878.

No. 8974. D. F. Hitt, Ottawa, Ill., U.S.A., "Surveyor's Plotting Instrument," 6th July, 1878.

No. 8975. T. C. Hewitt, Brantford, Ont., (Assignee of C. H. Smith, Chicago, Ill., U.S.A.,) "Lightning Rods," 6th July, 1878.

No. 8976. C. E. Parent, (Assignee of J. J. Adgat,) New York, U.S.A., "Ball Caster," 10th July, 1878.

No. 8977. R. P. Street, Hamilton, Ont., (Assignee of C. E. Haynes, Boston, Mass., U.S.A.,) "Clothes Wringer," 10th July, 1878.

No. 8978. J. W. Hatch, Rochester, N. Y., U. S. A., "Shoe," 10th July, 1878.

No. 8979. W. Tucker, East Brookfield, and J. G. Avery, Spencer, Mass., U.S.A., "Anti-Friction Devices," 10th July, 1878.

No. 8980. W. N. Severance, Lima, Ohio, U. S. A., "Nail Cutting Machine," 10th July, 1878.

No. 8981. E. K. Milliken, Portland, Me., U.S.A., "Key-Board for Pianos, &c.," 10th July, 1878.

No. 8982. S. B. Walker (Administratrix of G. S. Walker,) Erie, Pa., U.S.A., "Spring Bed Bottom," 10th July, 1878.

No. 8983. T. Wallace, Hamilton, Ont., "Process for Curing and Packing Meats," 10th July, 1878.

No. 8984. G. Moench, Rushville, Ill., U.S.A., "Mill Stove Ventilator," 10th July, 1878.

No. 8985. W. T. Lemon, Detroit, Mich., U.S.A., "Knitting Machine Attachment," 10th July, 1878.

No. 8986. H. A. Clark, Boston, Mass., U.S.A., "Process of Treating Vegetable Oils, &c.," 10th July, 1878.

No. 8987. D. W. Beadle, (Assignee of T. H. Brumfield,) Geddes, N. Y., U.S.A., "Carpet Stretcher," 10th July, 1878.

No. 8988. C. W. Nichols, Chicago, Ill., U. S. A., "Process for Treating Feathers," 10th July, 1878.

No. 8989. J. C. Harrison Brockville, Ont., Mangle and Wringer," 10th July, 1878.

No. 8990. G. R. Kidder, Amada, Mich., U. S. A., "Sliding Door," 10th July, 1878.

No. 8991. W. Shoolbred, (Assignee of T. Steers, Jr.) Ottawa, Ont., "Camp Bedstead," 10th July, 1878.

No. 8992. W. Lesslie, Jr., Kingston, Ont., "Withe Crusher," 10th July, 1878.

No. 8993. L. C. Snyder and H. E. Bates, Essex Junction, Vt., U. S. A., "Washing Machine," 10th July, 1878.

No. 8994. A. F. Stockley, Bishop Creek, Cal., U.S.A., "Scrubbing Machine," 10th July, 1878.

No. 8995. L. Duval, Longueuil, Que., "Ironing Table," 10th July, 1878.

No. 8996. W. Bambridge, Oshawa, Ont., "Carriage Spring, 10th July, 1878.

No. 8997. N. McMillan, Mount Forest, Ont., "Art of Cutting and Drafting Garments," 10th July, 1878.

No. 8998. J. S. Lownsberry, Sandwich East, Ont., "Method of Opening and Closing Gate," 10th July, 1878.

No. 8999. F. B. Scovell, Waterford, Ont., "Gas Governor," 10th July, 1878.

No. 9000. J. M. Taylor and J. M. Teller, Fredericton, N.B., "Rein Holder," 10th July, 1878.

No. 9001. J. M. Taylor and J. Mackey, Fredericton, N.B., "Cooking Stove," 10th July, 1878.

No. 9002. B. Holly, Lockport, N. Y., U. S. A., "Apparatus for Utilizing Steam in Heating, &c.," 10th July, 1878.

No. 9003. P. Cadell, Victoria Vancouver's Island, B.C., "Gold Washing Sluice or Flume with Power Lifting," (Extension of Patent No. 3489,) 11th July, 1878.

No. 9004. A. T. Ward, Philadelphia, Pa., U.S.A., "Tape Measure," 11th July, 1878.

No. 9005. A. Van Bibber, Cincinnati, Ohio, U. S. A., "Inking Roller's Composition for Printers," 11th July, 1878.

No. 9006. J. M. Lewin, Lockport, N.Y., U. S. A., "Bottle Stopper," 11th July, 1878.

No. 9007. W. L. French, Brockton, Mass., U. S. A., (Assignee of D. B. Reynolds, New York, U. S. A.,) "Combined Cane and Camp Stool," 11th July, 1878.

No. 9008. B. F. Sweet, Fond-du-Lac, Wis., U.S.A., "Sleigh Shoe," 11th July, 1878.

No. 9009. M. Harris Jamestown, N.Y., U. S. A., "Draft Attachment for Plows," 11th July, 1878.

No. 9010. J. Garrett, Pembroke, N.Y., U.S.A., Fence, 11th July, 1878.

No. 9011. C. F. Dunderdale, Kingston, N.Y., U.S.A., "Cement," 11th July, 1878.

No. 9012. J. Briody, Detroit, Mich., U.S.A., "Railway Switch," 11th July, 1878.

No. 9013. J. N. Schmitz, Kilburn, Wis., U.S.A., "Horse Collar," 11th July, 1878.

No. 9014. A. W. McKown, Kimbles, Penn, U.S.A., "Wagon Spring, 11th July, 1878.

No. 9015. E. H. Miller, Hollowell, Ont., "Sandband and Cap, 11th July, 1878.

No. 9016. R. H. Nogar, Carleton, Mich., U.S.A., "Hoop Machine," 11th July, 1878.

No. 9017. J. L. Whiting, Boston, Mass., U.S.A., "Brush," 11th July, 1878.

No. 9018. W. L. Thompson, Montreal Que., "Machine for registering the Sale of Retail Liquors. 15th July, 1878.

No. 9019. C. D. Hunter and E. S. Woods, Marlborough, Mass., U.S.A., "Inhaler," (Extension Patent No. 2531), 15th July, 1878.

No. 9020. L. Dickerson Trenton Mich., U.S.A., "Gate," 15th July, 1878.

No. 9021. C. Miller, Walkerton, O., "Spring Bed and Bottom," 15th July, 1878.

No. 9022. G. P. Clark, Windsor Locks, Conn., U.S.A., "Truck Wheel," 15th July, 1878.

No. 9023. E. Barnes, Mount Pleasant Mich., U.S.A., "Lift Pump," 15th July, 1878.

No. 9024. J. N. Best, Denver, Colorado, U.S.A., "Car Coupler," 15th July, 1878.

No. 9025. J. J. Dewey, Lake City, Minn., U.S.A., "Harvester Reel," 15th July, 1878.

No. 9026. B. F. Smith, (Assignee of C. J. Servis,) New Orleans, La., U.S.A., "Covering for Steam Boilers, &c., 15th July, 1878.

No. 9027. A. Dormitzer, N.Y., U.S.A., "Step Ladder," 15th July, 1878.

No. 9028. T. Murphy, Detroit, Mich., U.S.A., "Grate Bar," 15th July, 1871.

No. 9029. H. Garvin, New Castle, Ont., "Reaping Machine," 15th July, 1878.

No. 9030. G. A. Evans, Kingsey, Que., "Self-Creamer, 15th July, 1878.

No. 9031. G. Boucher de Boucherville, Quebec, "Telegraph," 18th July, 1878.

No. 9032. P. Clarke, Dundas, Ont., "Paper Box," 18th July, 1878.

No. 9033. D. N. Allen, Concord, N.H., U.S.A., Steam Boiler," 18th July, 1878.

No. 9034. J. R. Alsing, Stockholm, Sweden, "Triturating Machine," 18th July, 1878.

No. 9035. M. Bostwick, Painesville, Ohio, U.S.A., "Hoop and Molding Machine," 18th July, 1878.

No. 9036. A. Davis, Montreal, Que., "Locomotive Engine," 18th July 1870.

No. 9037. W. F. Motell, Millbrook, Ont., "Stair Housing Machine," 18th July, 878.

No. 9038. H. Cooley, Toronto, Ont., "Lightning Rod," 18th July, 1878.

No. 9039. The Grain Binder Association, (Assignee of M. G. Hubbard) and J. Derstine Heebner, Norristown, Pa., U.S.A., "Gleaning and Binding Machine," 18th July, 1878.

No. 9040. D. Servis, C. F. Sturtevant and C. H. Merriman, New York, U.S.A., "Railroad Spike," 18th July, 1878.

No. 9041. C. J. Tinnerholm, Brooklyn, N.Y., U.S.A., C. Schmidt, and S. A. R. Nicond, Saint John, N.B., "Tanning Process," 18th July, 1878.

No. 9042. R. K. Porkhurst and A. Eddy, (Assignees of R. G. Baldwin) and A. J. Parkhurst, Oskaloosa, Iowa, U.S.A., "Washing Machine," 18th July, 1878.

No. 9043. A. M. Murphy, Fond-du-Lac, Wis., U.S.A., and A. Trebilcock, Toronto, Ont., "Refrigerator," 18th July, 1878.

No. 9044. T. E. Marable, and P. J. Young, Petersburg, Virginia, U.S.A., "Hay and Straw Cutter," 18th July, 1878.

INDEX OF INVENTIONS.

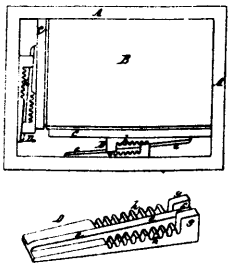
INDEX TO PATENTEES.

THE

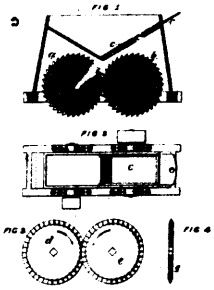
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

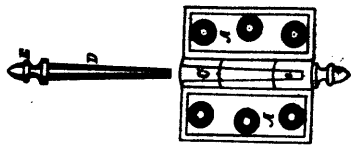
Vol. VI. JULY, 1878. No. 7.



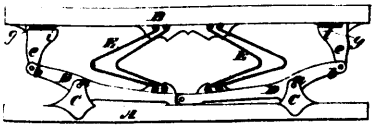
8817 Kempel & Dingens' Improvements on Printers' Quoins.



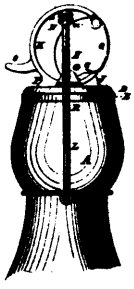
8818 Newell's Improvements on Grinding Mills.



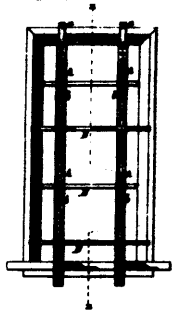
8819 Patterson's Improvements on Hinges.



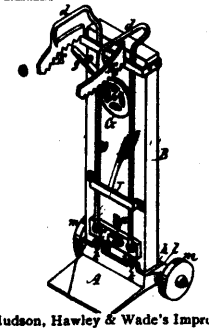
8820 McCor.l's Improvements on Vehicle Springs.



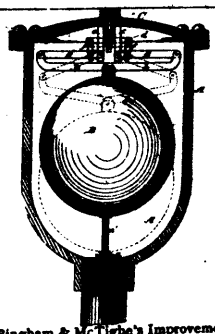
8821 Lewin's Improvements on Bottle Stoppers.



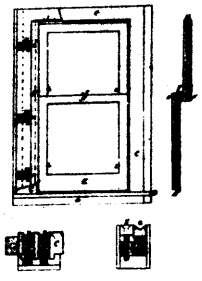
8823 Sanderson's Improvements on Brackets.



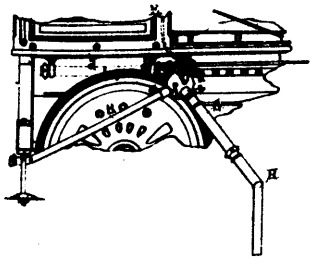
8824 Hudson, Hawley & Wade's Improvements on Bag-holders



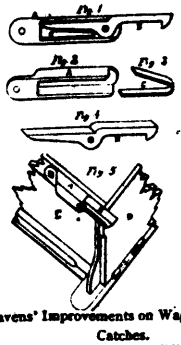
8825 Bingham & McTighe's Improvements on Low Water Signals.



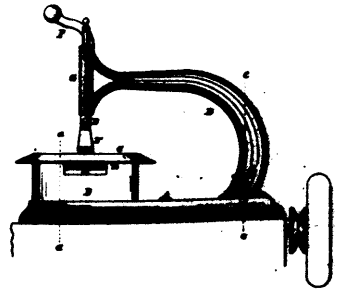
8826 Cooke & Schultz's Improvements on Window Frames and Sashes.



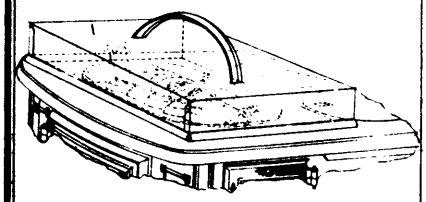
8827 Haggas & Gooderham's Apparatus for Supplying Locomotive Tenders with Water.



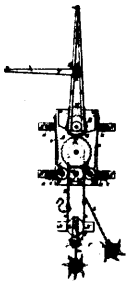
8828 Havens' Improvements on Waggon Gate Catches.



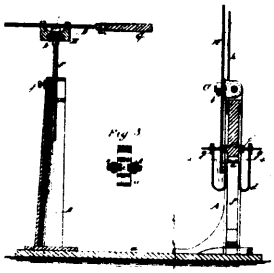
8829 Hoffman's Improvements on Sewing Machines.



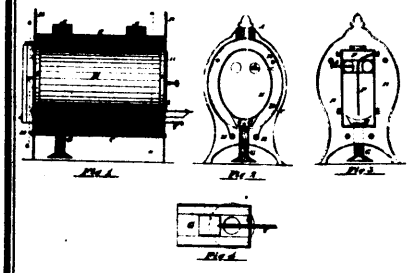
8830 Underwood's Flat Iron Heater.



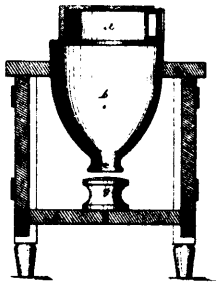
8831 Smith's Improvements on Stump Extractors.



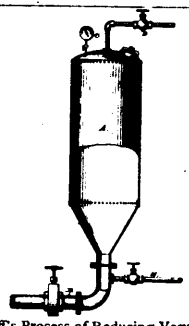
8832 Martin's Saw Filing Machine.



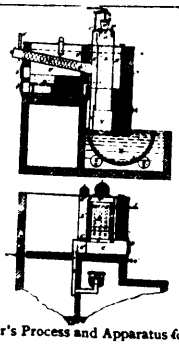
8833 McCaw & Brown's Improvement on Stoves.



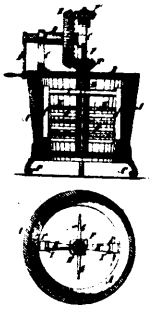
8834 Light's Improvements on Bee Hives.



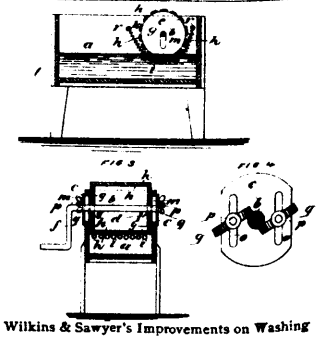
8835 Gaff's Process of Reducing Vegetable Substances to Prepare the same for Saccharification.



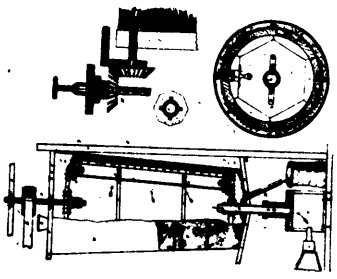
8836 Kidder's Process and Apparatus for Generating and Purifying Gas.



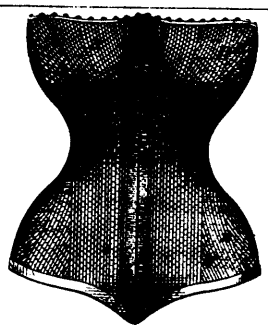
8839 Cokley & Shedden's Improvements in Churns.



8840 Wilkins & Sawyer's Improvements on Washing Machines.

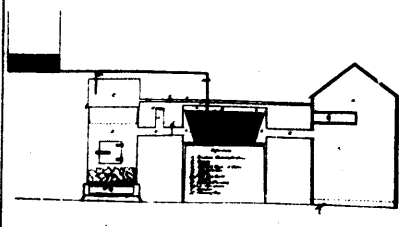


8841 Latulippe's Polisher and Cleaner for Pealed Barley.

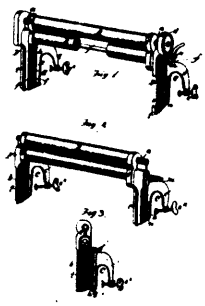


8842 Goulliond's Improvements in Corsets.

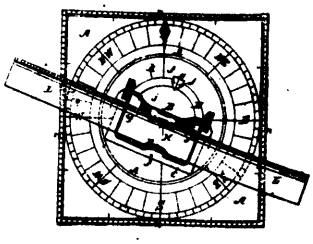
8843 Gibbs' Improvement in Breast Collars.



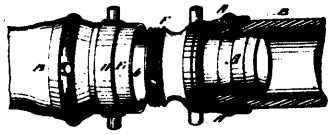
8844 Murray's Process for Manufacturing Artificial Stone.



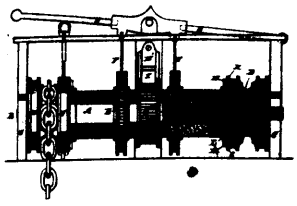
8845 Lovell's Improvements on Wringers.



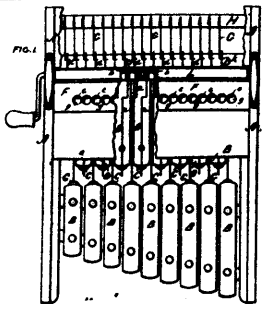
8846 Osgood's Improvements in Protractors.



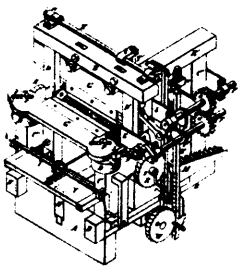
8847 Stewart & Scudder's Improvements on Hose Couplings.



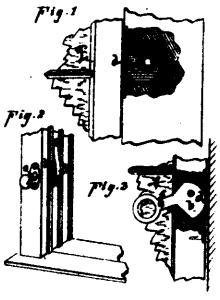
8848 Peppard's Improvements on Ships' Windlass.



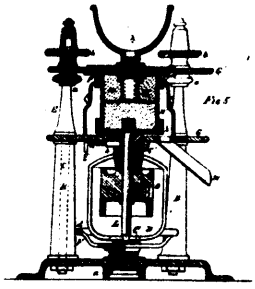
8849 Arso & Turner's Improvements on Mechanical Musical Instruments.



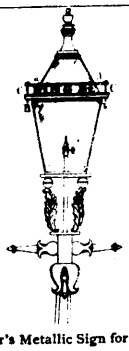
8850 Dougherty's Machine for Cutting Hoops.



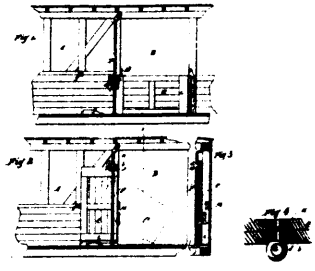
8851 Mead's Improvements in Sash-Holders.



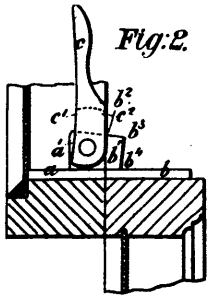
8852 Mills' Improvements on Mills for Grinding Middlings.



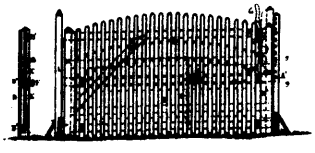
8853 Voutè & Piper's Metallic Sign for Street Lamps.



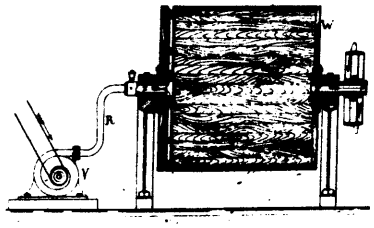
8854 Van Liew's Improvements on Grain Doors for Freight Cars.



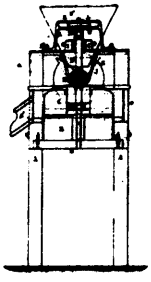
8856 Thompson's Improvements on Door Fasteners.



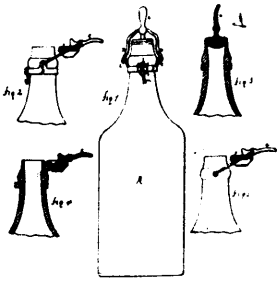
8855 Wright's Improvements in Gates.



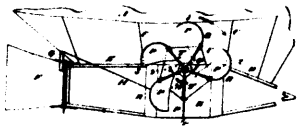
8857 Knapp's Improvements in the Manufacture of Leather.



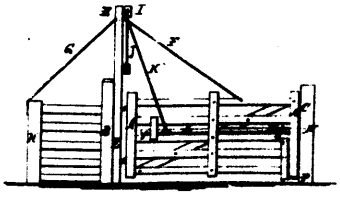
8858 Oates' Improvements in Feed-Cutters.



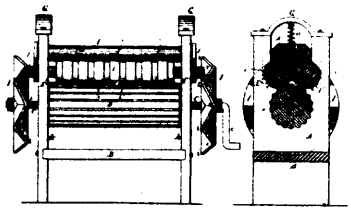
8859 Hammer's Improvements on Bottle Stoppers



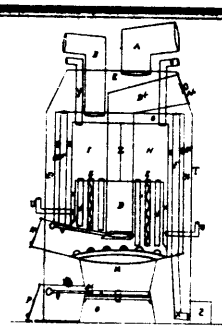
8860 Cowan & Pagé's Improvements on Flying Machines.



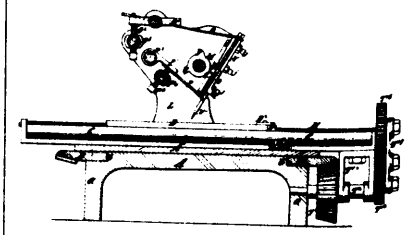
8861 Cooksey's Improvements on Gates.



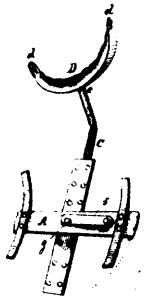
8862 Harsha & Connelly's Improvements on Washing Machines.



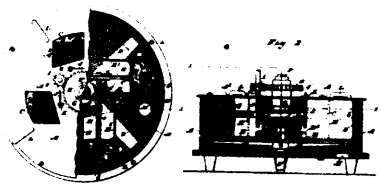
8863 Butterworth's Heating Apparatus.



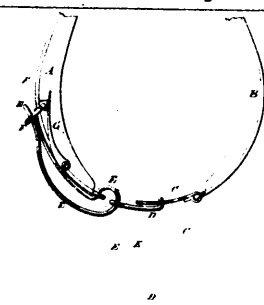
8865 Mudge & Whittaker's Improvements on Machines for Cutting Files.



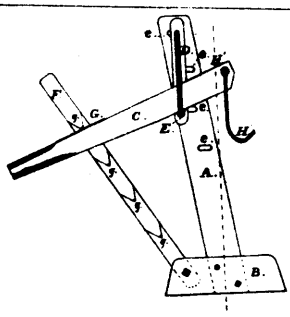
8867 Cowan's Combined Shawl Strap and Head Rest.



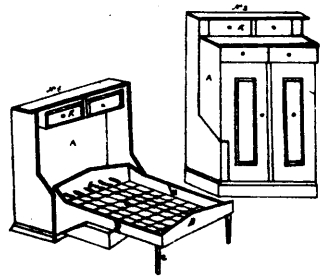
8868 Moore's Art of Reducing Wood to Pulp.



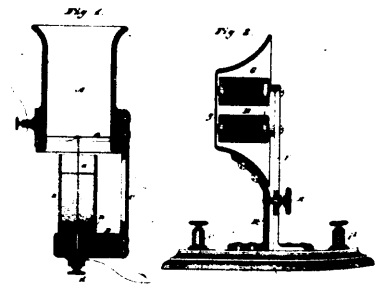
8869 Calhoun & Edge's Improvements on Hame Fastenings.



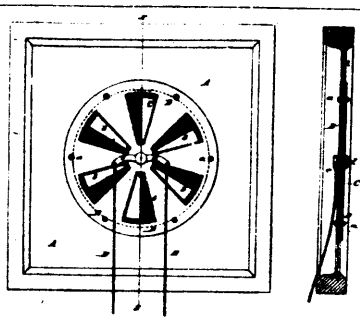
8870 Felt's Improvements on Lifting Jacks.



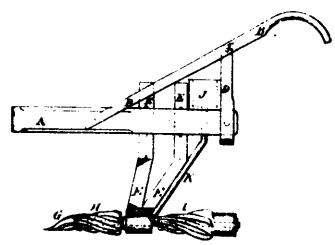
8871 Burr's Improvements on Folding Bedsteads.



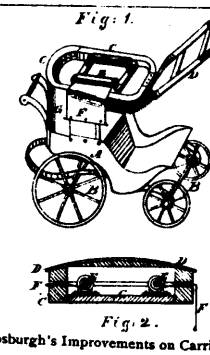
8872 Gray's Improvements on Electric Telephones.



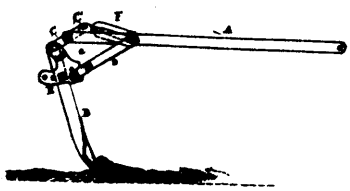
8873 Darling s Improvements on Ventilators.



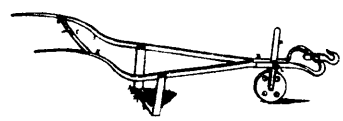
8874 Snyder's Improvements on Drain Borers.



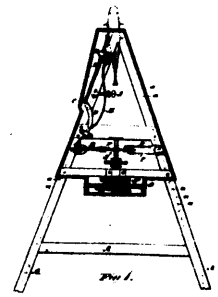
8875 Fosburgh's Improvements on Carriage Tops



8876 Galloway & Larsen's Improvements in Seeding Machines.



8877 Rockhill's Implement for Extirpating Weeds.



8878 Price's Improvements on River and Fishway Registers.

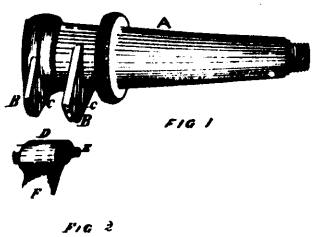
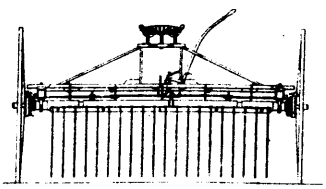


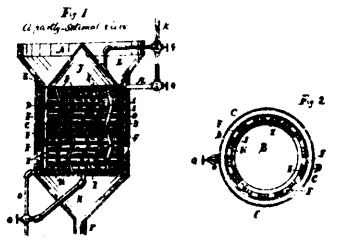
FIG 1

FIG 2

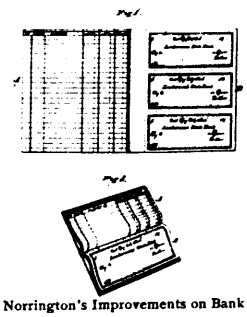
8879 Patterson's Improvements in Waggon Axles.



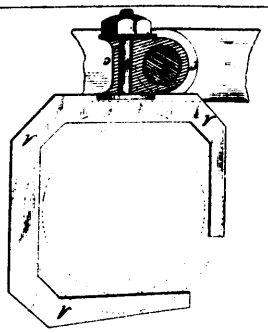
8880 Calkins & Elliott's Improvements in Hay Rakes.



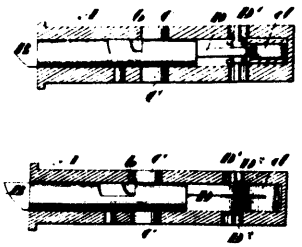
8881 Gratiot's Improvements in Wheat Heaters.



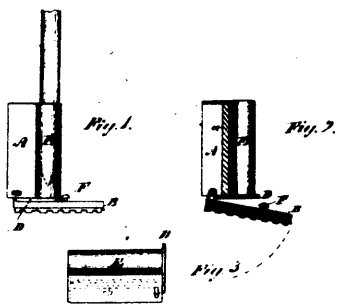
8882 Norrington's Improvements on Bank Cheque Books.



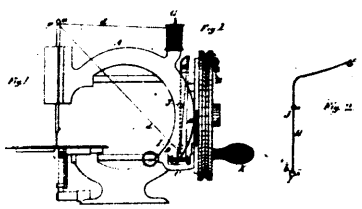
8883 Spelman's Improvements in Row-locks.



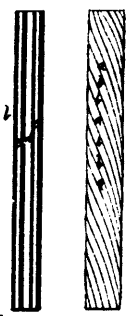
8884 Labelle's Improvements on Mortise Locks.



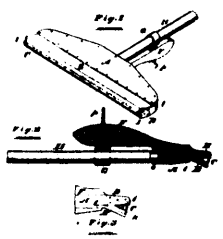
8885 Randall's Improvements on Hand Stamps.



8886 Webster's Improvement in Sewing Machines.

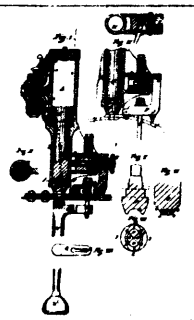


8887 Smith's Improvements on Lightning Rods.

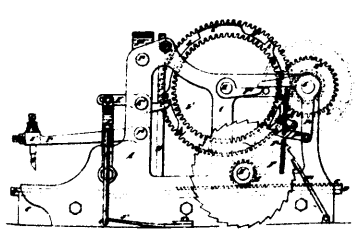


8888 Gayton's Improvements on Devices for Cleaning Windows.

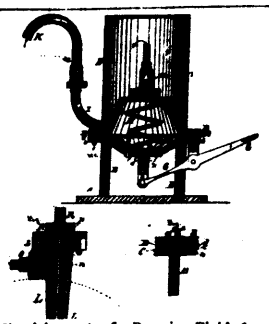
8889 Ruggles & Robinson's Improvements on Potato-Bug Exterminators.



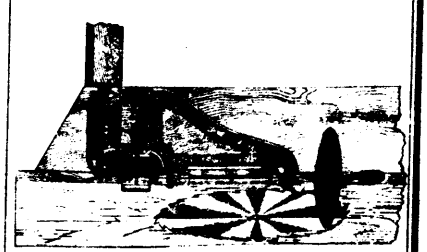
8890 Allen's Improvements on Riveting Machines.



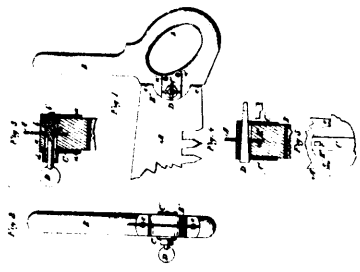
8891 Mudge & Whittaker's Machine for Manufacturing Rasps.



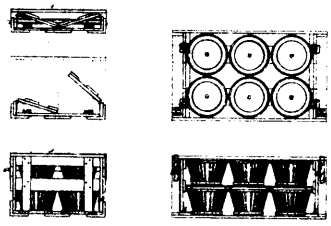
8892 Class' Apparatus for Pumping Fluids from Casks.



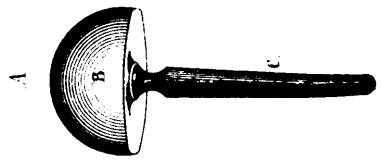
8893 Hodgson's Machine for Sharpening Saws.



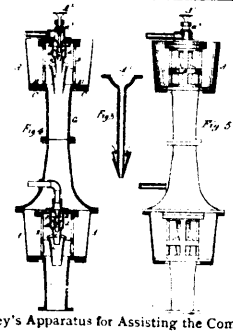
8894 Moss, Abbott & Fitzsimmons' Improvement on Saw-Handles.



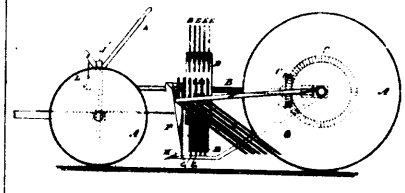
8895 Smith's Improvements on Fruit Crates.



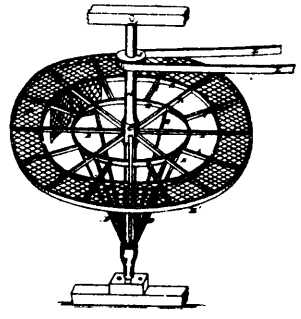
8896 Willis' Stocking Darning Block.



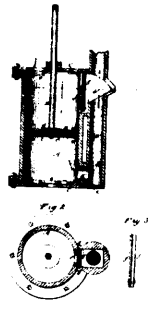
8897 Killey's Apparatus for Assisting the Combustion of Coal Screenings.



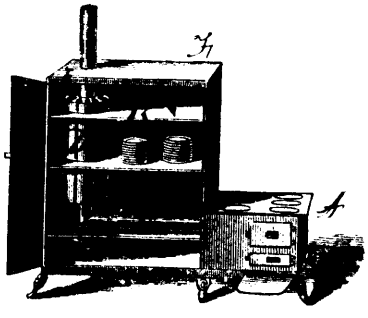
8901 Parker's Improvements on Potato-diggers.



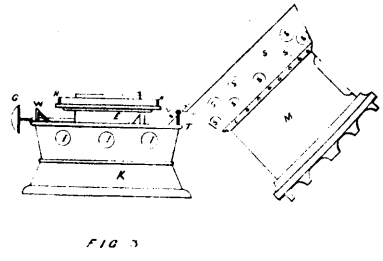
8902 Têtu's Mode and Apparatus for Drying Fish.



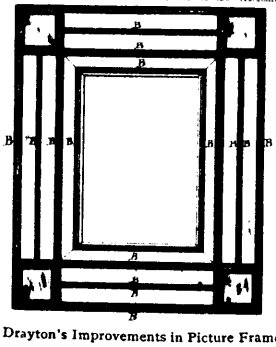
8903 Wyeth's Improvements on Force-Pumps.



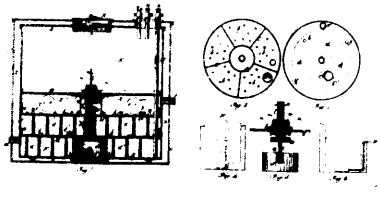
8904 Frost's Improvement in Cooking Ranges.



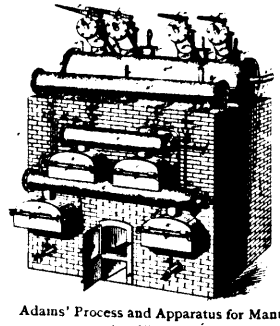
8905 Shaut's Improvements in Oil Stoves.



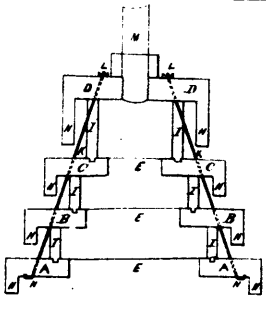
8906 Drayton's Improvements in Picture Frames.



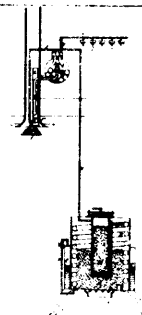
8907 Palmer & Shaw's Improvements on Gas Carburetters.



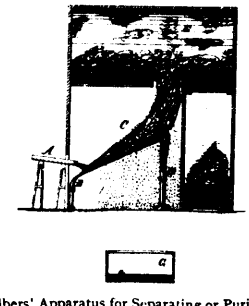
8909 Adams' Process and Apparatus for Manufacturing Illuminating Gas.



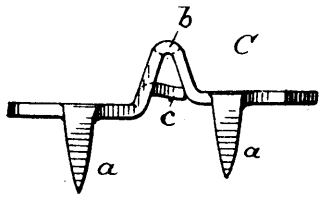
8914 Farmer's Improvements in Churn Dashers.



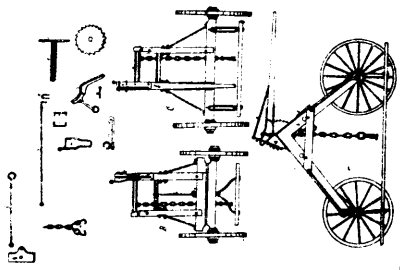
8915 Livesey & Kidd's Apparatus for the Production of Illuminating Gas.



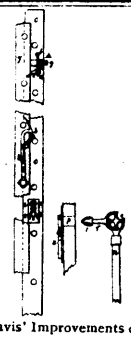
8916 Elbers' Apparatus for Separating or Purifying and Treating Mineral Wool, and Manufacturing the same into Wadding.



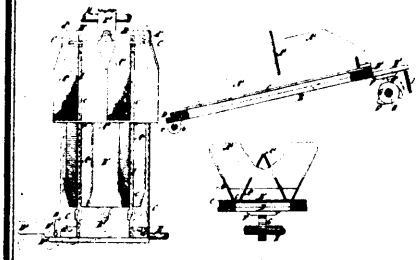
8917 Farnham's Glove and Shoe Fastener.



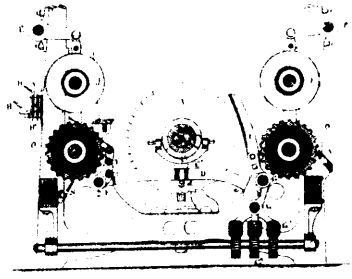
8918 Wallis' Machine for Raising Stumps.



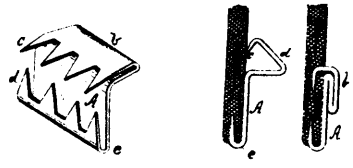
8919 Smith & Davis' Improvements on Extension Ladders.



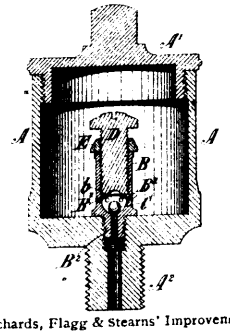
8920 Ellacott, Benny & Peck's Improvements on Nail Assorters.



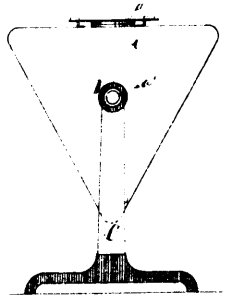
8921 Abell's Improvements on Edging Machines.



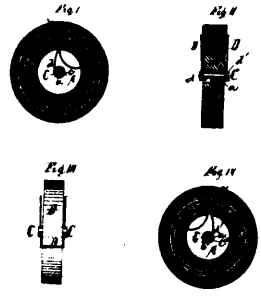
8922 Hoffman's Improvements in Trowsers' Protectors.



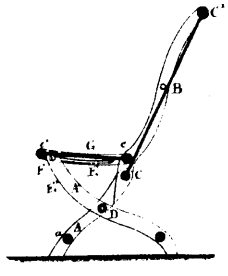
8923 Richards, Flagg & Stearns' Improvements in Oil Feeders.



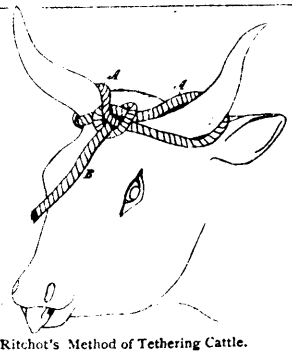
8924 Peugh's Improvements in Churns.



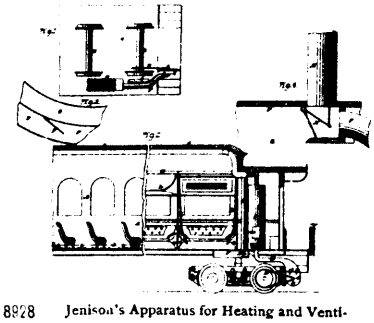
8925 Lyon's Improvement in Braid Holders.



8926 Pratt's Improvements on Folding Chairs.

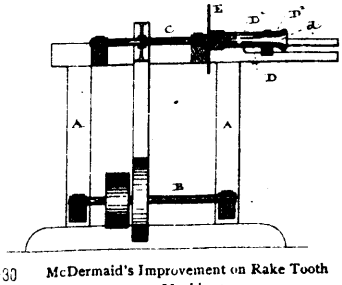


8927 Ritchot's Method of Tethering Cattle.

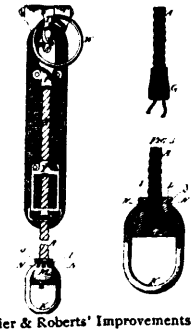


8928 Jenison's Apparatus for Heating and Ventilating Cars.

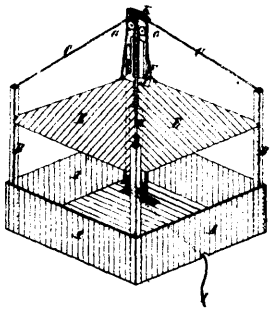
8929 Dorion's Improvements on Stove-Pipes.



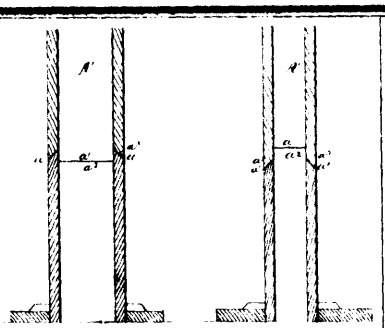
8930 McDermaid's Improvement on Rake Tooth Machines



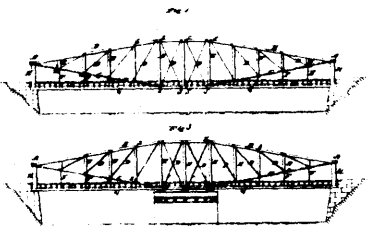
8931 Collier & Roberts' Improvements on Harness Traces.



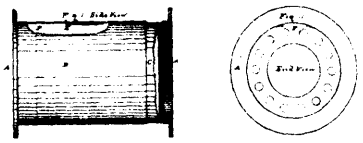
8932 Burton's Improvements on Hay Ricks.



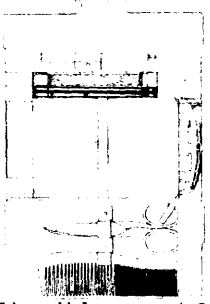
8934 Schreier's Improvement in Fire-Proof Chimneys.



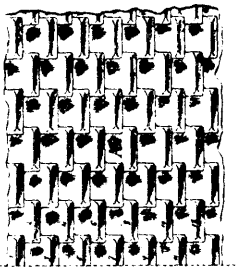
8935 Douglass' Improvements on Truss Bridges.



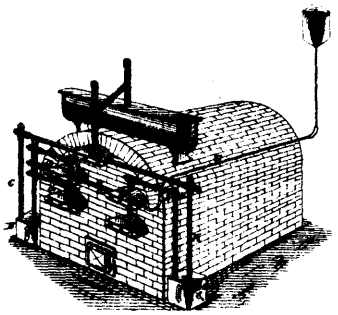
8936 Dixon & Unverferth's Improvement in Stove-Pipe Thimbles.



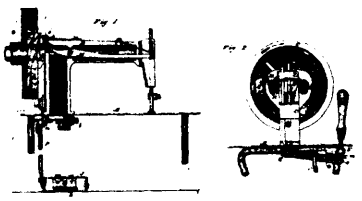
8937 Gringmuth's Improvements in Cases and Adjuncts.



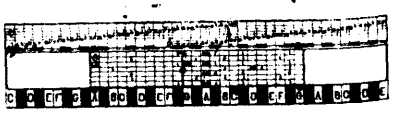
8938 Brandon's Improvements in Washboards.



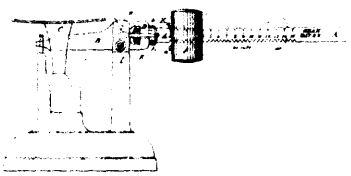
8939 Ramsdell' Process and Apparatus for the Manufacture of Illuminating Gas.



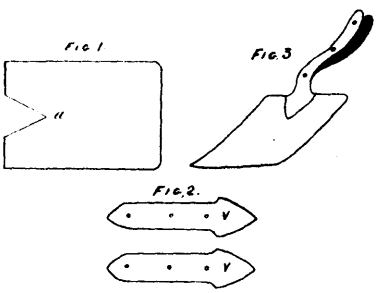
8940 Warner's Improvements on Sewing Machines.



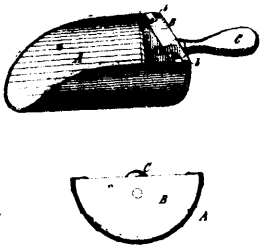
8941 Curtiss' Indicator for Pianos or Organs.



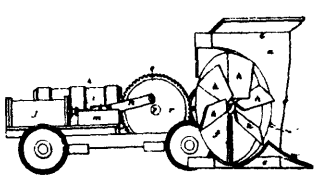
8942 Fairbanks' Improvements on Scales.



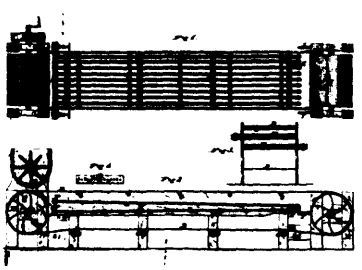
8943 Paradis' Method of Welding Straps to Spades or Shovel Blades.



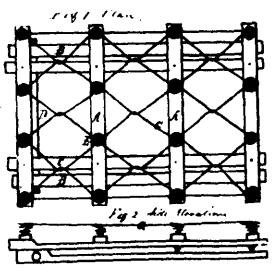
8944 Waterbury's Improvements on Scoops.



8945 Smith's Railway Snow Plough.



8946 Kingsford's Art of Manufacturing Starch.



8947 Weir's Improvements on Spring Beds.