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INVENTIONS PATENTED.

No. 10,964. Carburetter and Gas Burner Combined. (*Carburateur et bec à gaz combinés.*)

James Livesey, London, Joshua Kidd and James Kidd, Wandsworth, Eng., 26th February, 1880; for 5 years.

Claim.—1st. The means of applying a removable carburetting apparatus in the place of an ordinary burner; 2nd. The employment of a carburetting tube of comparatively small area in connection with a large reservoir of carburetting material; 3rd. Carburetting by heated gas; 4th. Heating the carburetting vessel, and the pipes conveying the enriched gas, by steam admitted to a casing surrounding them; 5th. Regulating the heat applied for carburation, by means of apparatus such as shown; 6th. Regulating the heat applied for carburation by means of a gas valve governed by expansion of metals or liquids caused by the heat of the carburetting material.

No. 10,965. Combined Galvanic Battery and Medicated Pad. (*Batterie galvanique et plastron médical combinés.*)

Henry E. Hunter, Hinsdale, N. H., U. S., 28th February, 1880; for 5 years.

Claim.—1st. The ring zinc plate A, felt plate B and copper plate C, the latter being smaller than the cavity of plate A, in combination with the absorbent layer D and felt plate E; 2nd. The combination, with the two batteries and pads A B C D E, of a spiral conduction wire I, whereby the current of electricity is made to pass through the two batteries and pads and the patient's body, in the same circuit; 3rd. The combination, with the two batteries and pads A B C D E and the spiral conduction wire I, of the strips of webbing K, whereby the batteries and pads and the spiral conduction wire I are connected with, and secured to the patient's body.

No. 10,966. Machine for Shaping and Fitting Carriage Springs. (*Machine à former et ajuster les ressorts des voitures.*)

Charles F. Shoemaker, Cleveland, Ohio, U. S., 28th February, 1880; for 5 years.

Claim.—1st. In combination with the rollers G', a roller carrier consisting of the cheeks A' B; secured to a rock shaft having its axial bearings, in sliding boxes R R fitted in curvilinear openings in the frame A, for obtaining to the said carrier a rocking and curvilinear action, and pitmen and cranks U U for imparting a reciprocating movement to said carrier; 2nd. In combination with the rollers G', a roller carrier consisting of the cheeks A' B, arranged upon a rock shaft in such manner that such cheeks have a parallel facial relation to each other, and radial slides 1 2 3 4 and their respective adjusting screws a; 3rd. In combination with the slides 1 2 3 4, the cheeks A' B, the stems D, springs F and rollers G; 4th. The adjustable bending arms J, arranged in relation to the roller carrier in two parts, in combination therewith and with the carriage B; 5th. In combination with the former I and rollers G', the cheeks A' B provided with set screws w, for adjusting said cheeks upon the rock shaft S; 6th. The combination of the carriage B carrying the adjustable former I, guard fingers N and shaft M, knee joints link G and lever, or other suitable mechanism, for imparting a reciprocating movement to said carriage; 7th. A vertically reciprocating carriage B provided with a former supported at the middle by an adjustable standard, and the ends thereof attached to adjusting screws for regulating the curvature of the plates or leaves co-operating to that end with auxiliary standards arranged between the central standards and said adjusting screws; 8th. In combination with the carriage B and adjustable former secured thereto, the movable fingers or guards and shaft M; 9th. A roller carrier consisting of the cheeks A' B mounted upon a reciprocating shaft having its bearings in

sliding boxes R, and having a vibratory movement on said shaft synchronous with the reciprocating movement; 10th. The adjustable bending arms J, arranged in relation to the roller carrier and co-operating therewith, in combination with the carriage B; 11th. In combination with the former clips K and adjusting screws L pivoted thereto, adjusting standards J c c.

No. 10,967. Improvements on Car-Couplings. (*Perfectionnements aux attelages des chars.*)

Nile F Wynkoop, Chemung, N. Y., U. S., 28th February, 1880; for 5 years.

Claim.—1st. A draw head having a block sliding against a spring in an opening nearly coinciding in width and depth with the width and thickness of the link, and with a flaring funnel-like mouth, all the sides of which meet those of said opening at the rear of the centre of the pin; 2nd. The combination, with the draw head link pivoted at one side, of the head lever I pivoted to the link, and an adjustable hook bolt i carried by the lever and adapted to a staple n at the end of the pin.

No. 10,968. Improvements on Bark Reducing Machines. (*Perfectionnements aux machines à broyer l'écorce.*)

William Shaw, Kingman, Me., U. S., 28th February, 1880; for 5 years.

Claim.—1st. The combination of the cutting cylinder b, inclined chute c and feed roll f; 2nd. The combination of the cutting cylinder b, inclined chute c, whereby the bark is presented to the cutters at an angle, and feed roll f, said feed roll being supported on hinged arms g g and resting on the bottom of said inclined chute; 3rd. The cutting knives f radially adjustable in the cutting cylinder; 4th. The combination of bars k k secured together and having a groove at l, with a series of knives j grooved at m and secured in position, in said bars, by a spline n; 5th. The knife holding bar K passing through slots n in the cutting cylinder heads and into adjustable segmental plates p secured thereto; 6th. The segmental plates p carrying the knife holding bars K and adjustable toward the circumference of the cutting cylinder; 7th. The strips or slots s passing through the slots n in the cylinder heads and supporting the knives j; 8th. The series of bars t arranged concentrically with the cutting cylinder.

No. 10,969. Process and Apparatus for Purifying Bark Extracts. (*Procédé et appareil pour purifier les extraits d'écorce.*)

Earnshaw Bradley, Three Rivers, Que., 28th February, 1880; for 5 years.

Claim.—1st. The process of purifying extract of bark by precipitation, by condensing the leached extract to about the density specified by evaporation, and while hot rapidly cooling the same, then flowing the cooled condensed extract into a series of tubs or tanks overlying into one another, wherein the matter, set free by the action of cooling, is precipitated; 2nd. An apparatus for purifying partially concentrated bark extract, comprising an evaporator or heater, a cooler and a series of tubs or tanks arranged to overflow into one another and into a receiver; 3rd. A cooler consisting of concentric cylinders A B and centre agitating shaft C having stirrers b, whereby water, in flowing between the cylinders, cools the extract while passing through the inner cylinder, which is kept in agitation by the revolving shaft.

No. 10,970. Improvements in Ploughs. (*Perfectionnements dans les charrues.*)

Robert W. Phillips and Andrew Tolton, Guelph, Ont., 28th February, 1880; for 5 years.

Claim.—1st. A vertically adjustable drag beam pivoted, at an intermediate point between its end, to the head or other fixed point on the plough, and adjustably secured, at its rear end, to the frame of plough in such manner that the front end of the beam may be raised or lowered to, and secured at any desired elevation; 2nd. A vertically and horizontally adjustable drag beam pivoted, at an intermediate point between its ends, to the head or other fixed portion of the plough, and adjustably secured, at its rear end, to the frame of the plough in such manner that the front end of the beam can be raised or lowered to any desired elevation, be moved horizontally and secured at any desired point of adjustment; 3rd. The combination, with the drag beam of a plough pivoted to the head or other fixed portion of the plough, to allow of the vertical movement of its front end, of the jointer D; 4th. The combination, with the vertically and horizontally adjustable drag beam of a plough, of the jointer D; 5th. The combination, with the drag

beam C pivoted to the head of the plough to allow of vertical adjustment, of the slotted adjustable bracket E and slotted bridge F; 6th. The combination, with the drag beam C having vertical and horizontal pivotal points on the head of the plough, of the slotted adjustable bracket E and slotted bridge F; 7th. The combination of the drag beam clasp H with the adjustable drag beam and the jointer bracket provided with the laterally extending arm h; 8th. The slotted bracket D having the laterally extending arm h and the rearwardly extending brace D₂, in combination with the clasp H and horizontal pin G.

No. 10,971. Improvements on Fire-Engines.

(*Perfectionnements aux pompes à incendie.*)

Nedrick Jarvie and William Miller, Glasgow, Scotland, 28th February 1880; for 5 years.

Claim.—1st. The combination of a vessel A, for containing a solution of an alkaline carbonate, with a bottle E for containing acid, such bottle being furnished with a loose ball or stopper G, which does not prevent the acid from running out when the bottle is turned down.

No. 10,972. Improvements in Wood-Turning Tools.

(*Perfectionnements aux outils à tourner le bois.*)

Freeman Hanson, Hollis, and Daniel H. Bacon, Portland, Me., U. S., 28th February, 1880; for 15 years.

Claim.—1st. A wood cutting tool provided with devices for sawing, cutting and smoothing wood into oval or other shapes; 2nd. The groove d, cutting lip a and cutting plates b c of different lengths, provided with the knife edge g, notch i, teeth e h, and ridges n.

No. 10,973. Stand Pipe for Railway Water Stations.

(*Tuyau de distribution d'eau pour les stations des chemins de fer.*)

Gardiner B. Van Vorst and James A. Pratt, West Albany, N. Y., U. S., 28th February, 1880; for 5 years.

Claim.—1st. The base piece A, divided by one or more partitions a to form the valve chamber a₁ and column chamber or chambers a₂, in combination with one or more water controlling valves contained in said valve chamber and stationary pipe or pipes D secured to the base piece A, over the said column chamber or chambers; 2nd. The combination with a base piece containing separate chambers for the water controlling valves and standing pipes, of the detachable valve seat and valve and the standing pipe D, arranged in relation to each other, so that either can be removed without disturbing the other; 3rd. The combination, with the standing pipe D and crane pipe F, of the joint ring E and the binding collar G; 4th. The hollow shaft I and seat it, provided with corresponding ports i₁ and arranged to operate as a rockshaft and a waste water cock; 5th. The combination, with a standing pipe D, and crane pipe F, of the water controlling valve B and hollow shaft or waste water cock I, said valve and cock being arranged in relation to each other, and adapted to operate so that as one is opened the other is reciprocally closed; 6th. The combination, with the crane pipe F, of the spring O, provided with the bow piece o, arranged in relation to said crane pipe; 7th. The combination of the hand lever H, rod h, and the shaft I provided with the arms i₁; with the link j, lever J, and valve B; 8th. The crane pipe F provided with a counter weight f₂ attached to said crane pipe, and arranged at an angle of about forty-five degrees from the horizontal centre line of said crane pipe, for the purpose of avoiding the danger of passing trains colliding therewith; 9th. The reversible joint ring E, consisting of an annular flange provided with a convex projection e, on each face at its smaller diameter, and having a flat annular seat of a uniform thickness extending beyond the outer diameter of the convex projections.

No. 10,974. Improvements on Electrical Conductors for Telegraphic, Telephonic and other purposes.

(*Perfectionnements aux conducteurs électriques pour des fins télégraphiques, téléphoniques et autres.*)

Charles E. Chinnoek, Brooklyn, N. Y., U. S.; 28th February, 1880; for 15 years.

Claims.—1st. The combination, with an electric line wire or conductor provided with an insulating covering, and an external electric conductor, of an uninsulated conducting wire independent of said line wire or conductor but in electrical communication with its external electric conductor, and in communication with the ground; 2nd. The combination in an aerial cable with a group or series of electric line wires or conductors, severally provided with insulating coverings and external electric conductors in contact with each other, of conductors extending from said external electric conductors to the ground; 3rd. The combination with a group or series of line wires or conductors provided with uninsulating coverings and with external electric conductors, of a centrally arranged wire for bracing the cable, comprising the line wires or conductors and insulated from the external electric conductors of the said line wires or conductors; 4th. The combination of a group or series of line wires or conductors, arranged circularly around a central line wire or conductor, all of said line wires having coverings of insulating material and external electric conductors; 5th. The combination, with a group or series of electric line wires or conductors, provided with insulating coverings and some or all provided with external electric conductors, of an uninsulated conducting wire independent of them, and in communication with them and the ground.

No. 10,975. Method for Curing Foot-Rot in Sheep.

(*Méthode pour guérir le fourchet des moutons.*)

John Myers, Adams, Ohio, U. S., 28th February, 1880; for 5 years.

Claim.—Subjecting the feet of the sheep to a bath composed of concentrated lye, and afterwards subjecting them to a bath composed of a mixture of blue vitriol and vinegar.

No. 10,976. Improvements on Clothes Washers.

(*Perfectionnements aux laveuses à linge.*)

William N. Wylie, Black River Falls, Wis., U. S., 28th February, 1880; for 5 years.

Claim.—1st. The combination of the funnel-shaped body A, provided with the bottom plate B, rims C D, tube F and extension H having openings I L, with handle E, valve K mounted upon a coil L, of a rod M, secured to diametrically opposite sides of rims C, and the rod N secured to rim C at right angles to rod M, and passing through the coil L, upon the latter.

No. 10,977. Improvements in Cream Collectors.

(*Perfectionnements aux crémeoirs.*)

Peter G. Peltret, San Francisco, Cal., U. S., 1st March, 1880; for 5 years.

Claim.—1st. A milk pan or receptacle in which milk is set for cream, a faucet placed on its bottom, the opening into which is protected by a screen or wire gauge, whereby the milk may be drawn from under the cream and the cream retained; 2nd. The arrangement, for the collection of cream, consisting of the series of pans A, provided with the faucets B and screens C, said faucets connecting with the common drain pipe D and the hot and cold water pipes E F, whereby the cream may be collected and the pans cleaned without handling.

No. 10,978. Improvements on Electrical Conductors for Telegraphic and Telephonic Purposes.

(*Perfectionnements aux conducteurs électriques pour des fins télégraphiques et téléphoniques.*)

Charles E. Chinnoek, Brooklyn, N. Y., U. S., 1st March, 1880; for 15 years.

Claim.—1st. The combination of insulators, sustaining line wire or conductors and supports therefor, in electrical communication with each other through a guard or other wire or wires common to said supports, and in communication at suitable points with the ground; 2nd. The combination, with insulators sustaining line wires and supported on shanks or fingers of wood or other suitable material, of conductors applied to the shanks or fingers, a wire connecting the conductors of these shanks or fingers, and a wire connecting the last said wire with a guard or other wire, in communication with the ground.

No. 10,979. Improvements in Candlesticks.

(*Perfectionnements aux chandeliers.*)

Richard H. E. Siebert, Washington, D. C., U. S., 1st March, 1880; for 5 years.

Claim.—1st. The combination of the two jaws D E, thumb lever F, spring H and plate G; 2nd. The combination of the rods B B, ring C, plate A, jaws D E connected by the hinge k, lever F, spring H and weighted bottom G; 3rd. The combination of the parts D E connected by the hinge k; 4th. In the use of a reflector, as a base plate, and the means of adjusting candle to the same by means of the aperture in plate G, in combination with other parts; 5th. Making the jaws D E, thumb lever F and spring H in one piece.

No. 10,980. Improvements on Knitting Machines.

(*Perfectionnements aux machines à tricoter.*)

William H. McNary, Brooklyn, N. Y., U. S., 1st March, 1880; for 5 years.

Claim.—1st. The use of segment pieces for varying the width of the gate according to the requirements of the work in hand; 2nd. The arrangement of mechanism for operating the gate and thereby increasing the speed of production of the machine, such mechanism consisting substantially of a rock lever actuated by a crank pin, which is fitted in the radial groove of a rotating plate, the position of such pin being controlled by a fixed cam plate; 3rd. The arrangement of mechanism for operating the wiper and thereby increasing the speed of production of the machine, such arrangement consisting in mounting the rock lever which carries the wiper on the movable fulcrum pin and giving a positive but adjustable motion thereto from the grooved rotating cam Y Z; 4th. The means for thickening the fabric at any desired point, such thickening being produced by drawing back the presser L, by means of a rotating cam actuating a reciprocating bar that carries pins that connect the bar through inclined slots with the thread guide slide; 5th. The means for producing the compound knitted fabric, such means consisting of an additional guide slide M, which receives its motion from the rock lever R, actuated from the cam S, the thread guide slides being connected together when required by the locking pin m, which is actuated by the swinging lever l from the pattern plate.

No. 10,981. Improvements on Mechanical Musical Instruments.

(*Perfectionnements aux instruments de musique mécaniques.*)

Elise P. Needham, New York, N. Y., U. S., 1st March, 1880; for 15 years.

Claim.—1st. A mechanical musical instrument in which the required musical effect is produced or controlled by one or more travelling perforated strips or sheets, and in which air under pressure is used to produce the necessary notes or sounds, the arrangement within the wind chest of the instrument, of a board or other equivalent structure provided with air ducts or passages forming a rest over, or in contact with which the perforated strips or sheets are made to travel, for the purpose of opening and closing the mouths or receiving ends of the ducts or passages, to admit the wind from the chest to the pipes, reeds or other sounding devices of the instrument; 2nd. In a mechanical musical instrument, in which the required musical effect is produced or controlled by one or more travelling perforated strips or sheets, the combination, with a wind chest having air under pressure supplied to it, of a board or other equivalent structure provided with air ducts or passages, arranged with said wind chest and having the mouths or receiving ends of its ducts or passages opening into said chest, and one or more travelling perforated playing strips or sheets, and means for carrying the same, also arranged within said wind chest.

No. 10,982. Improvement in Railway Frogs.
(*Perfectionnements aux rails de croisement des chemins de fer.*)

Barpee R. Starratt and F. G. Smith, Truro, N. S., 1st March, 1880; for 5 years.

Claim.—1st. The V-shaped portion H, constructed in one piece and provided with keepers *a a*, whereby the pointed end of this part of the frog is held down; 2nd. The combination of the keys F G with the part H and wing rails I I of a railroad frog, whereby the frog is held in place and given an elastic bearing; 3rd. The wing rails I I provided with keepers *cc*; 4th. The combination with the part H and wing rails I I, the transverse plate E E; 5th. The combination with the planks B D of the plates C C, whereby chairs are formed for the rails to rest upon.

No. 10,983. Improvements on Middlings Purifiers.
(*Perfectionnements aux épurateurs des gruaux.*)

Thomas B. Osborne, New Haven, Conn., and Kingsland Smith, New York, U. S., 4th March, 1880; for 15 years.

Claim.—1st. The process for purifying flour consisting in passing the ground material and at the same time agitating it beneath movable electrified surfaces; 2nd. The combination of a receiver, for the ground material, arranged and operating to agitate the ground material passing thereon with one or more movable electrified surfaces, above the surface of the ground material passing in the receiver; 3rd. The combination of a receiver, for the ground material, arranged and operating to agitate the ground material passing therein, with one or more movable electrified surfaces above the surface of the ground material passing in the receiver, and a blast arranged to discharge a current of air through the ground material; 4th. The combination of a receiver for the ground material, arranged and operating to agitate the ground material passing thereon, with one or more movable electrified surfaces above the surface of the ground material passing in the receiver and adjustable cushion, to regulate the power of the attracting surfaces; 5th. The combination of a receiver for the ground material, arranged and operating to agitate the ground material passing thereon, with one or more movable electrified surfaces above the surface of the ground material passing in the receiver and troughs, to receive the particles from the electrified surfaces; 6th. The combination of a receiver for the ground material arranged and operating to agitate the ground material passing thereon, with one or more movable electrified surfaces above the surface of the ground material passing in the receiver troughs, to receive the particles from the electrified surfaces and moving sweeps, to discharge the material from the troughs.

No. 10,984. Ore Washing and Amalgamating Machine.
(*Machine à laver et amalgamer les minerais.*)

John H. Wilhelm, Denver, Col., U. S., 4th March, 1880; for 5 years.

Claim.—1st. A revolving cylinder consisting of a water-tight portion A, screen B and band C, and a central perforated shaft W; 2nd. The hopper E, constructed to fit around the shaft and forming a channel on each side thereof; 3rd. The belt-shaped cylinder A, provided with the rods *a*, frames *A* and leaves *a*; 4th. The screen B, combined with the guides *K k* and sluice box *J*; 5th. The combination of the perforated shaft W, stuffing box *I* and water pipe *j*; 6th. The outside circular projection or flange C, with projection *m n* at the large end of the screen B; 7th. The rod *z* on the worm *B*; 8th. The ejecting ledges *B* arranged in the large end of the screen B.

No. 10,985. Yarn Winding and Twisting Machine.
(*Machine à renvider et retordre les fils.*)

James Coltham, King, Ont., 4th March, 1880; for 5 years.

Claim.—The method of winding from reels two or three strands of yarn upon bobbin T, for the purpose of twisting the same by the rotation of the same bobbin, when placed in the clamp S, also in the winding of the twisted yarn upon the bobbin M and the revolving and regulating speed of the same by means of the friction roller N.

No. 10,986. Improvements on Fire Extinguishers.
(*Perfectionnements aux extincteurs d'incendie.*)

Abraham Stoner, Baton Rouge, La., U. S., 4th March, 1880; for 5 years.

Claim.—A force pump composed of the cylinder A, short tube *a*, end-valved conical tube *d* and top-valved conical frustrum B, having water nolets *c*.

No. 10,987. Improvements on Car Axle Lubricators.
(*Perfectionnements aux godets-graisseurs des essieux des chars.*)

William G. Mitchell, Brooklyn, N. Y., U. S., 4th March, 1880; for 5 years.

Claim.—1st. The combination of a spiral spring adapted to rest on the bottom of the axle box, a flexible jacket enclosing said spring on its sides and bottom, and a wiper roller mounted in bearings secured to the spring and serving to transfer the lubricating material to the journal of the axle; 2nd. The combination of a spiral spring adapted to rest on the bottom of the axle box, a flexible jacket enclosing said spring on its sides and bottom, a wiper roller, a flexible sheet metal frame, fastened to the spring and provided with ears to form the bearings for the axle of the wiper roller, absorbent pads secured to the flexible sheet metal frame, on opposite sides of the wiper roller, and wicks depending from said pads; 3rd. The combination of a spiral spring adapted to rest on the bottom of the car axle box, a porous flexible jacket enclosing said spring on its sides and bottom, a wiper roller journaled within the spring and a convex pad secured on the bottom of the flexible porous jacket, for absorbing the oil from the bottom of the axle box and bringing the same in reach of the wipers.

No. 10,988. Improvements in Sewing Machines.
(*Perfectionnements aux machines à coudre.*)

William M. Smith, Philadelphia, Penn., U. S., 4th March, 1880; for 5 years.

Claim.—1st. The combination, with the needle bar A, of a carrier C, supporting the needle in line with the needle bar, and appliances whereby the carrier is moved laterally backward and forward, while carried vertically with the bar; 2nd. The combination with the needle carrier C, of devices for reciprocating it laterally while carried by the needle bar, and appliances for changing the lateral working position of the needle, without interfering with the extent of its lateral reciprocation; 3rd. An attachment consisting of a carrier and appliances for connecting it to a needle bar, a driving cam adapted to one of the shafts of the machine and intermediate appliances, whereby the carrier is operated from the cam to vibrate the needle beneath the bar; 4th. The combination of the needle bar A, pivoted carrier C and operating appliances; 5th. The combination with the pivoted carrier C, of the vibrating lever E, slide J, connecting rod I and cam L; 6th. The combination of the carrier lever E, slide J and rod I connected adjustably to the lever.

No. 10,989. Improvements on Snow Ploughs.
(*Perfectionnements aux chasse-neige.*)

Israel L. Rosenfeld, Maks J. Lasar and Adolph J. Grinberg, New York, U. S., 5th March, 1880; for 15 years.

Claim.—1st. The combination of a longitudinally inclined platform mounted on a wheeled truck, and longitudinal revolving clearers arranged above the platform for the purpose of throwing the snow off the platform; 2nd. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinally revolving clearers arranged above the platform, and gearing adapted to transmit motion from one of the truck axles to the clearers; 3rd. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinal revolving clearers arranged above the platform, vertically adjustable bearings to the clearer shafts and adjusting mechanism acting simultaneously on the bearings at both ends of the clearer shafts; 4th. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinal revolving clearers arranged above the platform, vertically adjustable bearings to the clearer shafts and gearing adapted to transmit motion from one of the truck axles to the clearer shafts, so arranged that the latter may be moved to different levels by means of their bearings without being thrown out of gear; 5th. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinal revolving clearers above the platform and gearing adapted to transmit motion from one of the truck axles to the clearer shafts, so constructed that the direction of rotation of the clearer is reversible independent of the direction of movement of the apparatus; 6th. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinal revolving clearers above the platform, a vertically movable head gate for the purpose of retaining the snow on the platform in the back movement, of the apparatus and means for elevating the head gate; 7th. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinal revolving clearers arranged above the platform, a head gate which is constructed with side arms pivoted to swing in a vertical plane, for raising and lowering the head-gate, and means for elevating the head gate; 8th. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinal revolving clearers above the platform and vertical wings arranged on opposite sides and on a rear portion of the apparatus, for the purpose of compacting the snow; 9th. The combination of a longitudinally inclined platform mounted on a wheeled truck, longitudinal revolving clearers arranged above the platform, side wings mounted on vertical hinge joints, braces attached to the side wings, for sustaining the same in their outer or normal positions, and catches for locking the wings in an inner position.

No. 10,990. Horse Hay Rake.
(*Râteau à cheval.*)

John Haggart and Roderick Cochrane, Brampton, Ont., (Assignees of James E. Wiener, Friendship, N. Y. U. S.,) 5th March, 1880; (extension of patent No. 4,641) for 5 years.

No. 10,991. Improvements on Overdraw Checks for Horses.
(*Perfectionnements aux fausses-rènes.*)

James A. Lakin, Westfield, Mass., U. S., 5th March, 1880; (Extension of patent No. 4,491) for 5 years.

No. 10,992. Improvements on Car Wheels.
(*Perfectionnements aux roues des chars.*)

Frank A. Fouts, Washington, D. C., U. S., and Andrew Holland, Ottawa, Ont., 5th March 1880; for 5 years.

Claim.—A locomotive truck on car wheel, having maintread *a* of main flange *d* having supplementary outer flange *e* outside supplementary tread *b*, and inside supplementary tread *c*.

No. 10,993. Shipping tank for fluids.
(*Réservoir pour le transport des fluides.*)

August W. Schulenburg, St. Louis, Mo., U. S., 5th March, 1880; for 5 years.

Claim.—1st. In combination with the tank, the supports B B, having the sets of recessed bearings *b₁ b₂ b₃* and the rollers *b*, by means whereof the said rollers can be changed to the positions shown; 2nd in combination with the tank, the supports B B having bearings *b₁ b₂ b₃* at the sides of said supports, and the rollers *b*, the said parts being so arranged that the same rollers, placed transversely will also suit to be placed longitudinally with relation to the tank.

No. 10,994. Improvements on Preserving Fish.
(*Perfectionnements dans la conservation du poisson.*)

Thomas F. Wilkins, London, Eng., 5th March, 1880; for 5 years.

Claim.—The use of glacial monophosphoric acid and sugar for preserving fish.

No. 10,995. Improvements on Shovels, Spades, &c. (*Perfectionnements aux pelles, bêches, &c.*)

Henry M. Whitney, Oswego, N. Y., U. S., 5th March, 1880; for 5 years.

Claim.—The combination with the blade A, of the handle B, secured to said blade by T-headed rivets D, and cap C, having upon its under side flutes or grooves *b*.

No. 10,996. Reflecting Stereoscope Camera.

(*Chambre noire à réflexion stéréoscopique.*)

Warren Harris, Danville, Vt., U. S., 6th March, 1880; (Extension of patent No. 4,463), for 5 years.

No. 10,997. Process and Apparatus for charging Coal Gas retorts. (*Procédé et appareil pour charger les cornues à gaz de charbon.*)

Abbott Q. Ross, Cincinnati, Ohio, U. S., 5th March, 1880; for 5 years.

Claim.—The method of charging gas retorts consisting essentially in: 1st, separating from the mass of coal a full charge for the retort and, then, blowing said charge in quickly at one operation, by the action of a fluid under pressure; 2nd, the method of charging gas retorts by means of a fluid under pressure, consisting essentially in exploiting said fluid against the coal by a series of blasts decreasing successively in force; 3rd, the method of charging gas retorts by means of a fluid under pressure, introduced behind or against the materials to be discharged, and directed towards the orifice of the retort; 4th, the charger E constructed with substantially vertical front and inclined rear walls, and a horizontal conduit H formed upon the lower end in continuation of the walls, with an opening or openings at the rear end to admit a blast; 5th, the combination upon one platform of a movable charger E, a reservoir B and a flexible or yielding connection between the charger and reservoir; 6th, in combination with a fluid reservoir and a charger capable of being moved backward and forward between the hopper and the mouth of the retort, the flexible jointed or telescopic pipe F extending from the charger to the reservoir, and provided with a cock *f* arranged at or near the reservoir, whereby the water of condensation is kept back and the pipe left empty when not charging; 7th, in combination with a charger E having a directing conduit H, at its lower end, and a blast pipe to force steam, or air, or other fluid through the conduit, a movable supporting frame whereby the charger can be advanced and retracted and can be elevated to direct the coal to the proper retort; 8th, in combination with the charger E and conduit H adjustable at different elevations, and with the flexible pipe F capable of yielding to the adjustment of the charger, the transverse discharge pipe or section F' rigidly attached to the charger or conduit, so as to follow the movements of the latter and insure the passage of the fluid through it in lines parallel to its floor; 9th, the discharged conduit, in combination with a series of charge compartments emptying successively into said conduit; 10th, the combined charger conduit and blast pipe, vertically adjustable by means of chains or pulleys, or their equivalent; 11th, the three part charging vessel capable of containing three full charges separate from each other, for the three retorts constituting one side of a bench and capable of vertical adjustment to the different retorts; 12th, the combination of the movable partitions, with the charger and conduit, whereby any one of the several compartments may be brought into communication with said conduit and the blast apparatus, for the purpose of discharging its contents into the retort; 13th, the combination of a main car or platform A, movable backward and forward in front of the retorts, a secondary frame or support for the charging vessel, movable in and out toward and from the retorts, and a hoisting engine located on the secondary frame for raising the charging vessel; 14th, a main car or platform A, movable backward and forward in front of the retorts, a secondary frame or support for the charging hopper, movable in or out toward or from the retorts, a steam charging hopper or vessel, and means for raising and lowering the same vertically, and a steam receiver and boiler located on the main car or platform and connected to the charging vessel by a flexible or jointed pipe; 15th a main car or movable platform A, a secondary movable frame or support for the charging vessel, a hoisting engine on the secondary frame, for raising the charging hopper, and a steam receiver and boiler on the main car and connected to the hoisting on the secondary car or frame by a flexible or jointed pipe; 16th, a main car or platform A, movable backward and forward in front of the retorts, a secondary frame or support for the charging vessel movable in and out toward and from the retorts, a vertically adjustable steam charging hopper or vessel, a hoisting engine on the secondary frame, for raising the steam charging vessel, and a steam receiver and boiler arranged on the main car and connected, both to the charging vessel and to the hoisting engine, by flexible or jointed steam pipes separately controllable; 17th, a vertically adjustable charging vessel raised and lowered by the movement of a hoisting shaft, in combination with a friction brake operating in connection with said shaft, for the purpose of controlling or arresting its movements and assisting in adjusting the charger to the different retorts and holding it in place when so adjusted; 18th, the combination of the platform A, charger and carriage D, with the receiver and boiler, both arranged on the main platform at the side of the carriage D, whereby the flexible or jointed pipe or pipes of minimum length receive steam from the top of the receiver, at the side of the secondary track and about midway of the movement of the carriage thereon, and are supported by such receiver in an elevated position, so as to clear the platform and accommodate themselves readily to the movements of the charger on the carriage or upper movable frame; 19th, the combination of the carriage, the charger and the flexible or jointed pipe with a steam or air cylinder and piston having the induction and exhaust on one side of the piston whereby the charger is raised by the induction of the steam or air and lowered by its education; 20th, the combination of the charger with the guides, the hoisting shaft, the wire ropes and pulleys, and the steam or air cylinder and piston arranged on the movable carriage, and connected to the receiver by a flexible or jointed pipe; 21st, the combination of the carriage D, having the triangular frame, with the inclined cylinder supported by one of the inclined sides of the carriage, and having its piston moving toward and from the hoisting pulley or shaft.

No. 10,998. Improvements on Puddling Furnaces. (*Perfectionnements aux fourneaux de puddlage.*)

William Stubblebine, Bethlehem, and Bernard C. Lauth, Philadelphia, Pa., U. S., 8th March, 1880; for 5 years.

Claim.—The combination of a gas and air chamber J, located above the fire chamber having a direct communication therewith, through openings *i* *i* and having a valved blast pipe *n*.

No. 10,999. Improvements on Puddling Furnaces. (*Perfectionnements aux fourneaux de puddlage.*)

William Stubblebine, Bethlehem, and Bernard C. Lauth, Philadelphia, Pa., U. S., 8th March, 1880; for 5 years.

Claim.—1st. The fire chamber, a gas chamber W, having a partition *h* and communicating with the said fire chamber through openings *i* *i*, on one side of the partition, and openings *i*, on the opposite side of the partition, in combination with a blast pipe, from which the air introduced into the said gas chamber is directed towards the openings *i*; 2nd, the combination in a puddling or heating furnace, of the chamber W, having a partition *h*, and communicating with the fire chamber, the partly perforated partition *n*, and blast pipe *k*; 3rd, the combination of the fire chamber and ash pit of a puddling and heating furnace, with the gas chamber W, communicating with the said fire chamber, the partly perforated partition *n* and the two blast pipes *k* *k* each provided with a suitable valve.

No. 11,000. Improvements on Mail Cars. (*Perfectionnements aux chars-poste.*)

Charles R. Harrison and Benjamin F. Moore, Fond du Lac, Wis., U. S., 8th March 1880; for 5 years.

Claim.—1st. The combination, in a car furnishing system and apparatus for handling and distributing mails, of the end and side bag racks A *e*, brackets B, centre supports D, portable drop tables F and portable drop bag frames and bag rods G I; 2nd, the combination, in a sectional and folding pouch rack, of the binged section A *a f e k*, swinging bracket B *b* *z* and wall piece C *c* *z*; 3rd the slotted hinge eye C, in combination with the rack journal *f* and latch and catch K *b*; 4th, the combination, in a portable centre support of detachable sections *d e e* and detachable standard E; 5th, the combination in centre supports for table and bag racks, of the (straight or bifurcated) standard E *d* with single or double longitudinal rods *e* *e*; 6th the adjustable extension rod device L, in combination with centre support frame D, drop table F, cross rod I and end rack A *e*; 7th, the combination, in a detachable and portable drop table, of the plane F, adjustable hinge F' supporting hook *m*, double open hinge hook *o* and leg K; 8th, the adjustable table hinge F' *f*, in combination with the table F, support frame D and extension rod L; 9th, the combination, in a portable, detachable drop bag rack, of the oblong frame G, the hook hinge *g* and hook *g*, and support rod *e*; 10th, the single rod bag rack I, in combination with the extension rod L, hook eye *i*, hook *z*, and hook rod *e*; 11th, the combination in a rod clasp, of the recess B' and cap and bolt *b*, with the rod *e* and bracket B; 12th, the combination, in a label holder, of the double card slide H, its lugs *h* *h* and the alternating opposite pointed bag hooks *y y*; 13th, the combination, in a portable, detachable and sectional postal car apparatus, of the folding rack device A B C, raised label holder H *h* *h*, detachable centre support D *e* *e* and E *d*, portable drop tables F, portable drop bag racks G I, extension rod device L and reversed table supports K *o*.

No. 11,001. Malt Sugar. (*Sucre d'orge.*)

John H. Nottorf, Berlin, Ont., (Assignee of Albert Oblaser, Detroit Mich., U. S.) 8th March, 1880; for 5 years.

Claim.—A compound of the extract of malt (prepared in the manner stated), and fine white granulated sugar.

No. 11,002. Improvements on Gas Regulators. (*Perfectionnements aux régulateurs à gaz.*)

John E. Birch, Stratford, Ont., 8th March, 1880; for 5 years.

Claim.—The combination of the ball valve H, working in the valve chamber I and the rod G, with the float chamber D and pipe K.

No. 11,003. Improvements on Farm Gates. (*Perfectionnements aux barrières.*)

Frederick J. Lee, Mallorytown, Ont., 8th March, 1880; for 5 years.

Claim.—1st. A swivel post axially pivoted to ground block G, and cap H and having a central slot provided with a roller, in combination with a gate having a bar bearing on said roller for rolling the gate to and fro in the slot whereby the gate can be swung; 2nd, a gate C constructed with an inclined bar I, bearing on a roller E in a post F axially pivoted, whereby the gate will close by gravitation; 3rd, in combination with the gate, the swing post F having a pivotal bearing on a pin fixedly secured in block G; 4th, the caps K, applied to the top of the gate posts B for weather protection.

No. 11,004. Improvements on Bolt Fastenings. (*Perfectionnements aux arrête-boulons.*)

Edward Leslie, Orangeville, Ont., 8th March, 1880; for 5 years.

Claim.—1st. The combination of the plate A having jaws *a a*, arm B having jaws *b b*, elbow latch C and spring D, operatively connected by the pivot *d*; 2nd, the latch C and spring D, in combination with the arm B having jaws *b b*, and plate A having jaws *a a*, pivoted together.

No. 11,005. Improvements on Scutching Machines. (*Perfectionnements aux machines à teiller.*)

Calixte Ethier, St. Jérôme, Qué., 8th March, 1880; for 5 years.

Claim.—1st. In a flax dressing machine, the rollers E F fluted, part of their length, to a coarse pitch, and, for the remainder of their length, to a

comparatively fine pitch; 2nd. In a flax breaking and scutching machine, the springs I I, carrying the guide board H and supporting the breaking roller E.

No. 11,006. Improvements on Faucets. (*Perfectionnements aux canules.*)

Theodore F. Conklin, Fond-du-Lac, Wis., U. S., 8th March, 1880; for 5 years.

Claim.—The combination, with a plug E having the pin G, of the tube C D, whose slot H has a horizontal and vertical slot conjoined to form, with the stud or pin, a lock.

No. 11,007. Improvements on Hay Rakes. (*Perfectionnements aux râtaux à foïn.*)

Jacob S. Oberholtzer, Wadsworth, Ohio, U. S. 8th March, 1880; for 5 years.

Claim.—1st. The combination, with the bills, axle and rake head C B F, of the draw bars E and the levers H, so that the rake head F may be raised from the ground without being revolved; 2nd. The combination of the lever J having spring catches R, attached to its lower end and the rod and lever M N, with the rake head F having a catch pin L attached to its shaft, so that the rake head F can be adjusted with its teeth at any desired inclination by operating the lever J; 3rd. The combination of the lever S and the sliding rod T, with the levers M N and spring catch R, so that the rake head F may be released automatically and allowed to revolve, when its teeth have been brought to a fixed inclination.

No. 11,008. Improvements on Advertising Devices. (*Perfectionnements aux appareils de publicité.*)

Christian F. Collet and Frederick L. Schmidgall (Assignees of Julius J. Cohen), Chicago, Ill., U. S., 8th March, 1880; for 5 years.

Claim.—A card or sheet having toilet pins, or equivalent articles, stuck in the card or sheet through one or more of the prominent words, characters or figures.

No. 11,009. Automatic Measuring Faucet. (*Canule-compteur automatique.*)

William M. Sack, Oakland, Cal., U. S., 8th March, 1880; for 5 years.

Claim.—1st. The measure B B' connected with the tank A, by means of the passages or pipes F F' and tube D, in combination with the faucet or valve M, with its slots d d, and the discharge pipe q, whereby the liquid is allowed to flow from the tank through the pipes D, F' into the measure B, while the liquid in the measure B flows through the pipe F' and slot d of the valve, through the discharge pipe q, simultaneously; 2nd. The combination with the tank A, with its measure B B', and pipes D F F' leading to said measures and to the discharge pipe q, the four-way valve M with the chambers or slots d d, whereby one measure is filled while the other is being discharged, and one measure thus constantly kept filled by the action of emptying the other; 3rd. In combination with the measures B B', the air pipe C, whereby the pressure in the tank, acting to fill the measure B, forces the air in said measure into the oppositely placed measure B', to assist in discharging the liquid in said measure; 4th. In combination with the air pipe C connecting the two measures B B', the valve h, whereby, air is automatically supplied to said measures to replace loss and siphonage from one to another is prevented; 5th. The double measuring device with its connecting passages, faucet and air pipe, and the containing tank hermetically sealed at the top, in combination with the air pipe C and check valve.

No. 11,010. Improvements on Grates. (*Perfectionnements aux grilles.*)

Daniel Richmond, Rochester, N. Y., U. S., 11th March, 1880; for 5 years.

Claim.—1st. The combination of the grate A, the subgrate D and the rake E; 2nd. The combination of the subgrate D and the rake E, the subgrate being arranged to rock or tilt upon its bearings and the rake being arranged to move forward and backward, and so operating that the forward and backward actions of the rake will tilt the subgrate in opposite directions; 3rd. In combination with the rake E provided with the bars t t, the hanger j on the bottom of the grate A, forming both a support for said rake and a stop for sweeping of the ashes, in the backward movement of the same; 4th. In combination with the subgrate D, the teeth y y on the rake E projecting down and resting between the bars of the subgrate, and serving to sweep the ashes from the subgrate in the forward movement of the rake; 5th. The combination with the main grate A provided with the central opening a, the rake E constructed with the opening z in its front portion, and the bars t t in its rear portion, so arranged that, when the rake is pushed back, the opening z will come beneath the opening a and allow the coal to fall on the subgrate, but when it is drawn forward, the bars t t will come beneath the opening a and support the body of coal; 6th. The combination, with the ring B C, of the lever or clutch F pivoted to the outer ring C, and so arranged as to give motion to the ring B when moved in one direction, and to the ring C, when moved in the other direction.

No. 11,011. Improvements on "Corbin's Horse Rake." (*Perfectionnement au râtaux à cheval dit "de Corbin."*)

Charles I. Corbin, East Oxford, Ont., 11th March, 1880; (Extension of Patent, No. 287) for 5 years.

No. 11,012. Compound Paper or Board. (*Papier ou carton composé.*)

Joseph O. Gregg, Elkhart, Ind., U. S., 11th March, 1880; for 5 years.

Claim.—1st. A paper or board composed of coarse unbleached straw pulp and a facing of finely ground white wood pulp; 2nd. A paper or board composed of coarse, dark straw pulp and finely ground, unbleached wood pulp; 3rd. A board composed of coarse straw board and wood pulp firmly united in the manufacture as set forth.

No. 11,013. Improvements on Car Seats. (*Perfectionnements aux sièges des chars.*)

Norman B. Sherwood, Saratoga, N. Y., U. S., 11th March, 1880; for 5 years.

Claim.—The combination of the seats B B, made adjustable on the supports C C and capable of being laid flat ways to form a couch, and the plates D D, joined to the end of one of the seats and arranged to fold compactly on the bottom of the seat, when the seat is upright, and to be unfolded and extended to form a division between the couches, when the seats are turned down.

No. 11,014. Improvements in Snap Hooks. (*Perfectionnements aux porte-mousquetons.*)

William Grassick, Lucknow, Ont., 11th March, 1880; for 5 years.

Claim.—1st. A snap hook constructed and operated without a spring; 2nd. A snap hook containing within it the guard a; 3rd. In combination, the swinging latch arm b, pivoted at c, and the mortise g; 4th. In combination, the swinging latch arm b, acting in connection with the hooked guard a, and the mortise g.

No. 11,015. Improvements on Wood-Working Machines. (*Perfectionnements aux machines à travailler le bois.*)

Alexander Laing, Essex Centre, Ont., 11th March, 1880; for 5 years.

Claim.—1st. A table D, resting on the frame E supported within the frame A, by the bevelled cross pieces F having racks J attached to them, in combination with the spur pinions I on the shaft H, provided with a hand wheel K, for raising and lowering the said table D; 2nd. The pivoted fence W, in combination with the adjustable table D; 3rd. The sliding plank M, provided with cleats e, in combination with the strip F and clamp g; 4th. The double ended spindle N, held in the sliding box O, supported on the cross guides P, in combination with the adjustable table D, provided with fences, 5th. The belt tightener T, secured to the pivoted shaft U, in combination with the ground quadrant V and weight V.

No. 11,016. Improvements on Dash-Boards. (*Perfectionnements aux garde-crottes.*)

John B. Armstrong, Guelph, Ont., (Assignee of William C. Peel and Justus V. Elster, Springfield, Ohio, U. S.) 11th March, 1880; (Extension of Patent, No. 5,301) for 5 years.

No. 11,017. Improvements on Hose Reels. (*Perfectionnements aux dévidoirs à boyaux.*)

William Neracher, Cleveland, Ohio, U. S., 11th March, 1880; (Extension of Patent, No. 7,410) for 5 years.

No. 11,018. Improvements in Pumps. (*Perfectionnements dans les pompes.*)

Charles Powell, Toronto, Ont., 13th March, 1880; for 5 years.

Claim.—1st. A pump head constructed in sections, which are coupled together by a tubular core connecting with the spout; 2nd. A pump head constructed in sections, which are coupled together by a tubular core having a water connection with the spout and an air vessel; 3rd. The combination, in a single casting, of the water chamber, tubular core, spout and air vessel; 4th. The combination, with the handle and pump rod of a pump, of the swinging crane E, said crane being connected to the pump head in any suitable manner, and adapted to move, to permit the self-adjustment of the fulcrum of the handle; 5th. The combination of a handle pump rod, swinging crane and the air vessel, said crane being pivoted to the air vessel; 6th. The combination, with the pump rod and pump head, of a stuffing box adapted to be fastened to, and detached from the pump head; 7th. The stuffing box F provided with the recessed bottom and packing f, in combination with the pump rod and pump head provided with the collar F'; 8th. The combination, with the pump spout, of the lever H and flexible band I; connected thereto, said band being arranged to pass around the spout over the hose.

No. 11,019. Improvements in Paper Holders. (*Perfectionnements aux porte-papier.*)

Seth Wheeler, Albany, N. Y., U. S., 13th March, 1880; for 5 years.

Claim.—1st. A paper holder in which the roll of paper is secured by a rod passing through its centre, in combination with a frame, whereby the weight of the roll is made to prevent unwinding; 2nd. The combination, with a frame, whereby the weight of the roll serves to prevent unwinding, of a locking device applied to the roll securing the roll to the frame; 3rd. A swinging bracket or frame for holding a roll of paper, whereby the roll of paper is caused, by its own weight, to rest against the wall or partition to which it is secured.

No. 11,020. Improvements on Brick and Tile Machines. (*Perfectionnements aux machines à briques et à tuiles.*)

Augustus Whalen, Aldborough, Ont., 13th March, 1880; for 5 years.

Claim.—1st. The use of a wrought iron upright shaft A, instead of a cast iron one, on account of lightness and durability; 2nd. The use of a sleeve B with square mortise to slip on upright shaft A, turned on the outside and in used as a journal; 3rd. The application of double knives D with mortise in centre, to slip on upright shaft, instead of single knives with rounded ends passing through a hole in the upright; 4th. The manner of securing knives D to upright A, by means of set screws F instead of keys, as now in use; 5th. An eccentric I, for working plunger H, instead of crank now in use; 6th. In friction rollers J J, for eccentric I to revolve against; 7th. The continuation of eccentric I and friction rollers J J, as giving uniformity of motion, quantity of clay expressed, and lightness of draft; 8th. The cap L, for covering slot z in plunger H, to prevent the clay from entering the interior of said plunger; 9th. The use of two air valves M M instead of one, in each end of plunger H; 10th. The use of a water tap K to each mould, instead

of one for all the moulds, as now in use; 11th. The use of an adjustable carriage on cutting table P with stop S; 12th. The use of hinged doors *g g* instead of bolted doors, as now in use.

No. 10,021. Improvements in Gates. (*Perfectionnements aux barrières.*)

Colin Kennedy, Charlottenburgh, Ont., 13th March 1880; for 5 years.

Claim.—1st. A gate supported by a chain or rope in such a manner that the opening of the gate will twist and shorten the chain, and that the weight of the gate will tend to untwist and extend the chain and close the gate; 2nd. A gate supported by two posts placed diagonally with the gate when closed connected by the girders *a b*, and provided with the rod *d*, studs *g g* and holding pin *f*; 3rd. The gate post *A*, provided with the lever *F*, hook *h* and chain *c*.

No. 11,022. Improvements on Moulds for Making Steel. (*Perfectionnements aux moules pour faire l'acier.*)

George Cowing, Cleveland, Ohio., U.S., 13th March, 1880; for 5 years.

Claim.—In moulds or cores composed of, or constructed from a mass of silica, in its pure or nearly pure condition, and a binding or cohesive substance.

No. 11,023. Improvements on Tricycles. (*Perfectionnements aux vélocipèdes.*)

Edward C. F. Otto, Picklam, England, 13th March, 1880; for 5 years.

Claim.—1st. The improved construction of tricycles; 2nd. The improved arrangement of mechanism, whereby the two larger wheels fulfil the double function of driving and steering wheels, and the smaller wheel voluntarily assumes and remains in the required position; 3rd. The improved construction and arrangement of the front seat, as also of the second or hinder seat; 4th. The improved arrangement of a pointed back bone, for imparting elasticity to the entire structure and obviating all danger of falling forwards; 5th. The improved arrangement whereby the improved tricycle may be readily converted into the improved Patent Safety Bicycle; 6th. The improved mechanical arrangement whereby the hind wheel can readily assume any required position for steering purposes.

No. 11,024. Improvements on Electric Lamps. (*Perfectionnements aux lampes électriques.*)

John H. Guest, Brooklyn, N. Y., U. S., 13th March, 1880; for 5 years.

Claim.—1st. Two or more very fine wires hermetically sealed where they pass through the glass globe and twisted together, and lead to the incandescent light giving body, for the purpose of preventing injury to the glass; 2nd. An electric lamp having a vacuum bulb containing an incandescent conductor, a mercurial seal applied around each conductor and within a cup or holder upon the glass; 3rd. In combination with the vacuum bulb and the metallic conductors thereof, a magazine of glass for carbons opening into the bulb, whereby carbons can be supplied in succession.

No. 11,025. Improvements on Steam Generators. (*Perfectionnements aux générateurs de vapeur.*)

Seneca T. Hyde, Boston, Mass., U. S., 13th March, 1880; for 5 years.

Claim.—1st. The outlet or discharge pipe *g* with its stop cock *h*, in combination with a steam generator *L* provided with an atomizing apparatus consisting of an air chamber and pipe, and a water pipe connected at or near the exit, whereby the feed water is introduced into the generator in the form of a fine spray; 2nd. In the generator *L*, with its furnace *Q* and outlet or discharge pipe *g* provided with a stop-cock *h*, in combination with the water tank *A*, air chamber *B*, air and water pipes *E F* with their stop-cocks *G H*, and an atomizing device for converting the feed water into spray as it enters the generator; 3rd. The combination of the generator *L*, with its discharge pipe *g* and stop-cock *h*, the atomizing spray producing apparatus, an air chamber and pipe, and a water pipe connected to form a junction at its exit end, and the heating tube or super heater *M* provided with the stop-cock *m* and pet-cock *n*, and connected with the water tube *F*, by means of a tube *k* provided with a stop-cock *l*; 4th. The atomizing apparatus consisting essentially of the water tube *F*, provided at or near its outer end with a series of discharge orifices *c*, in combination with the air tube *E* provided with outlet apparatus *9* and having its end enclosed within the end of the tube *F*, so as to leave a space between the two, into which the air is forced from the tube *E*, and from which both water and air are discharged, through the common apertures *c*, into the generator *L*; 5th. The spiral flue *J*, in combination with the generator *L* and furnace *Q*, and the heating tube or superheater *M* enclosed within the flue.

No. 11,026. Combined Cabinet and Bed.

(*Buffet et couchette combinés.*)

John W. Andrews, James M. Van Horn and John Artz, Bridgewater, N. S., 13th March, 1880; for 5 years.

Claim. The combination of the cabinet sections *A B*, having lateral extension by the sliding connections *C F G*, and bottom *H* within the top of said sections, for receiving and supporting a bed.

No. 11,027. Improvements on Nut Locks.

(*Perfectionnements aux arrête-écrous.*)

James Beam and Edward W. Burgess, jr., Waterford, Ont., 13th March, 1880; for 5 years.

Claim.—1st. The plate *A*, provided with holes to correspond with the bolts to be locked and having the recesses *C*, in combination with the bolts *B*; 2nd. The detachable locking block *D*, having the tank *D*, or its equivalent, in combination with the plate *A*, provided with the recesses *C*, and the bolts and nuts *B B*; 3rd. A nut locking device consisting of a metallic plate coupling, two or more bolts and provided with a recess or socket between each pair of bolts, and a detachable block adapted to pass between and lock a pair of nuts and to be secured by a tang which passes into the recess or socket formed on the plate.

No. 11,028. Improvements on Buggy Hubs.

(*Perfectionnements aux moyeux des roues.*)

Francis Culham, Burford, Ont., 13th March, 1880; for 5 years.

Claim.—The combination of the hub *A*, nut *B*, box *C*, rubber packing *D*, oil holes *E E E*, oil hole *F* and rivet *G*.

No. 11,029. Improvements on Land Rollers.

(*Perfectionnements aux rouleaux d'agriculture.*)

Henry Follitt, Temperanceville, and Jonathan W. Follitt, Balsora, Ont., 13th March, 1880, (Extension of Patent No. 278); for 5 years.

No. 11,030. Improvements on Vehicle Seats.

(*Perfectionnements aux sièges des voitures.*)

John B. Armstrong, Guelph (Assignee of Simon P. Graham, London, Ont., 16th March, 1880; for 15 years.

Claim.—The combination of the sheet metal sides provided with a re-turned upper edge, with a stiffening and supporting bar.

No. 11,031. Improvements on Whiffletrees.

(*Perfectionnements aux palonniers.*)

Thomas T. Pearson, Edwin A. Record and Robert Boyer, Moncton, N. B., 16th March, 1880; for 5 years.

Claim.—1st. The knee levers *a* provided with safety hooks *c*, and the other several parts; 2nd. The combination with the foregoing of the connecting rod *b* and packing *d*.

No. 11,032. Improvements on Nail Machines.

(*Perfectionnements aux machines à clou.*)

Hugo Moeller, Berlin, Germany, 16th March, 1880; for 5 years.

Claim.—1st. The mode of rolling nails, and especially horse shoe nails, from red hot iron bars without waste and without interruption, by means of two pairs of rollers placed at right angles and revolving with the same speed and in the same direction; 2nd. The automatic and continuous feed of the iron bars by the direct action of the rollers; 3rd. The application of rotating dies or forms placed uniformly in corresponding series, on the circumference of the rollers, for producing the heads and shanks of the nails; 4th. The mode of rolling nails having variously shaped heads and shanks of uniformly narrowing section, by working simultaneously and immediately on four sides of an iron rod; 5th. The cutters *19* cutting off the finished nail from the rest of the bar; 6th. The various die rings *g*, in order to produce with the same machine nails of various lengths, and having heads of various shapes and shanks of various thicknesses; 7th. The arrangement and combination of nail dies and knives on *19* immediate succession, for the purpose of working iron rods into nails without waste of material; 8th. The application and arrangement of the four guard plates *20*, for preventing the escape of iron into the spaces left between and for affording a guide to the iron passing between the rollers; 9th. The application of a ring *21* with the set screws *22*, for pressing the guard plates *20* against the rollers; 10th. The mode of supporting or guiding the rollers in such a manner that their position can be altered, in order to secure the required contact between the circumference of the rollers.

List of Patents issued up to 23rd April, 1880, but not yet Officially published in the Patent Office Record.

No. 11,066. J. A. McMartin, Montreal, Que., "Pump;" (Extension of Patent No. 4,538), March 24th, 1880.

No. 11,067. The New York Silk Manufacturing Co., New York (Assignee of A. Franklin, Jersey City, N.Y., U.S.A.), "Shuttle Motion for Looms;" March 27th, 1880.

No. 11,068. L. C. Rodier, Westfield, Mass., and P. Rodier, Detroit, Mich., U.S.A., "Metallic Bench Plane;" 27th March, 1880.

No. 11,069. C. Coon and L. B. Adams, Saugerties, and M. A. Dayton, jr., Milton, N.Y., U.S.A., "Process for Re-Pulping Paper;" 27th March, 1880.

No. 11,070. T. C. Varamore, Williston, Vt., U.S.A., "Rock and Stump Puller;" March 30th, 1880.

No. 11,071. S. Buschlen and L. Sees, Port Elgin, Ont., "Lock Latch;" March 30th, 1880.

No. 11,072. L. R. Dexter, Lancaster, and B. A. Bowker, Coos., N. H., U.S.A., "Sled Clamp and Brace;" March 30th, 1880.

No. 11,073. O. P. Whitcomb, L. McCaine, M. B. McCaine and H. J. McCaine, (Assignees of W. McCaine, St. Paul, Minn.), "Process for Treating Pyrazylene;" March 30th, 1880.

No. 11,074. J. J. Thomas and N. Webb, Selma, Al., U.S.A., "Spring Equalizer for Car Trucks;" March 30th, 1880.

No. 11,075. G. Robinson, Toronto, Ont., "Sieve and Utensils;" March 30th, 1880.

No. 11,076. J. Kieffer, Montreal, Que., "Heel Counter Moulds;" March 30th, 1880.

No. 11,077. M. M. Clark, Higbland Mills, N.Y., U.S.A., "Boat;" March 30th, 1880.

No. 11,078. J. Payne, New Hamburg, Ont., "Sash Holder and Lock;" March 30th, 1880.

No. 11,079. E. M. Crandel, Chicago, Ill., U. S., A.; "Barbed Wire Fence;" March 30th, 1880.

No. 11,080. C. Wright and T. Bickham, Findlay, Ohio, U. S., A.; "Stand Pipe Dryer for Shafts;" March 30th, 1880.

No. 11,081. C. Wright and T. Bickham, Findlay, Ohio, U. S., A.; "Bow Bending Machine;" March 30th, 1880.

No. 11,082. C. Wright and T. Bickham, Findlay, Ohio, U. S., A.; "Felloe Bending Machine;" March 30th, 1880.

No. 11,083. G. W. McCready, Petitedodiac, N. B.; "Calendar and Pen Holder;" (Extension of Patent No. 4,570), April 2nd, 1880.

No. 11,084. J. Hooven, Norristown, Penn., U. S., A.; "Skelping Machine;" April 3rd, 1880.

No. 11,085. H. Child, Wichita, Kan., U. S., A.; "Transparent Signs;" April 3rd, 1880.

No. 11,086. J. Custer, Goshen, Ohio, U. S., A.; "Seed Planter;" April 3rd, 1880.

No. 11,087. F. Vezina, Vercherès, Que.; "Spring Wheel;" April 3rd, 1880.

No. 11,088. P. K. Dederick, Albany, N. Y., U. S., A.; "Railway and Tread Power;" April 3rd, 1880.

No. 11,089. O. D. Orvis, Chicago, Ill., U. S., A.; "Steam Boiler;" April 3rd, 1880.

No. 11,090. W. Gray, Toronto, Ont.; "Furnace;" 3rd April, 1880.

No. 11,091. C. A. Past, Guelph, Ont.; "Railway Safety Block;" April 3rd, 1880.

No. 11,092. J. B. Rouillard, Montreal, Que.; "Soot Gatherer;" April 3rd, 1880.

No. 11,093. A. F. Martel, Montreal, Q.; "Railway Collision Alarm;" April 3rd, 1880.

No. 11,094. P. Lord and C. Leduc, Hull, Que., and S. E. St. O. Chapleau, Ottawa, Ont.; "Car Brake;" April 3rd, 1880.

No. 11,095. E. Solomon and J. A. Goudron, Montreal, Que.; "Air and Gas Regulator;" April 3rd, 1880.

No. 11,096. J. Golden, Amaranth, Ont.; "Thrashing Machine Shoe;" April 3rd, 1880.

No. 11,097. J. W. Morrison and N. N. Wheeler, Clinton, Ill., U. S., A.; "Grain Separator;" April 3rd, 1880.

No. 11,098. J. D. McEachren, Galt, Ont.; "Grinding Machine;" April 3rd, 1880.

No. 11,099. The Card Automatic Brake Co., (Assignee of W. L. Card and D. S. Randolph, St. Louis, Miss., U. S., A.); "Automatic Car Brake;" April 3rd, 1880.

No. 11,100. H. W. Booth, St. Thomas, Ont.; "Dryer and Roaster;" April 3rd, 1880.

No. 11,101. W. Bryce, London, Ont.; "School Slate;" April 3rd, 1880.

No. 11,102. A. B. Dowell, Vinton, (Assignee of H. E. Fuller, Toledo, Iowa, U. S., A.); "Holder for Sickles, &c.;" April 3rd, 1880.

No. 11,103. G. W. Miles, Buffalo, N. Y., U. S., A.; "Train Brake;" April 3rd, 1880.

No. 11,104. J. Meissner and H. Fleishman, New York, U. S., A.; "Automatic Car Brake;" April 3rd, 1880.

No. 11,105. T. H. Blair, Franklin, Mass.; "Photographic Apparatus;" April 3rd, 1880.

No. 11,106. B. H. Davis, Foxcroft, Me., U. S., A.; "Stump and Rock Lifter;" (Extension of Patent No. 4,588), April 5th, 1880.

No. 11,107. S. M. Allen, Duxbury, Mass., U. S., A.; "Improvement in Grinding Wood;" April 7th, 1880.

No. 11,108. J. Forbes, Mooers, N. Y., U. S., A.; "Combined Cultivator and Horseshoe;" April 7th, 1880.

No. 11,109. F. D. Tessier, Rigaud, Ont.; "Churn;" April 7th, 1880.

No. 11,110. J. Best, Mount Pleasant, Ont.; "Iron Harrow;" April 7th, 1880.

No. 11,111. L. W. Simonds, Berlin, Ont.; "Improvements in the Manufacture of Buttons;" April 7th, 1880.

No. 11,112. J. Amstutz, Harlan, Ind., U. S., A.; "Rake Reels for Reapers and Mowers;" April 7th, 1880.

No. 11,113. H. McQuarry, Allandale, Ont.; "Saw Mill Dog;" April 7th, 1880.

No. 11,114. E. A. Kittzmilller, Pittsburgh, Penn., U. S., A.; "Wash Board;" 7th April, 1880.

No. 11,115. C. V. Boughton, Titusville, Penn., U. S., A.; "Ball Target;" 7th April, 1880.

No. 11,116. W. N. Whiteley, (Assignee of A. Hurd), Springfield, O., U. S., A.; "Mowing and Reaping Machine;" 7th April, 1880.

No. 11,117. W. N. Whiteley, (Assignee of A. Hurd), Springfield, O., U. S., A.; "Mowing and Reaping Machine;" 7th April, 1880.

No. 11,118. D. McLellan, Charlottenburg, O.; "Sap Evaporator;" (Extension of Patent No. 4,596); 9th April, 1880.

No. 11,119. A. Hamlin, Almonte, Ont., and C. P. Holmes, Gouverneur, N. Y., U. S., A.; "Churn;" 9th April, 1880.

No. 11,120. G. N. Challoner, Walkertown, Ont.; "Car Coupler;" 12th April, 1880.

No. 11,121. C. D. Rodgers, Providence, R. I., U. S., A.; "Draw Plate Tempering Machine;" 12th April, 1880.

No. 11,122. D. R. Nichols, Brockville, Ont.; "Spring Bed;" 12th April, 1880.

No. 11,123. J. D. McEachren, Galt, Ont.; "Boiler Cleaner;" 12th April, 1880.

No. 11,124. D. M. Lamb, New York, U. S., A.; "Process for rendering goods Water, Moth or Vermin Proof or Repellent;" 12th April, 1880.

No. 11,125. J. M. Diek, Buffalo, N. Y., U. S., A.; "Boiler;" 12th April, 1880.

No. 11,126. C. M. Spencer, Hartford, Conn., U. S., A.; "Screw Cutting Machine;" 12th April, 1880.

No. 11,127. D. M. Lamb, New York, U. S., A.; "Process for rendering goods Water, Moth or Vermin Proof or Repellent;" 12th April, 1880.

No. 11,128. T. Mayhew, New York, U. S., A.; "Steam Churn Motor;" 12th April, 1880.

No. 11,129. F. Winslow, Salem, Mass., U. S., A.; "Boot and Shoe Sole Napper;" 12th April, 1880.

No. 11,130. J. Wickersheimer, Berlin, Germany; "Compound for Preserving Organic Bodies;" 12th April, 1880.

No. 11,131. J. W. Scott, Sr., Yarmouth, N. S.; "Car Coupler;" 12th April, 1880.

No. 11,132. H. Sangster, Plano, Ill., U. S., A.; "Can;" 13th April, 1880.

No. 11,133. G. N. French, Grafton, Vt., U. S., A.; "Carriage Body Spring;" 13th April, 1880.

No. 11,134. H. H. Hall, Montreal, Q.; "Spring Bed Bottom;" 13th April, 1880.

No. 11,135. G. J. Scott, Calcutta, India; "Steam Boiler;" 13th April, 1880.

No. 11,136. G. M. Bennett, Leavenworth, Kan., U. S., A.; "Water Raising Apparatus;" 13th April, 1880.

No. 11,137. R. Cunningham, New York, U. S., A.; "Process of Manufacturing Articles in imitation of Papier Mâché;" 13th April, 1880.

No. 11,138. J. K. Master, Berlin, Ont.; "Chair Seat Hollower;" 13th April, 1880.

No. 11,139. C. B. Carter, Lawrence, Mass., U. S., A.; "Wood Pulp Process;" 13th April, 1880.

No. 11,140. H. Coaley and J. C. Smart, Toronto, Ont.; "Car Coupler;" 19th April, 1880.

No. 11,141. J. B. Carey, Boston, Mass., U. S., A.; "Railroad Switch;" 19th April, 1880.

No. 11,142. C. J. Shuttleworth, Springville; J. D. Larabee, Ashford; G. P. Kellogg, East Pike, and E. Wilhelm, and J. J. Bonner, Buffalo, N. Y., U. S., A.; "Bolting Machine;" 19th April, 1880.

No. 11,143. F. Hanson, Hollis, and D. H. Bacon, Portland, Me., U. S., A.; "Wood Turning Machine;" 19th April, 1880.

No. 11,144. S. Wheeler, Albany, N. Y., U. S., A.; "Paper Cabinet;" 19th April, 1880.

No. 11,145. T. P. Banker, Mooretown, Ont.; "Pole or Tongue for Carriages;" 19th April, 1880.

No. 11,146. J. H. Huntress, Janesville, Wis., U. S., A.; "Buckle;" 19th April, 1880.

No. 11,147. F. A. Sawyer, 2nd, Boston, Mass., U. S., A.; "Elastic Step;" 19th April, 1880.

No. 11,148. W. C. Doddridge, Hickman, Ken., U. S., A.; "Heating Drum;" 19th April, 1880.

No. 11,149. J. S. Kemp, Magog, Que., and W. McK. Burpee, Derby, Vt., U. S., A.; "Manure Spreading Machine;" (Extension of Patent No. 4,659), 20th April, 1880.

No. 11,150. A. Muirhead, Westminster, England; J. A. Briggs, Jubblepore, and G. K. Winter, Anconam, Medras, India, (Extension of Patent No. 10,924); "Duplex Telegraph;" 21st April, 1880.

No. 11,151. A. Muirhead, Westminster, England; J. A. Briggs, Jubblepore, and G. K. Winter, Anconam, Medras, India, (Extension of Patent No. 10,924); "Duplex Telegraph;" 22nd April, 1880.

No. 11,152. A. Muirhead, Westminster, England, and G. K. Winter, Anconam, Medras, India, "Quadruplex and Multiplex Telegraph;" (Extension of Patent No. 10,640), 20th April, 1880.

No. 11,153. A. Muirhead, Westminster, England, and G. R. Winter, Anconam, Medras, India, "Quadruplex Multiplex Telegraph;" 23rd April, 1880.

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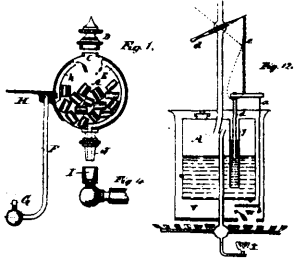
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

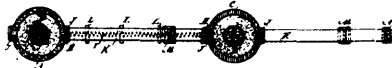
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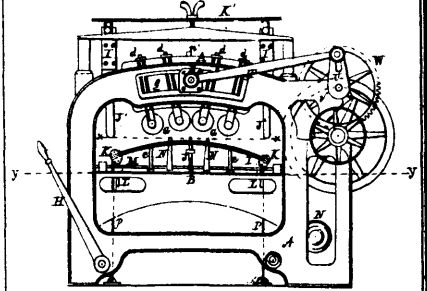
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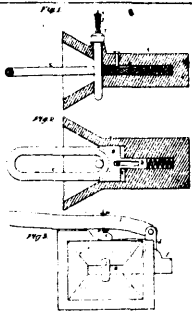
10964 Livesey & Kidd's Carburettor and Gas Burner Combined.



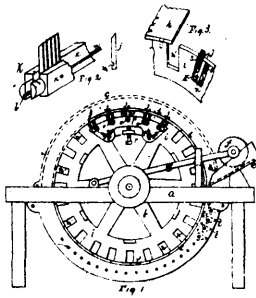
10965 Hunter's Combined Galvanic Battery and Medicated Pad.



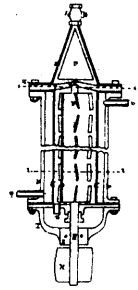
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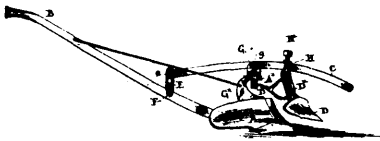
10967 Wykoop's Improvements on Car-Couplings.



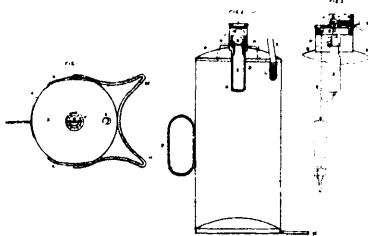
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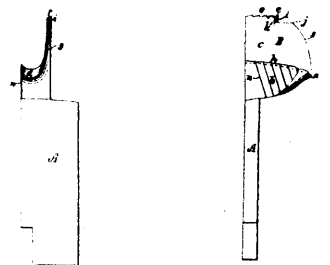
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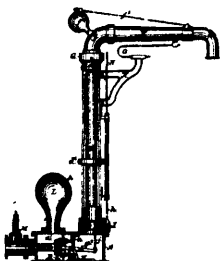
10970 Tolton's Improvements in Ploughs.



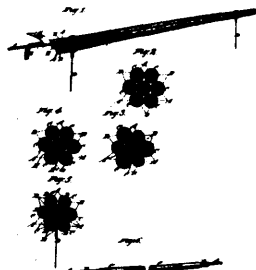
10971 Jarvie & Miller's Improvements on Fire-Engines.



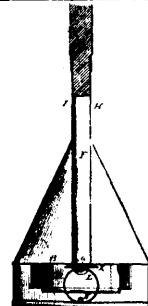
10972 Hanson's Improvements in Wood-Turning Tools.



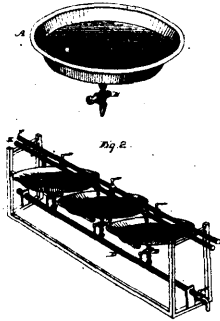
10973 Van Vorst & Pratt's Stand Pipe for Railway Water Stations.



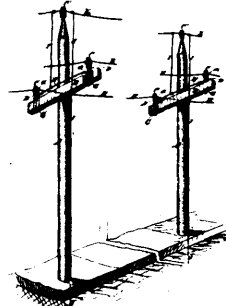
10974 Chinnock's Improvements on Electrical Conductors for Telegraphic, Telephonic and other purposes.



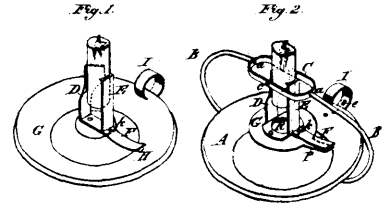
10976 Wylie's Improvements on Clothes Washers.



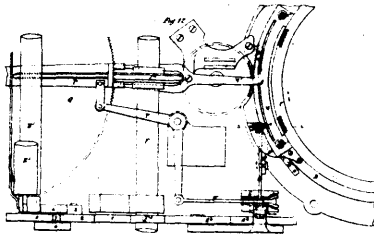
10977 Peltret's Improvements in Cream Collectors.



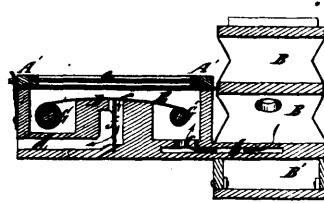
10978 Chinnock's Improvements on Electrical Conductors for Telegraphic and Telephonic purposes.



10979 Siebert's Improvements in Candlesticks.



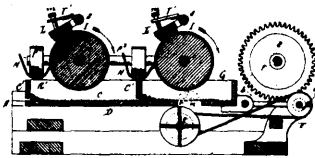
10980 McNary's Improvements on Knitting Machines.



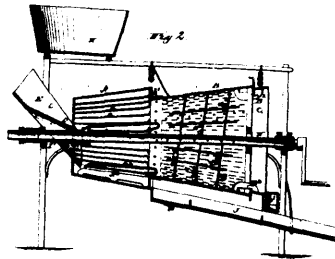
10981 Needham's Improvements on Mechanical Musical Instruments.



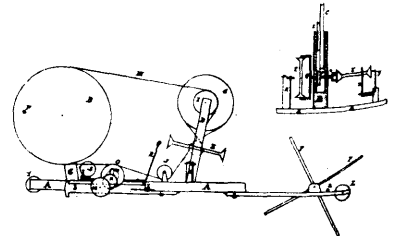
10982 Starratt & Smith's Improvement in Railway Frogs.



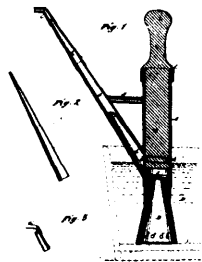
10983 Osborne's Improvements on Middlings Purifiers.



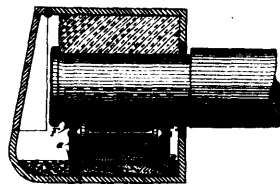
10984 Wilhelm's Ore Washing and Amalgamating Machine.



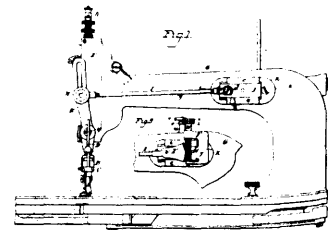
10985 Coltham's Yarn Winding and Twisting Machine.



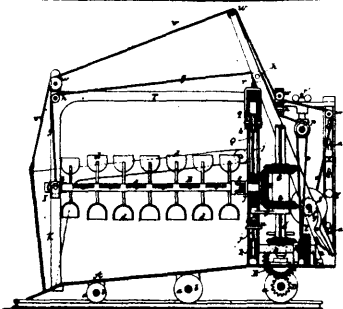
10988 Stoner's Improvements on Fire Extinguishers.



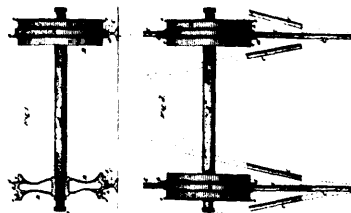
10987 Mitchell's Improvements on Car Axle Lubricators.



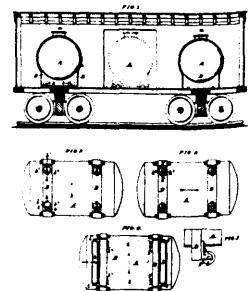
10988 Smith's Improvements in Sewing Machines.



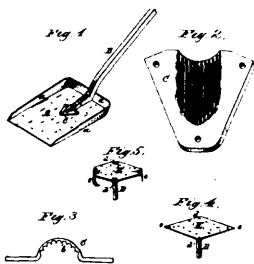
10989 Rosenfeld's Improvements on Snow Ploughs.



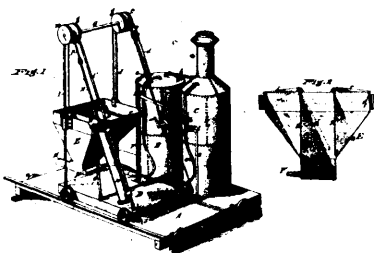
10992 Fouts' Improvements on Car Wheels.



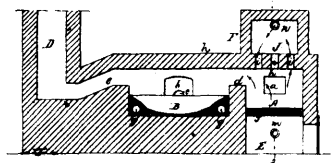
10993 Schulenburg's Shipping Tank for Fluids.



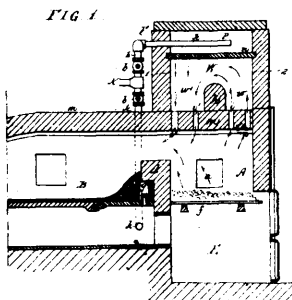
10995 Whitney's Improvements on Shovels, Spades, &c.



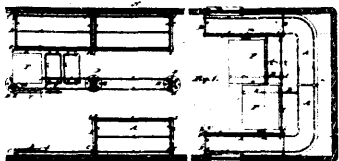
10997 Ross' Process and Apparatus for Charging Coal Gas Retorts.



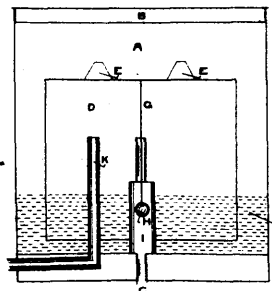
10998 Stubblebine's Improvements on Puddling Furnaces.



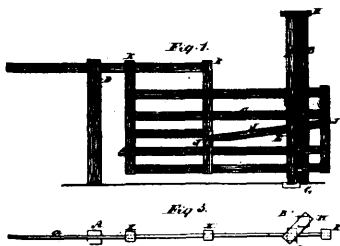
10999 Stubblebine's Improvements on Puddling Furnaces.



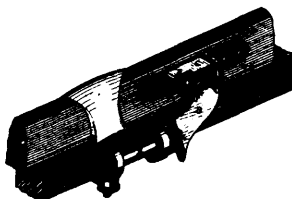
11000 Harrison's Improvements on Mail Cars.



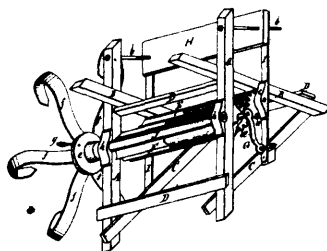
11002 Birch's Improvements on Gas Regulators



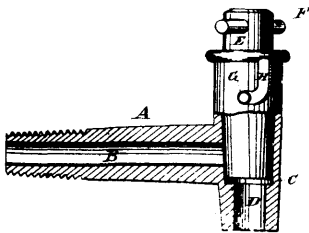
11003 Lee's Improvements on Farm Gates.



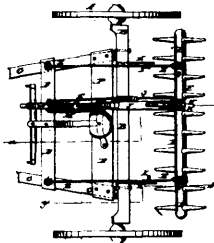
11004 Leslie's Improvements on Bolt Fastenings.



11005 Ethier's Improvements on Scutching Machines.



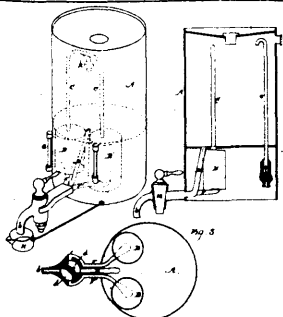
11006 Conklin's Improvements on Fanckets.



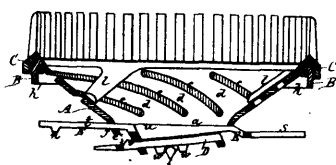
11007 Oberholtzer's Improvements on Hay Rakes.



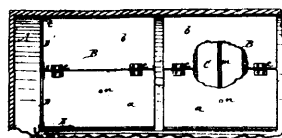
11008 Cohen's Improvements on Advertising Devices.



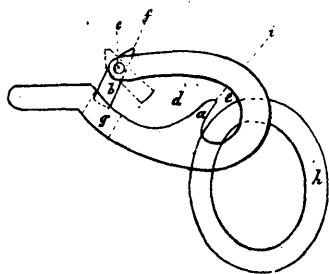
11009 Sack's Automatic Measuring Faucet.



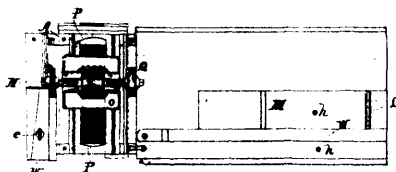
11010 Richmond's Improvements on Grates.



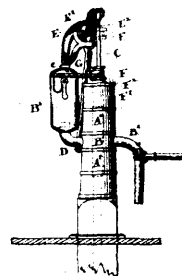
11013 Sherwood's Improvements on Car Seats.



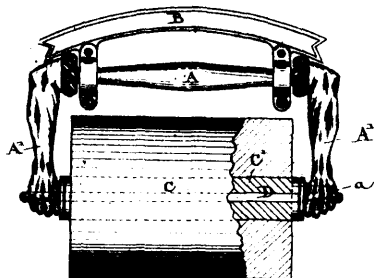
11014 Grassick's Improvements in Snap Hooks.



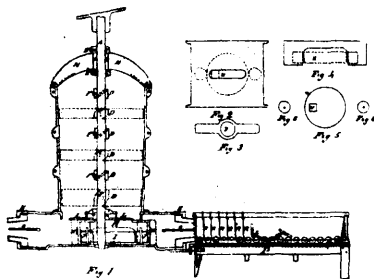
11015 Laing's Improvements on Wood-Working Machines.



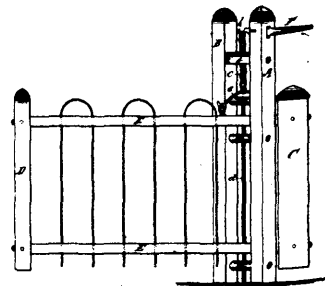
11018 Powell's Improvements in Pumps.



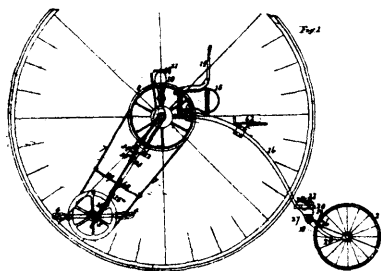
11019 Wheeler's Improvements in Paper Holders.



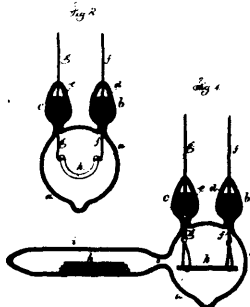
11020 Whalen's Improvements on Brick and Tile Machines.



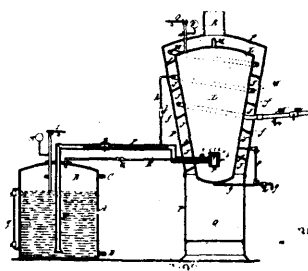
11021 Kennedy's Improvements in Gates.



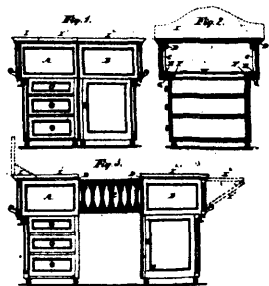
11023 Otto's Improvements on Tricycles.



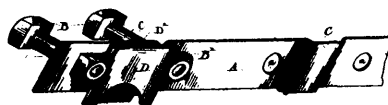
11024 Guest's Improvements on Electric Lamps.



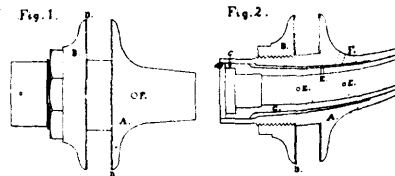
11026 Hyde's Improvements on Steam Generators.



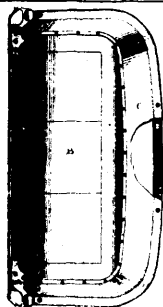
11028 Andrews, Van Horn & Artz's Combined Cabinet and Bed.



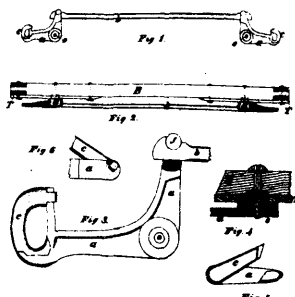
11027 Beam's Improvements on Nut Locks.



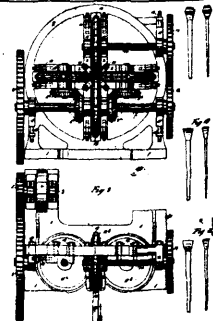
11028 Culham's Improvements on Buggy Hubs.



11030 Graham's Improvements on Vehicle Seats.



11031 Pearson's Improvements on Whiffletrees.



11032 Moeller's Improvement on Nail Machines.