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INVENTIONS PATENTED.

NOTE.—Patents are granted for 15 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 39,034. Feed Water Heater and Purifier.

(*Rechauffeur et épurateur d'eau d'alimentation.*)

Robert Learmonth, Buffalo, New York, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. In a feed water heater and purifier for locomotive boilers, a chamber, centrally located upon the boiler to which it is connected, and having its lower portion or base so constructed as to conform with the upper surface of the boiler, substantially as and for the purpose stated. 2nd. A feed water heater and purifier for locomotive boilers, consisting of a chamber having arranged in its upper portion a series of spraying plates, and its lower portion consisting of a chamber or jacket which is fitted over the upper section of the boiler, said chamber or jacket having a dividing wall or partition at the lower ends of which are arranged deflecting plates through which the water is made to pass on its way to the boiler, substantially as shown. 3rd. A feed water heater and purifier for locomotive boilers, consisting of the spraying chamber 3, centrally located upon and opening into the chamber or jacket 4, said jacket arranged to conform with the upper section of the boiler, and having the partition 10, and deflector 13, around and through which the water is made to pass, and the equalizing tube 14, extending from the chamber 3, to a point below the water level in the jacket 4, the feed supply pipes 16, having shut-off valves 17, and leading from the equalizing tube to the bottom of the boiler, the steam supply pipe 6, and blow-off valves 18, all arranged and operating substantially as shown and described. 4th. In a feed water heater and purifier, a deflecting plate consisting of a series of metallic strips or bars arranged within a frame forming a lattice work, through which the water is made to pass in such a manner as to deflect the sediment to the bottom of the purifier, substantially as shown and described.

No. 39,035. Pneumatic Tire. (*Bandage Pneumatique.*)

Thos. B. Jeffery, Chicago, Illinois, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. An inflatable tire having the base or inner circumferential wall of stiff material adapted to resist buckling or creasing, such base being transversely folded or arched inward, forming a re-entrant angle or curve, and provided with exterior laterally projecting beads or spurs at the opposite edges of said base, substantially as set forth. 2nd. An inflatable tire, having the base or inner circumferential wall of stiff material adapted to resist buckling or creasing, transversely folded or arched inward forming a re-entrant angle or curve, and provided with laterally projecting beads or spurs b^4 at the opposite edges of said base, in combination with a rim having a seat for the inner circumferential wall of the tire bounded by hooked or over hung flanges adapted to receive the beads or spurs of the tire, substantially as set forth. 3rd. A tire sheath, having a

base or inner circumferential wall of stiff material adapted to resist buckling or folding, transversely arched or folded inward forming a re-entrant angle or curve, and provided with exterior laterally projecting beads or spurs at the opposite edges of such base, combined with a flexible inflatable core within such sheath adapted when inflated to press outwardly against such base, substantially as set forth. 4th. A tire sheath, having the base or inner circumferential wall of stiff material adapted to resist buckling or creasing, transversely folded or arched forming a re-entrant angle or curve, and provided with exterior laterally projecting beads or spurs at the opposite edges of such base, in combination with a flexible inflatable core within such sheath, adapted when inflated to force the base outward, in combination with the rim having a seat for the base of the sheath laterally bounded by the hooked or overhanging flanges adapted to receive the beads or spurs of the base, substantially as set forth. 5th. In a tire, in combination, substantially as set forth, a sheath B, and the inflatable core C therein, the sheath being comparatively, as respects the core non extensible, and the core being larger than the cavity of the sheath, whereby the substance of the skin or wall of the core is compressed when inflated between the interior inflating air and the exterior retaining sheath. 6th. In a tire, an exterior sheath combined with an interior inflatable core, said core being corrugated, substantially as and for the purpose set forth. 7th. In combination, with the sheath having at its inner circumference at lateral edges, the exterior and oppositely projecting spurs or beads b^4 , and the interiorly projecting lever base, in combination, with an inflatable core within said sheath and adapted when inflated to press outwardly against such lever base, and the rim having the seat to stop the outward movement of the lever base at the middle part, and the flanges or hooks at its edges to receive the lateral projections of the sheath, substantially as set forth. 8th. A vehicle wheel, having a broad rim, in combination with an elastic tire seated therein, the rim having spoke holes in two parallel planes at opposite sides of the equatorial plane of the tire, said rim having the tire seat provided with two peripheral grooves in the planes of said spoke holes, and spokes connected at said holes in the two planes and having their beads lodged in said grooves, substantially as set forth. 9th. A tire sheath having at its inner circumference at the opposite lateral edges outwardly projecting beads or spurs, in combination with the rim having the tire seat bounded by hooks or flanges to engage said spurs, and the inflatable core within such sheath having its base normally inwardly arched and lodged at its corners or angles against the sheath directly inward from said exterior spurs or beads, said base of the core being stiff and adapted to resist creasing or folding, whereby the inflation of the core causes its base to straighten and force the spurs of the sheath into engagement with the rim, substantially as set forth.

No. 39,036. Animal Trap. (*Piège.*)

George Andrews, Ashford, County of Kent, England, 1st June, 1892; 5 years.

Claim.—An animal trap, consisting of a base or platform, having in combination thereon a standard, a rotative disk mounted on said standard, a cam and slot in said disk, a trigger pivoted to said standard, and having a lug for engaging the cam, the opposite end thereof being provided with a bait hook, and a spring actuated reticulated frame having its free end extending over and engaging the slot for setting the trap.

No. 38,037. Grate. (*Grille.*)

Elonzo J. Gordon, Grenville, Michigan, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. In a furnace of the class described, the combination, with a hollow grate bar having an opening in its top, and the walls of which are provided with a beveled seat, of a removable cap

adapted to be secured stationary within said seat, and having its edges beveled to fit the said seat, and provided with a series of circumferential notches or openings in its periphery for the escape of the air that may be injected through the bottom of the grate bar, substantially as set forth. 2nd. In a furnace of the class described, the caps seated in suitable openings in the furnace bed or grate bars, and having notches or openings for the passage of air, the said cap seats being provided with guards to prevent ashes and the like from passing through the openings under the caps, substantially as and for the purpose set forth. 3rd. In a furnace of the class described, the combination of the furnace bed or grate bars having openings provided with circumferential recesses, the caps having flanges fitted to said recesses and provided with notches or openings for the passage of air, and ribs or grooves to prevent ashes and the like from sifting through the openings under the caps, substantially as set forth. 4th. In a furnace of the class described, a cap composed of a series of concentric rings and a centre piece, being provided with notches or openings for the passage of air, substantially as set forth. 5th. In a furnace of the class described, the combination, with the flat furnace bed of blast and draft grate bars, of the angle or corner blast grate bars located at opposite sides of said bed and next to the side walls of the furnace, said angle or corner grates having inclined sides raised above the level of the flat grate surface and provided with blast openings in such inclined sides to direct the blast away from the walls of the furnace and toward the centre of the same, substantially as set forth.

No. 39,038. Table. (Table.)

Edwin Hinkell, Frank Ernest Woller and Emil Claussen, Milwaukee, Wisconsin, U. S. A., 1st June, 1892; 5 years.

Claim.—1st. A table comprising a series of legs, screw threaded lugs extending inward from the legs, a brace piece having slotted flanges engaging the lugs, nuts on these lugs in opposition to the brace piece flanges, and a top secured to the upper ends of said legs, substantially as set forth. 2nd. A table comprising a series of legs, screw threaded lugs extending inward from the legs, horizontal supports also extending inward from said legs, a brace piece having slotted flanges engaging the lugs, nuts on these lugs in opposition to the brace piece flanges, a shelf arranged on said supports, and a top secured to the upper ends of said legs, substantially as set forth. 3rd. A table comprising a series of incurved cast metal legs, bolts having portions thereof imbedded in the legs, a brace piece having slotted flanges engaging the bolts, nuts on these bolts in opposition to the brace piece flanges, and a top secured to the upper ends of said legs, substantially as set forth. 4th. A table comprising a series of incurved cast metal legs provided with inwardly extended horizontal supports, suitable means for bracing the legs, a shelf arranged on said supports and having slots engaging the adjacent legs, and a top secured to the upper ends of said legs, substantially as set forth.

No. 39,039. Combined Gaining and Sawing Machine.

(*Machine à mortaiser et à scier combinées.*)

Joseph Frank Birkenfeld, Collingwood, Ohio, U. S. A., 1st June, 1892; 5 years.

Claim.—1st. In a machine for gaining ties on opposite sides simultaneously, the combination with two shafts located in the same vertical plane and adapted to rotate in opposite directions, of one or more cutter heads mounted on the respective shafts, said cutter heads being provided with suitable cutters, the cutters of the cutter heads on one shaft being adapted to gain one side of the tie and the cutters of the cutter heads on the other shaft being adapted to gain the opposite side of the tie, substantially as set forth. 2nd. In a machine for gaining ties on opposite sides simultaneously, the combination with two horizontal shafts located at different elevations, of one or more cutter heads mounted on the respective shafts, said cutter heads being provided with suitable cutters, the cutters of the cutter head or heads on the one shaft being adapted to gain the tie on one side, and the cutters of the cutter head or heads on the other shaft being adapted to gain the opposite side of the tie, and suitable mechanism for feeding the tie between said shafts to and from the cutters, substantially as set forth. 3rd. In a machine for gaining ties on opposite sides, and sawing or trimming them to the desired length and regularity, the combination with two shafts adapted to run in opposite directions, of cutter heads mounted on the respective shafts, said cutter heads having suitable cutters and spurs, a circular saw mounted on one of said shafts at one or either end of the shaft, and feeding mechanism comprising rollers connected by endless chains and dogs secured to said chains, said dogs being adapted to engage the tie and feed the same to and from the sawing and gaining mechanism, the arrangement of parts being such that the gaining and sawing operations are effected simultaneously, substantially as set forth. 4th. In a machine for gaining ties on opposite sides, and sawing or trimming them to the required length and regularity, the combination, with a supporting frame, and two shafts supported by said frame and adapted to run in opposite directions, of cutter heads mounted on the respective shafts, said cutter heads having suitable cutters, a circular saw mounted on one of said shafts at each end of the shaft, and suitable mechanism for feeding the tie to and from the sawing and gaining mechanism, the arrangement of parts being such that

the sawing and gaining operations are effected during one and the same passage of the tie through the machine, substantially as set forth. 5th. In a machine for gaining the ties on opposite sides and sawing or trimming them to the required length and regularity, the combination, with a supporting frame and two shafts supported by said frame and adapted to run in opposite directions, of cutter heads mounted on the respective shafts, said cutter heads having suitable cutters and spurs, the spurs being adapted to act in advance of the cutters, a circular saw mounted on either end of one of the shafts, and suitable feeding mechanism for feeding the ties to and from the gaining and sawing mechanism, the arrangement of parts being such that the gaining and sawing operations are effected simultaneously, substantially as set forth.

No. 39,040. Scraping Tool for Soil Working Implements. (*Grattoir pour instruments agricoles.*)

Richard J. Edwards, Galena, Illinois, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. The combination of a soil working implement, a leaf spring *b*, secured thereon and provided with a lug on its free end, and an independent scraper plate *a*, detachably clamped to said implement by said spring, and provided with an opening for the reception of the lug on the free end of the spring, substantially as described. 2nd. In combination, with a soil working implement provided with a spade handle, and carrying on its handle a device for detachably holding a hand scraper, of an independent hand scraper detachably secured to the handle by said device, said scraper consisting of a plate bent at one end to embrace the handle of the implement and flattened at its other end to rest on the flat side of the spade handle, substantially as described. 3rd. The combination, with a hand agricultural implement carrying a device on its handle for detachably holding a scraper, of an independent hand scraper device detachably secured to said implement by said device above the blade of the implement, substantially as described.

No. 39,041. Link Motion. (*Mécanisme de renversement.*)

John Lunz, Claffin, Kansas, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. The combination, with the eccentric rods B^1 and C^1 , having the hook members *b* and *c*, and the valve rod and pin E^1 and E , of the slotted reversing plate *D*, pivotally connected at its ends to the members *b* and *c*, the slot in said plate being enlarged at the ends and contracted at the center, substantially as and for the purpose shown and described. 2nd. The combination, with the eccentric *B* and *C*, the valve rod and pin E^1 , E , and the rods B^1 and C^1 , formed with hook members b^1 , c^1 , of the reversing frame *D*, formed of the slotted plates *d*, *d*, the slots in such plates enlarged at their ends and contracted in the center, said hook members b^1 , c^1 , pivotally journaled in the ends of said plates, and means for adjusting the slotted frame *D*, on the valve pin, whereby to alternately throw the hooked members in connection with said valve pin, as and for the purpose described.

No. 39,042. Coffin Shell Mould.

(*Moules pour boîtes de cercueils.*)

William John Anthistle, London, Ontario, Canada, 1st June, 1892; 5 years.

Claim.—1st. The combination, with the mold flask or exterior shell, of the inner core having sides E , E^1 , provided with nuts 6, and connected by rods F , F^1 , provided with right and left threads screwing into said nuts, and the extensible ends G , G^1 , having side flanges provided with nuts 14, and connected by a rod 13, provided with right and left threads screwing into said nuts, said ends provided with a nut 9, and connected by a rod 8, provided with right and left threads screwing into said nuts, to elongate, widen and contract said core, as set forth. 2nd. The combination, with the shell or flask having a removable bottom *A*, and slotted sides B , B^1 , ends C , C^1 , having arms 2, said sides and ends connected by keys 4, as set forth, of the inner core having a bottom and sides, the sides having nuts 6, connected by screw rods F , F^1 , the ends G , G^1 , having flanges telescoping against said sides and bottom, said ends having nuts 9, and connected by a screw rod 8, and said side flanges having nuts 14, connected by a screw rod 13, the lid *M*, fitting upon said shell and core, and the clamps fastening said lid and base or bottom *A*, removably, as set forth. 3rd. The molds for making the cover sections of the coffin shell, said molds comprising a slotted bottom plate 20, having a bead 4, a top plate 22, having side flanges provided with slotted lugs *c*, said lugs passing through the slots in plate 20, and wedges 21, inserted in the slotted lugs, as set forth.

No. 39,043. Machine for Testing Eggs.

(*Machine pour mirer les oeufs.*)

Arthur William Webb, Montreal, Quebec, Canada, 1st June, 1892; 5 years.

Claim.—An egg tester, comprising a box of any suitable form and size, having in the top and side thereof openings, and in the interior of the box or dark chamber, a mirror placed at an angle of forty-five (45°) degrees, so that when an egg be placed on end in the opening in the top the light passing through the egg may be reflected by the mirror through the opening in the side of the box, to the eye of the operator, substantially as and for the purpose hereinbefore set forth.

No. 39,044. Pedal for Pianos. (*Pédal de pianos.*)

Stephen Seeley, Boston, Massachusetts, U.S.A., 1st June, 1892; 5 years.

Claim.—The pedal *c*, combined with a spring actuated pedal holding latch *d*, adapted to be engaged and operated in opposition to its actuating spring by the foot, substantially as described.

No. 39,045. Medicinal Compound. (*Composé médicinal.*)

A. Bouillon, Matane, Quebec, Canada, 1st June, 1892; 10 years.

Résumé.—Une composition de matière formée de brandy ou de ses équivalents, d'antipyrine, de phosphate de soude et d'un sirop, dans les proportions et pour les fins indiquées.

No. 39,046. Electric Head Light.

(*Lumière électrique pour l'avant des locomotives.*)

Richard Pattison and Dennis G. Desmond, both of Boston, Massachusetts, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. A lantern for street car head lights, comprising a body provided with a reflector and having a rotatable transparent front bearing signs indicating the car route, and a non-transparent plate or flange on said body overlapping said front and normally concealing determined portions of said signs, substantially as described. 2nd. The lantern B, provided with the door F, having the transparent rotatable sign plate 16, and a semi-annular flange 17, arranged to conceal a portion of said plate, substantially as and for the purpose set forth. 3rd. The lantern B, provided with a reflector having a socket adapted to receive an incandescent electric lamp, and a door provided with a rotatable transparent side plate, a portion thereof being concealed by a projection on said door, substantially as and for the purpose set forth. 4th. The lantern B, comprising the body *b*, provided with the reflector D, the door F, having the rotatable transparent sign plate 16 and flange 17, and straps or hangers for attaching the lantern to a car dasher, substantially as described. 5th. In a device of the character described, the dasher A, provided with the socket H, having the annular flaring groove 28, substantially as and for the purpose set forth. 6th. In a device of the character described, the dasher A, provided with the socket H, comprising a shell, an insulating block, as 22, having a lamp opening, the flaring recess 28, and spring contacts for engaging the lamp contacts, substantially as described. 7th. In a device of the character described, the lamp C, provided with the flanged shell 35 and elongated contacts 30, in combination with a dasher provided with a socket having spring contacts for engaging the lamp contacts, and a flaring recess for receiving the shell flange, substantially as and for the purpose set forth. 8th. In a head light lantern, a body provided with a lamp and reflector, and a means for detachably securing it to a car, in combination with a door on said body, a transparent plate fitted to be rotated in said door, and bearing one or more sign imprints, and a non-transparent flange on said door overlapping said plate and normally concealing determined signs, substantially as described.

No. 39,047. Pressure Valve. (*Souppape à pression.*)

Henry Giessenbier, St. Louis, Missouri, U. S. A., 1st June, 1892; 5 years.

Claim.—1st. A pressure valve consisting of a casing or casting, adapted to be secured to a gas receptacle, a longitudinal bore formed in the same, and in communication with the gas receptacle, and adapted to be attached thereto, a diaphragm located within the casing and above the said passage, and a valve stem located in said passage having a valve secured to its lower end, and adjustable above the diaphragm, substantially as set forth. 2nd. A pressure valve having a valve adapted to be adjusted or regulated above the diaphragm of the same, substantially as set forth. 3rd. A pressure valve having a valve stem, a valve secured to the lower end thereof, and the upper end projecting through a suitable diaphragm and means for turning the said valve stem for raising and lowering the said valve, substantially as set forth. 4th. A pressure valve consisting of a casting, a vertical passage, such as 5, formed therein, a detachable diaphragm secured to the said casting and within the same above the said passage, a stem located in the said passage having a valve attached to the lower end of the same and means for regulating the said valve stem through the said diaphragm, substantially as set forth. 5th. A pressure valve consisting of a casting, vertical passage 5 formed therein, a bore such as 4 formed in the said casting, above the said passage, a detachable screw ring, such as 17, having an annular flange 18, a metallic diaphragm, such as 19 secured to the said ring, a passage, such as 10, also formed in the said casting communicating with the passage 11, said last named passage in communication with the space formed by the diaphragm, a valve stem, such as 21, located in the said passage 5, a valve secured to the lower end of the same and having a rubber packing 27. screw threads formed upon the upper end of the said stem for regulating the said stem within the vertical passage, substantially as set forth. 6th. A pressure valve consisting of a casting I, an extension 8 formed with the same and having a horizontal passage 10, a vertical passage communicating with the said horizontal passage and opening into the interior of the said casing, a vertical passage 5, bores 2 and 4 formed in the upper end of the said casting of different dimensions, a screw threaded collar adapted to be secured to the

smaller of the said bores, an annular flange formed on the said collar, a metallic diaphragm secured to said flange, a cover, such as 29, provided with external screw threads adapted to receive internal screw threads formed in the larger of said bores, a nut secured to the said diaphragm and adapted to receive a cap 23, a stem, such as 21, adjustable within said vertical passage, and a valve located at the lower end of said stem, and adjustable to and from the bottom of said passage, substantially as set forth. 7th. A pressure valve having a vertical passage such as 5 for the entrance of gas, and communicating with a space formed by the diaphragm, a passage, such as 11, of smaller diameter than the said passage 5, a horizontal passage, such as 10, through which the gas escapes, and a valve for closing the said opening 5, substantially as set forth. 8th. A pressure valve having a valve stem, such as 21, a shell such as 26 secured to the lower end of the same for receiving suitable packing, substantially as set forth. 9th. A pressure valve having a coil spring interposed between the collar and the diaphragm of the same, substantially as set forth.

No. 39,048. Electric Switch.

(*Aiguille électrique pour chemin de fer.*)

Francis Davey and Marshall Daniel Barr, both of Toronto, Ontario, Canada, 1st June, 1892; 5 years.

Claim.—1st. An electric switch, consisting of the jaws A, pivoted at the bottom of the recess B¹, made in the hemisphere B, the insulating bar or rod C, connected thereto, and the contact plates D and E, having connected to their binding posts *d* and *e*, the wires F and G, respectively, as and for the purpose specified. 2nd. The jaw A, pivoted at *a*, at the bottom of the recess B¹, made in the hemisphere B, and having slots *a*¹, by which it is connected to the bar C, by the pin *c*, in combination with the contact plates D and E, having connected to their binding posts *d* and *e*, the wires F and G, respectively, as and for the purpose specified. 3rd. The jaw A, pivoted at *a*, at the bottom of the recess B¹, made in the hemisphere B, and having slots *a*¹, by which it is connected to the bar C, by the pin *c*, in combination with the contact plates D and E, having downwardly projecting ends D¹ and E¹, and the binding screws *d* and *e*, to which the wires F and G, respectively are attached, as and for the purpose specified.

No. 39,049. Lever Track Jack.

(*Cric pour leviers de rails.*)

Philip A. Harding, assignee of John Henry, both of Ilderton, Ontario, Canada, 1st June, 1892; 5 years.

Claim.—A lever track jack, consisting of the bed plate A, in which an opening *a*, is formed, the uprights B, B, having the grooves C, formed therein, the sliding standard D, having the recesses *d*, formed therein, and provided with a foot *n*, in combination with the dogs G, the socket arm H, shaft I, crank J, and weight K, substantially as shown and described and for the purpose specified.

No. 39,050. Concentrator for Ore.

(*Concentrateur de minéral.*)

Gates Iron Works, assignee of Ryerson Dudley Gates, all of Chicago, Illinois, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. In a concentrating apparatus, the combination of a concentrating pan loosely mounted in a vibratory frame that moves it forward, and a spring for limiting the forward movement of the pan and drawing it back to its initial position in readiness for another forward movement, substantially as described. 2nd. In a concentrating apparatus, the combination of a concentrating pan loosely mounted in a vibratory frame that moves it forward, and provided at its forward end with a discharge opening to accommodate the gang, and at its rear end with a discharge opening to accommodate the concentrates, and means for drawing the pan back and imparting to it a quick shock or jar as it reaches its initial position, substantially as described. 3rd. In a concentrating apparatus, the combination of a concentrating pan, and a water feeder to supply the pan with water, provided with a corrugated bottom and perforations through the sides to permit the water to drip into the pan, substantially as described. 4th. In a concentrating apparatus, the combination of a concentrating pan, and a water feeder to supply the pan with water, provided with a corrugated bottom, having teeth on the lower ridges and perforations through the sides of the bottom to permit the water to flow through and drop from the teeth into the pan, substantially as described. 5th. In a concentrating apparatus, the combination of a concentrating pan, and an ore feeder comprising a roller on which the ore falls and a loosely mounted feed regulator resting on the roller, and between the edge of which and the roller the ore passes in a thin stream or sheet into the pan, substantially as described. 6th. In a concentrating apparatus, the combination of a concentrating pan, and a discharge for the gang, comprising a bent sheet held up from the bottom of the pan by pipes opening through the sheet and the bottom, and bent up at its forward lower edge and over and down at its forward upper edge to prevent the water from splashing over the front end of the pan, substantially as described.

No. 39,951. Clutch Connection for Machinery.*(Division d'embrayage pour machines.)*

Herman Bunker and James Herbert McKeggie, both of Barrie, Ontario, Canada, 1st June, 1892; 5 years.

Claim.—1st. A clutch consisting of a series of metal strips connected to one-half of it, and adapted to grip the cone-shaped other half upon the necessary pressure being applied, substantially as and for the purpose specified. 2nd. A clutch consisting of a series of metal strips connected to one-half of it, and adapted to grip the cone-shaped other half, in combination with a ring or chain arranged to surround the said metal strips, substantially as and for the purpose specified. 3rd. A series of metal strips C, having coiled ends J, connected to a ring K, and forming one half of the friction clutch, substantially as and for the purpose specified.

No. 39,952. Printing Telegraph Receiving Instrument. (Récepteur d'impression télégraphique.)

The International Type Telegraph Company, assignee of John Edward Wright, all of New York, State of New York, U.S.A., 1st June, 1892; 5 years.

Claim.—1st. In a printing telegraph receiver, the combination of a continuously acting motor, an escapement impelled thereby, a magnet for determining the extent of movement of the escapement, a rotary type wheel, a cam intermediate to the type wheel and escapement, a motor for moving the cam and adjusting the type wheel to positions corresponding to those of the escapement, and an electro-magnet for controlling the action or operation of said motor. 2nd. In a printing telegraph instrument, the combination, with a type wheel, and means for setting the same to bring a selected character thereon into printing position, printing mechanism for taking impressions of the selected characters, and feed mechanism for effecting the necessary spacing for the printed impressions, of a continuously acting motor, and mechanical connections between said motor, the impression and the feed mechanism, and normally disconnected from motor, and an electro-magnet for establishing and controlling the connection of the motor therewith, as set forth. 3rd. In a printing telegraph instrument, the combination, with the type wheel, and means for setting the same to present different characters at the printing point, impression mechanism and feed mechanism, of a shaft provided with eccentrics adapted, when in rotation, to move and operate the impression and feed mechanism, respectively, a continuously acting motor with frictioned connection with said shaft, and an electro-magnet for releasing and locking the shaft, as herein set forth. 4th. In a column printing telegraph instrument, the combination, with the paper or printing roll, feed mechanism and impression mechanism, of a type wheel carriage adapted to be moved by the feed mechanism in a direction parallel to the axis of the printing roller, and a type wheel carried thereby on a vertical spindle capable of rotary movement in a horizontal plane, and of oscillation in a plane at right angles to the printing roller, as set forth. 5th. In a column printing telegraph instrument, the combination of a paper carrying roll or printing surface, a type wheel carriage movable in a direction parallel to the same, a spindle on said carriage capable of rotary and vertical movement and of oscillation in a plane at right angles to the printing surface, a type wheel having a plurality of rows or lines of characters mounted on the spindle, and mechanism for imparting and controlling the said movements of the spindle and type wheel, as and for the purpose set forth. 6th. In a column printing telegraph instrument, the combination, with a paper carrying roll or printing surface, of a type wheel having a plurality of rows or lines of characters, and capable of rotary movement about its axis, of movement bodily in a direction parallel with the printing surface, of vertical movement in the direction of its axis, and of an oscillating movement in a plane at right angles to the printing surface, and mechanism for imparting and controlling such movements, as and for the purpose set forth. 7th. In a printing telegraph instrument, the combination, with a type wheel having four rows or lines of characters on its periphery, and capable of a movement in the direction of its axis for presenting any one of said rows in alignment with the printing point, an electro-magnetically controlled device capable only of moving the said wheel from a given position through the space of one row, and an independent mechanism capable only of moving the wheel through the space of two rows, as and for the purpose described. 8th. In a column printing telegraph, the combination of a transversely movable type wheel carriage, two rack bars, one fixed, the other capable of limited longitudinal movement, and supported parallel to the path of the carriage, pawls on said carriage engaging with the rack bars, respectively, a continuously operating motor, a shaft in frictional connection therewith, and engaging with the movable rack bar by an eccentric, whereby, on the rotation of the shaft, the said rack bar will be reciprocated and an intermittent movement imparted to the carriage, as set forth. 9th. The combination, with the fixed and movable rack bars, the type wheel carriage, the pawls pivoted to the same and engaging with the rack bars, of a lever pivoted to the carriage and carrying an oscillating bar or plate normally over the pawls, whereby but one can be disengaged at a time and adapted when turned to withdraw said plate and raise both pawls, as set forth. 10th. The combination, with the lever for releasing the type wheel and permitting its return and the lever for feeding the paper and adapted in its movement to encounter the said releasing lever, of a bar engaging at one end

with the paper feed lever, a power driven shaft and eccentric acting on said bar at or near its centre to raise and lower the same, an electro-magnet and escapement adapted to interpose a detent in the path of the free end of the bar, whereby the bar is caused by the eccentric to raise the paper feed, as set forth. 11th. The combination, of the escapement mechanism, the electro magnet for operating or controlling the same, the printing mechanism, the feed mechanism, a rotary shaft for imparting movement to and operating the said printing and feed mechanism, a constantly rotating motor in frictional connection with the said shaft, and an electro magnet in the main line for releasing and locking the shaft, as herein set forth. 12th. The combination, in a type wheel carriage, of a rotating sleeve in gear with the type wheel setting mechanism, a type wheel spindle, a ball and socket connection between the sleeve and spindle, and a pin extending through the ball and entering a longitudinal groove in the spindle and a recess in the socket, whereby the spindle is rotated with the sleeve, but is capable of limited vertical and lateral movement with respect to the same. 13th. The combination, in a printing telegraph, with a type wheel having a plurality of lines of characters, of the lifting bar D¹¹, the power driven eccentric shaft L, the lever R¹¹, oscillated thereby, and an electro magnet in the main circuit for throwing said lever into engagement with the bar D¹¹, and raising the same through the space of one row of characters, as and for the purpose set forth. 14th. The combination, with the type wheel, having a plurality of rows of characters, of the lifting bar or frame D¹¹, the power driven eccentric shaft L, the lever T¹¹, pivoted to the frame D¹¹, the lever U, oscillated by an eccentric on shaft L, and engaging with the lever U, an escapement shaft carrying a pin or stop adapted to be set in a position to obstruct the upward movement of the free end of lever T¹¹, when raised by the lever U, and thereby cause said lever to raise the frame D¹¹ and the type wheel, through the space of two rows of characters. 15th. The combination, with the vertically movable type wheel, having a plurality of rows of characters, of two systems of levers for setting the type wheel in an elevated position, and for releasing the same respectively, and a power driven shaft for oscillating the same, an escapement shaft carrying a pin or stud, an electro magnet for bringing the pin into engagement with either of said systems of levers, for the purpose set forth. 16th. The combination, with the type wheel, having a plurality of rows of characters, and a lifting bar or frame D¹¹, of a lever T¹¹, connected to the frame D¹¹, and adapted in its operation to raise the same through the space of two rows of characters, a lever R¹¹ oscillated by a power driven shaft, and an electro magnet and armature adapted to throw the lever R¹¹ into engagement with the frame D¹¹, and raise the same through the space of one row of characters, as set forth. 17th. In a printing telegraph instrument, the combination, with a type wheel having a plurality of rows of characters, and capable of assuming different positions corresponding thereto, of independent mechanisms for raising said type wheel through the space of one and two rows respectively, a power driven shaft for operating the said mechanisms, and two electro magnets of different electrical characters connected with the main line, adapted to establish and control connection between the shaft and the said mechanism for raising the type wheel respectively, as herein set forth. 18th. The combination, with a rotary type wheel, and spindle capable of oscillation in a plane at right angles to the printing surface, of a stationary printing bed or paper supporting surface, a printing lever adapted to engage with or encounter the type-wheel shaft and swing said type wheel into contact with the paper, as set forth. 19th. The combination, with a rotary type wheel and spindle capable of oscillation in a plane at right angles to the printing surface, of a wheel carried by the spindle and provided with holes in its periphery corresponding to the characters on the type wheel, a printing lever adapted in its movement to enter one of said holes, thereby locking the spindle against rotary movement, and to turn the spindle about its centre of oscillation and bring the type wheel into contact with the paper, as set forth.

No. 39,953. Window. (Fenêtre.)

Francis Vincent Greene and Mary Anne Greene, both of Philadelphia, Pennsylvania, U.S.A., 2nd June, 1892; 5 years.

Claim.—1st. A window frame, having hinged inside and outside beads, and sashes with journals which enter the grooves of the frame and are connected with the sash cords, the sashes being adapted to have a temporary horizontal open space between the lower rail of the lower sash when raised to the head of the frame and the top rail of the upper sash when lowered to the sill, each sash being rotatable independently of the other, substantially as described. 2nd. A window frame, having sashes rotatably mounted on journals sliding in grooves therein, and hinged inside and outside beads, said frame having a chamber cut in the head thereof, into which the top of the lower sash can be raised, so as to leave a temporary horizontal open space between its lower rail and the top rail of the upper sash when lowered to the sill, substantially as described. 3rd. A window frame, having sashes rotatably mounted on journals sliding in grooves therein, and movable beads, with the lower rail of the lower sash divided horizontally, the two parts being hinged, so that when this sash is raised to the head of the frame and the upper sash is lowered to the sill by raising the lower hinged section there will be a temporary horizontal open space between the sashes, substantially as described. 4th. A window frame, having

movable beads, and provided with recesses S, in the inner casings, sashes with sash cords attached to journals which enter grooves in the frame, said recesses S, being for the introduction and removal of the journals, blocks S¹, fitted in the grooves, and the plates T, for holding the said blocks in place, substantially as described. 5th. A window frame, having a sash provided with a journal, whereby the sash may be rotated and a cord connected with said journal running in a groove, whereby the sash may be raised or lowered, which groove terminates some inches below the pulley casing, thus forming a solid seat or bearing for the pulley casing, and at the same time affording material for a small groove deepening and widening vertically downwards for the reception and protection of the cord, substantially as described.

No. 39,054. Method of Imparting a Mottled Grained or other Appearance to Painted Surfaces. (*Méthode de teindre ou imiter les surfaces peintes.*)

Fredrick August Laesecke, Leipzig, and Edward Schmahl and Fritz Feller, both of Berlin, all in Prussia, 3rd June, 1892; 5 years.

Claim.—The herein described method of imparting a mottled, grained, veined, or other appearance to painted surfaces, by applying to such a surface whilst the same is moist, a pattern sheet or plate of absorbent material having thereon a drawing prepared with a non-absorbent substance, in such a manner that paint on said painted surface not covered by the drawing will become absorbed by the parts of the absorbent material not coated with the non-absorbent substance, and a reversed copy of the drawing will be produced upon the surface treated; substantially as described.

No. 39,055. Folding Bed Couch. (*Lit pliant pour voitures.*)

Philip Herbold, Galion, Ohio, U. S. A., 3rd June, 1892; 5 years.

Claim.—1st. In a folding bed couch, the upper portion A, the lower portion B, hinged thereto, in combination, with the pivoted lever *c* and *i*, connected at one end with the part A, and acting at the other upon a movable frame in the part B, and the lever *e*, pivoted to the part B, and connecting with the lever *c*, substantially as described. 2nd. In a folding bed couch, the parts A and B, a movable frame in the part B, the levers *c*, *i*, extending between the movable frame and the part A, the lever *e*, pivoted to the part B at one end and to the lever *c* at the other, and the brace between the movable frame and the lever *e*, substantially as described. 3rd. In combination, with the parts A and B, the cleats D and E, in the part A serving as head and foot board, a third cleat C, with a space between it and the cleat E, a movable frame in B, similar cleats F, G, in said frame, and operating levers between the part A and the movable frame, the levers at one end being in the space between the adjacent cleats, substantially as described.

No. 39,056. Head Light for Steam Threshers.

(*Lumière de l'avant pour machine à battre à vapeur.*)

Frank Hiram Wilson, Cooper, Michigan, U. S. A., 3rd June, 1892; 5 years.

Claim.—1st. A head light for the engines of steam threshers and the like, comprising a bracket, and a spring supported and cushioned plate upon said bracket, upon which the light is supported, said plate being provided with upwardly projecting elastic bars for keeping the light in place, the upper ends of said elastic bars being provided with a series of notches, and a yoke, the ends of same being adapted to adjustably engage said notches for controlling the clamping pressure of said elastic bars against the light or lantern; substantially as set forth. 2nd. A head light support for the engines of steam threshers and the like, consisting of a bracket provided with bars for encircling a smoke stack in attaching said bracket thereto, posts extending upward from said bracket, a plate loosely mounted upon said posts, and adapted for supporting and holding the light or lantern, and cushioning springs on the posts above and below said plate; substantially as set forth. 3rd. A head light support for the engines of steam threshers and the like, consisting of a bracket provided with bars for encircling a smoke stack in attaching said bracket thereto, posts extending upward from said bracket, a plate loosely mounted upon said posts and adapted for supporting and holding said light or lantern, and cushioning springs on the posts above and below said plate, and a rear fulcrum post extending upward from the bracket and loosely passing through the cushioned plate; substantially as set forth.

No. 39,057. Cushion Tire. (*Cousinet pour bandages.*)

Woodburn Langmuir, Toronto, Ontario, Canada, 3rd June, 1892; 5 years.

Claim.—1st. As an improved tire, a metal band bolted, or otherwise secured to the felloe, a rubber band overlapping the metal band and an outer metal band shrunk onto the rubber band, so as to compress its outer edges tightly against the felloe, substantially as and for the purpose specified. 2nd. As an improved tire, a metal band narrower than and rigidly secured to the felloe, a rubber band substantially the same width as the felloe, and having an inner recess to fit over the metal band and an outer metal band shrunk upon the rubber band, substantially as and for the purpose specified. 3rd.

As an improved tire, a metal band narrower than and rigidly secured to the felloe, a rubber band substantially the same width as the felloe, and having an inner recess to fit over the metal band, the outer edges of the rubber band being grooved to receive the flanges formed upon the outer metal band, which is shrunk upon the rubber band, substantially as and for the purpose specified.

No. 39,058. Food Compound.

(*Composition de nourriture.*)

Clifford Saville, New York, State of New York, U. S. A., 3rd June, 1892; 5 years.

Claim.—1st. The process herein described of manufacturing a food product from bananas or plantains, the same consisting in first reducing the fruit to a pulp, then adding to the pulp a sufficient quantity of starch to absorb the moisture of the pulp, then drying the compound and finally grinding or pulverizing the dried compound, substantially as set forth. 2nd. As a new article of manufacture, a food product consisting of banana or plantain fruit and starch combined and reduced to a flour, substantially as set forth.

No. 39,059. Fruit Basket and Cover.

(*Panier à fruit et couvercle.*)

Victor H. Carpenter, Grimsby, Ontario, Canada, 3rd June, 1892; 5 years.

Claim.—In a fruit basket cover, the substantially constructed outer part C, of cover, with its inner or central part D, of gauze netting, and the two transverse strengthening pieces E, in combination with the fruit basket A, arranged substantially as set forth.

No. 39,060. Car Door Fastener. (*Fermeture de porte de chars.*)

Frederick Barker Atkinson, assignee of Frank Halligan, both of South Quebec, Quebec, 3rd June, 1892; 5 years.

Claim.—1st. In a car door fastener, the combination with the car side, door frame and door, of a plate C, secured to the door frame, lugs D on the face of said plate, and provided with eyes adapted to hold a vertical sliding rod, rotatively, a flange C¹ on the outer edge of said plate having a recessed notch *c*¹ and a perforation *c*¹¹, a rod E adapted to slide and rotate in said lugs, and provided with a nut *c* at its lower end, and an arm E¹ adapted to engage notch *c*¹, a latch F pivoted to the flange C¹, and having a notch *f* adapted to engage the arm E when in the recess of the notch *c*¹, and a perforation *c*¹¹ opposite a similar perforation in the flange C¹, the seal G, G¹ passing through said perforation, and the bracket H on the door projecting between the upper lugs D, and having an eye adapted to be engaged by the rod E, substantially as set forth. 2nd. In a car door fastener, the combination of a plate C, flange C¹ at one of the edges of said plate, provided with a notch *c*¹, lugs D on the face of said plate having eyes in a vertical line, a rod E adapted to slide and rotate in said lugs, and provided with a nut *c* to prevent disengagement with the lower lug, and an arm E¹ adapted to engage a notch in the flange of the plate, and a latch F pivoted to said flange and provided with a notch *f*, substantially as set forth. 3rd. In a car door fastener, the combination of lugs D, having eyes in a vertical line, a rod D sliding and turning in the eyes of said lugs, and provided at its lower end with a stop *e*, an arm E secured to said rod, and a bracket H secured to the car door, and projecting between the upper lugs D, and provided with an eye adapted to be engaged by said rod, substantially as set forth. 4th. In a car door fastener, the combination of a plate C, flange C¹ at one edge of said plate, latch F pivotally secured to said flange, perforations *c*¹¹ in said flange, and latch and file teeth *c*¹¹¹ on the lower beveled end of said flange, substantially as set forth.

No. 39,061. Collar and Cuff Portfolio.

(*Porte-col et poignet.*)

The Traveller's Portfolio Company, assignee of Lewis David Dozier and Eugene Walter Hawley, all of St. Louis, Missouri, U. S. A., 3rd June, 1892; 5 years.

Claim.—1st. In a collar and cuff portfolio, the combination of the case 4, having expanding and contracting bottom and ends, and the internal department 8, having the bow ends 9, substantially as described. 2nd. In a collar and cuff portfolio, the combination, of the front and back of the outer case, the bellows hinged expanding and contracting bottom and ends that secure together said front and back, and the internal rigid compartment 8, with bow ends 9 within said case, the base of said bow ends being cut away at 10 to allow the free expansion and contraction of its bellows bottom, substantially as described. 3rd. In a collar and cuff portfolio, the combination, of the collapsible case provided with the bellows hinged bottom and ends, the rigid interior compartment 8, having the rigid bow ends 9, the said ends provided at their base with the openings 10, and the pliable bottom 11 of said rigid compartment, substantially as described. 4th. In a collar and cuff portfolio, the combination of the collapsible case, the rigid compartment 8 in said case, having the bow end 9, and cut away 10 at its base, the metal bow plate 14, that re-inforces said bow end, and the pliable bottom 11 of said rigid compartment, substantially as described. 5th. In a collar and cuff portfolio, the combination of the collapsible case, the rigid compartment 8 in said case, having the bow ends 9, and cut away 10 at their base, and the partition leaf between said rigid compartment and the wall of the collapsible case, substantially as described.

No. 39,062. Ensilage Cutter.*(Appareil pour couper les fourrages en silos.)*

Herbert Watson Fleury and Walter Young Andrews, both of Aurora, Ontario, Canada, 3rd June, 1892; 5 years.

Claim.—1st. A sleeve B, to which the mitre wheels C are fixed, adjustably fitted on to the main shaft A, the mitre wheel D, fixed to the shaft F, from which the feed rollers derive their motion, as described, in combination with the lever G, connected to the sleeve B, and arranged to throw either one or other of the mitres C into gear with the mitre D; substantially as and for the purpose specified. 2nd. A sleeve B, to which the mitre wheels C are fixed, adjustably fitted on to the main shaft A, the mitre wheel D, fixed to the shaft F, from which the feed rollers derive their motion, as described, the lever C, connected to the sleeve B, and engaging with one of the notches P, in combination with the pivoted finger Q, operated by the block R, on the bar S, substantially as and for the purpose specified. 3rd. The combination, with an ensilage cutter, of a carrier T, carried by the jack U, located below the carrier V, and deriving motion from the sprocket chain W, substantially as and for the purpose specified.

No. 39,063. Process of and Apparatus for Manufacturing Illuminating Gas. (Procédé et appareil pour la fabrication du gaz.)

Charles Bougourd de Lamarre and Alexander B. French, both of Biloxi, Mississippi, U.S.A., 3rd June, 1892; 5 years.

Claim.—1st. The improved method herein described for producing illuminating gas, the same consisting in first passing steam into a retort, then passing the gases from the decomposition produced in said retort into a main cooler or condenser, then diverting the gases from the retort from their original course to said cooler and passing them first into an auxiliary cooler or condenser, then passing the gas from the latter into a carburetor, and then passing the carbureted gas from the carburetor into said main cooler, and finally drawing from said main cooler the gases admitted thereto by the two steps described into a suitable gas holder, substantially as described. 2nd. The improved method herein described for producing illuminating gas, the same consisting in first passing steam into a retort, passing the gases from the decomposition produced in said retort into a main cooler or condenser, then diverting the gases from their original course to the main cooler and passing them intermediately first into an auxiliary cooler or condenser, then from the latter into a carburetor, and then passing the carbureted gas from the carburetor into said main cooler, and finally again deviating the course of the gas to direct the same from the retort directly into the carburetor, passing the carbureted gas from the carburetor into a purifier and from thence into the main cooler, and finally drawing from said main cooler the gases admitted thereto by the three steps described into a suitable gas holder, substantially as described. 3rd. The improved method herein described for producing illuminating gas, the same consisting in first passing steam into a retort, passing the gases from the decomposition produced in said retort into a main cooler or condenser, then diverting the gases from their original course to a main cooler and passing them intermediately first from the retort into an auxiliary cooler or condenser, then from the latter into a carburetor and then passing the carbureted gas from the carburetor into said main cooler, then again changing the direction of the gas and passing the gas from the retort directly into the carburetor, passing the carbureted gas from the carburetor into the purifier, and from thence into the main cooler, and finally diverting the course of the gas from the carburetor, admitting the oil from the carburetor into the retort, the oil being first commingled with the steam which enters said retort, passing the hydrocarbon gas obtained in the retort into an auxiliary cooler, and then into a purifier, and thence into the main cooler and finally drawing from said main cooler the gases admitted thereto by the four steps described into a suitable gas holder, substantially as described. 4th. The herein described apparatus for the manufacture of gas, the same comprising a steam generator, a decomposing retort connected with said generator, a main cooler provided with means for cooling, an auxiliary cooler provided with means for cooling, and a carburetor intermediate of said retort and main cooler, the said carburetor connecting with the said auxiliary and main coolers by piping, which are in communication with the retort and each other by piping provided with suitable valves for directing the course of the gas, substantially as set forth. 5th. The herein described apparatus for the manufacture of gas, the same comprising a steam generator, a decomposing retort connected with the said generator by piping, a main cooler provided with means for cooling, and an auxiliary cooler provided with means for cooling, a purifier and a carburetor intermediately interposed between said retort and main cooler, the said carburetor being connected with both coolers and the intermediate purifier by piping, the same being also in communication with the retort and each other by piping provided with valves for directing the courses of the gas, substantially as set forth. 6th. The herein described apparatus for producing illuminating gas, the same comprising a steam generator, a decomposing retort connected with said generator by means of valved piping, a main cooler, and an auxiliary cooler, a purifier and a carburetor intermediately interposed between said retort and main cooler, the

said carburetor connecting with said retort between the same and the generator by piping, and said auxiliary cooler, purifier and main cooler being in communication with the retort, carburetor and each other by piping provided with suitable valves for directing the courses of the gases, substantially as set forth.

No. 39,064. Pipe Wrench and Cutter.*(Cléf à tuyaux et à les couper.)*

George W. Gorsuch, Martinsburg, and Martin B. Miller, Carlisle, both in Pennsylvania, U.S.A., 3rd June, 1892; 5 years.

Claim.—1st. The herein described tool, consisting of a handle having a jaw, a movable hook shaped jaw, and a loop encircling the handle and connected to the jaw, having means for securing the movable jaw at any desired point with reference to the rigid jaw. 2nd. The herein described tool, consisting of a handle having a jaw, a movable jaw, a loop on the handle connected with the movable jaw, and a screw carried by the loop for engaging the handle and securing the moving jaw. 3rd. The herein described tool, consisting of the handle having a jaw and formed with a rack, a loop on the jaw engaging the rack, a movable jaw connected to the loop, and a screw carried by the loop for engaging the handle to secure the jaw. 4th. The herein described tool, consisting of the handle, the movable jaw, the cutter carried by the handle, and the bail having the adjusting screw, all adapted to serve in the manner and for the purpose stated. 5th. The herein described tool, consisting of the handle, the cutter carried by the handle, the movable jaw, the adjusting loop connected to the movable jaw, and the bail having the screw for engaging the said movable jaw.

No. 39,065. Gas Engine. (Machine à gaz.)

Paul de Susini, Paris, France, 4th June, 1892; 5 years.

Claim.—1st. The combination, of the motor without packing box, with a bi-multitubular boiler for ether vapor or other volatile liquid with high pressure, heated by the lost gases, coming from a steam boiler, these two apparatus having a common envelope of glycerine, serving at the same time as a bath for the heating of the ether, as a calorific covering of the motor cylinders and as an automatic lubricator of the mechanism when working. 2nd. The combination, of the motor without stuffing box, and of the above bi-multitubular high pressure boiler, with a multitubular boiler with medium pressure, which I call condensing generator; this apparatus which is heated by the escape steam of an ordinary steam motor, effects the condensation of the steam, serves as the generator of the ether vapor with medium pressure, and fills the part of an intermediate reservoir in case of a motor with several expansions. 3rd. The aero-hydraulic condenser herein described, the same consisting of a chamber for receiving the ether vapor, and containing a series of tubes, and provision for passing humid air through the latter to condense the ether vapor. 4th. The combination of the motor without stuffing box, of the bi-multitubular boiler D, for vaporizing the ether, of a second generator E, for the further vaporization of the ether under the action of waste steam, which is in turn condensed. 5th. The combination, with an ether motor and generator for generating and supplying ether vapor to the motor, of connections for leading the waste steam and gasses of combustion of a steam boiler, in the vicinity of or in contact with said generator to inexpensively secure the desired vaporization.

No. 39,066. Potato Digger and Picker.*(Arrache-potatoes.)*

George B. Irwin, Toronto, Ontario, Canada, 4th June, 1892; 5 years.

Claim.—1st. As an improved potato digger and picker, a vertically adjustable digger, provided with travelling buckets arranged to convey the excavated potatoes towards and discharge onto a slanting vibrating sieve, substantially as and for the purpose specified. 2nd. As an improved potato digger and picker, a vertically adjustable digger provided with travelling buckets arranged to convey the excavated potatoes towards and discharge them onto a slanting vibrating sieve, in combination with a series of elevating buckets extending from the lower end of the vibrating sieve to a higher point, where they discharge the potatoes onto a vibrating sieve, substantially as and for the purpose specified.

No. 39,067. Reclining Chair. (Fauteuil brisé.)

William H. Mitchell, Beeton, Ontario, Canada, 4th June, 1892; 5 years.

Claim.—1st. In a reclining chair, the combination with a supporting frame, a chair back pivotally secured to the back of the said supporting frame, a chair seat pivotally connected to the said chair back below the plane at which the chair back is pivoted to the supporting frame, cams or rockers pivotally secured to the front of the supporting frame and adapted to elevate the front end of the seat when the chair is in its reclined position, and a foot and leg rest pivotally secured to the front end of the seat, substantially as described. 2nd. In a reclining chair, the combination with a supporting frame, the chair back pivotally secured to the rear end of said supporting frame, the chair seat pivotally secured to the chair back below the plane at which the said chair back is secured to the supporting frame, a spindle connected to the front end of the said sup-

porting frame, cams or rockers mounted upon said spindle, straps connected to said cams and to the front of the chair seat, said cams or rockers adapted to elevate the front end of the said chair seat when the chair is in its reclined position, arm rests pivotally secured to the chair back above the plane at which the said chair back is secured to the supporting frame, a leg rest pivotally secured to the front end of the said seat and to the front end of the arm rests, substantially as described. 3rd. In a reclining chair, the combination with a supporting frame, of a chair back pivotally secured thereto, a chair seat, the rear end of which is pivotally secured to the chair back below the plane at which the chair back is pivoted to the supporting frame, said chair seat inclined upwardly from its rear to its front end, a spindle connected to the front end of the supporting frame, rockers or cams mounted upon the said spindle, straps connected to the said rockers or cams and to the front end of the said seat, guide bars pivoted to the said seat and to the front end of the arm rests, a foot and leg rest sliding in grooves formed in the said guide bars and straps connected to the said leg rest and to the lower extremity of the chair back, substantially as described.

No. 39,068. Window Sash. (Croisée de fenêtre.)

Stina C. Young, Chicago, Illinois, U.S.A., 4th June, 1892; 5 years.

Claim.—In a window sash, the main sash frame provided with the inner side grooves, the bottom communicating groove or recess, and the inner shoulders 10, located at the upper ends of the sides of said sash, and a supplemental frame or sash having the ordinary window light fitted therein, vertically sliding and seated within said grooves and provided with an upper transverse cross cleat 9, which is adapted to take within said shoulders 10, and rest flush with the top of the sash frame, substantially as set forth.

No. 39,069. Sled Brake. (Enrayoir de traîneau.)

Ezra Crosby, Madison, Maine, U.S.A., 4th June, 1892; 5 years.

Claim.—In a sled brake, the combination of the rock shaft 4, the brake arms 5, and yoke shaped frame 6, mounted on said rock shaft, with the upper ends of the said brake arms secured to the cross bar of the yoke shaped frame, the rods 7, having their rear ends pivotally connected with the yoke shaped frame, and the rock shaft 9, having an operating lever 12, and provided with crank arms 8, connected with the forward ends of said rods, substantially as shown and described.

No. 39,070. Window Shutter. (Contre-vent.)

Henry Raith, Montreal, Quebec, Canada, 4th June, 1892; 5 years.

Claim.—The combination, with a window frame, of side boxings or recesses and shutter sections adapted to slide sidewise into such boxings, as set forth. 2nd. The combination, with a window frame, of side boxings or recesses, and shutters divided into four sections, adapted to slide sidewise into such boxings, as set forth.

No. 39,071. Bed Bottom. (Sommier elastique.)

Stiles Raymond, Minneapolis, Minnesota, U.S.A., 4th June, 1892; 5 years.

Claim.—1st. In a folding bed bottom, the combination, with the end pieces provided with sockets on their ends, of a flexible connection between said end pieces, said webbing or flexible connection being secured to the outer sides of the end pieces, and side bars hinged at their middle and having their ends inserted in the sockets in the cross bars, said side bars being downwardly inclined toward their middle when in position for use, substantially as described. 2nd. In a folding bed bottom, the combination, with the end pieces provided with metal sockets on their ends, of a flexible connection between said end pieces, said connection being secured to the outer sides of the end pieces, side bars hinged in their middle and provided with tenons on their ends fitting in the sockets, said side bars being downwardly inclined toward their hinged portion when in use, and hinges having their outer ends embedded in the under side of the contiguous ends of the side bars, substantially as described. 3rd. In a folding bed bottom, the combination, with the end pieces, of sockets on the ends of said end pieces, said sockets being formed with lips entering the end pieces and extending downwardly and inwardly to form sockets on the lower sides, a flexible connection between the end pieces, said connection being secured on the outer edges and passing over the end pieces, sectional side bars provided with tenons on their ends adapted to enter the sockets, and a hinge provided with lips on its outer edge embedded in the lower side of the side bars, said bars having their continuous edges cut at an obtuse angle, thus forming double inclined side bars, whereby when pressure is put upon the webbing passing over the upper side of the end pieces, the tendency of the weight is to always maintain a rigid connection between the sections of the said bars, substantially as described.

No. 39,072. Car Coupler. (Attelage de chars.)

Joshua W. Latta, Sherman, Wyoming, U.S.A., 4th June, 1892; 5 years.

Claim.—1st. In a car coupling, the combination, with the draw head having the pin apertures and the vertical apertures on opposite sides thereof, of the yoke carrying the coupling pin, and having the rods movable in the apertures of the draw head, surrounded by springs beneath the draw head, and also shouldered, and the spring backed slotted slide on the upper side of the draw head adapted to

engage the shoulders in the rods of the yoke, so as to hold the pin elevated, substantially as specified. 2nd. The combination, with the draw head having the pin apertures and the vertical apertures on opposite sides thereof, and also having the guide lug eye and the stop on its upper side, of the slide having the keyhole slots, and the rod surrounded by a spring adapted to enter the lug eye, the spring for advancing the forward edge of the slide beyond the draw head, and a spring pressed yoke carrying the coupling pin, and adapted to be engaged by the slide so as to hold the same elevated, substantially as specified. 3rd. In a car coupling, the combination, with the frame secured to the under side of a car, and having its opposite side walls recessed, and its forward end provided with an aperture to receive the stem of the draw head, of a draw head passing into said frame, the lug secured to the stem of the draw head, and means carried by a truck for contacting with the lug to raise the draw head in the frame, substantially as specified. 4th. In a car coupling, the combination, with the frame adapted to be secured to the under side of a car, and having its opposite side walls recessed, of the oscillating frame arranged within the recesses, and having its side walls slotted, the frame arranged within the oscillating frame and having corresponding slots, the transverse pivot bolt or rod having a horizontally disposed eye, and passing through the side walls of the respective frames, and the draw head having its stem passing through the oscillating frame and frame therein, and also through the eye in the pivot bolt, substantially as specified. 5th. In a car coupling, the combination, with the frame B, of the frame C, arranged in the recess walls thereof, and having the elongated slots in the sides, the frame D, arranged within the frame C, and having corresponding slots in its sides, the pivot bolt passing through said slotted sides and sides of the frame B, and having an eye *g*, and the draw head having its stem passing through the eye of the pivot bolt, and yieldingly secured in the frame D, substantially as specified. 6th. In a car coupling, the combination, with the frame B, having its side walls recessed, of the frame C, having its side walls slotted and arranged in the recessed walls of said frame B, the frame D, having its sides correspondingly slotted and arranged within the frame C, the draw head having its stem passing through the frame D, the transverse rod E passing through the respective frames, and also receiving the stem of the draw head, the springs surrounding said stem within the frame D, and on opposite sides of the eye of the pivot rod E, and plates backing said springs, substantially as specified. 7th. A draw head having its stem secured in a rocking or oscillating frame, in combination, with a lug secured to the stem in advance of said frame, whereby the draw head may be raised by devices contacting with said lug, substantially as specified. 8th. In a car coupling, the combination, with a frame secured to the under side of a car and adapted to receive the stem of the draw head, of the draw head, the yoke adapted to move vertically in said head, and carrying the coupling pin, the levers pivoted to the frame at one end and connected by means of chains at their opposite ends to the lower part of the yoke, the operating shaft journaled in the car body, and rods or links connecting said levers at an intermediate point of their length with fixed arms on the operating shaft, substantially as specified. 9th. The combination, with a draw head, of a yoke passing vertically through the same, and having springs interposed between the lower part of the frame and the under side of the draw head, and also carrying the coupling pin, the levers pivoted at one end to a frame secured to the car and connected at their opposite end by means of chains with the lower part of the yoke, the operating shaft journaled in the car body, links connecting said shaft with said levers, and a lever pivoted to the top of the car and connecting with the operating shaft by means of a chain, substantially as specified. 10th. The combination, with a car truck, of a transverse frame secured to the forward end of the truck frame, a draw head secured in a frame and adapted to move vertically therein, and the lug secured to the stem of the draw head to be engaged by the frame carried by the truck, so as to elevate said draw head when the car body has been depressed, substantially as specified. 11th. The combination, with a car and a truck thereof, of a transverse frame secured to the forward end of the truck frame, a draw head secured to the car frame and adapted to move vertically, and the lug on the stem of the draw head carrying the pin passing through a hole in the frame, through which said stem passes, substantially as specified. 12th. The combination, with the truck, of the transverse frame secured to the forward end thereof, the plate or strip arranged on the frame, the springs sustaining said plate or strip vertically, and the draw head adapted to be moved vertically, and the lug receiving the draw head to be moved vertically therewith and adapted to be engaged by the yieldingly sustained plate of the frame carried by the truck, substantially as specified. 13th. The improved coupling pin, having the enlarged portion 32, the reduced depending portion 34, the rear portion or shoulder 35, and the lateral projections or shoulders 36, the whole formed entire and adapted to operate in a draw head, substantially as specified.

No. 39,073. Piano Action. (Action de pianos.)

Augustus De Foe Dimick, Wakefield, Massachusetts, U. S. A., 4th June, 1892; 5 years.

Claim.—1st. In a piano action, the combination of the key, a sliding or enwise moving jack pivotally connected therewith at its lower end and a jack spring fixed at its lower end, on the key, and bearing at its free upper end on the jack,

substantially as described. 2nd. In a piano action, the combination of the key, an adjustable rocker thereon, a sliding or endwise moving jack pivotally connected thereto, and a jack spring fixed upon the rocker and bearing at its free end on the front side of the jack, substantially as described. 3rd. In a piano action, the combination of the key, an adjustable rocker thereon, an endwise moving jack pivotally connected at its lower end with the rocker, a jack spring fixed upon the rocker and bearing at its free end upon the front side of the jack, and a jack trip, carried by the key and co-operating with an adjustable stop on the jack, substantially as described. 4th. In a piano action, the combination of the key, the hammer, and endwise moving jack having an extension at its upper end in front of the hammer butt, and being pivotally connected with the key at its lower end and free at its upper end, a pivoted damper actuating lever, and a connection between the latter and the jack, substantially as described. 5th. In a piano action, the combination of the key, an endwise moving jack, a hammer, and a pivoted hammer check actuated by the jack, substantially as described. 6th. In a piano action, the combination of the key, an endwise moving jack, a hammer having a buffer projecting from its butt, and a pivoted hammer check actuated by the jack, substantially as described. 7th. In a piano action, the combination of the key, an endwise moving jack pivotally connected with and supported by the key, a pivoted damper actuating lever, a hammer check carried by the lever, and a connection carried between the jack and the lever, substantially as described. 8th. In a piano action, the combination of a sliding or endwise moving jack, a pivoted hammer check, and a connection between them whereby the check is operated by the jack, substantially as described. 9th. In a piano action, the combination of the key, the hammer, an endwise moving jack, and a spring reacting between the hammer and the jack to prevent the hammer from falling while the jack is returning into place. 10th. In a piano action, the combination of the hammer having a shouldered butt, and an endwise moving jack having a shoulder at its upper end, an extension of the jack in front of the hammer butt, and a guide projection from the hammer butt acting on the extension, substantially as described. 11th. In a piano action, the combination of the hammer having the shouldered butt, an endwise moving jack having a shoulder, and an extension in rear of the butt, and a spring connection between the hammer butt and the extension, substantially as described. 12th. In a piano action, the combination of a pivoted hammer, a sliding or endwise moving jack, and a repeating spring connection between the hammer and the jack arranged and operating, as and for the purpose described. 13th. In a piano action, the combination of the hammer, a projection from the hammer butt carrying a buffer, and a hammer check pivoted to the action rail and actuated by the jack, substantially as described. 14th. In a piano action, the combination of a pivoted hammer, a sliding or endwise moving jack, a repeating spring carried by the jack, and a flexible connection between the spring and the hammer arranged and operating, substantially as described. 15th. In a piano action, the combination of the hammer, a jack for operating the same, and a repeating spring connection between the jack and the hammer butt, for preventing the hammer from falling while the jack is being restored to place and facilitating repetition of the stroke, substantially as described. 16th. In a piano action, the combination of the hammer, the sliding or endwise moving jack, and a guide for the jack projecting from the hammer butt to support the upper end of the jack, and to prevent a sidewise movement of the same, substantially as described. 17th. In a piano action, the combination of the hammer having a shouldered butt, a sliding or endwise moving jack having a shoulder near its upper end, a hammer check operated by the jack, a buffer carried by said projection from the hammer butt, said projection acting as a guide for the upper end of the jack, substantially as described.

No. 39,074. Scoop. (Ecop.)

William Wells and Abel Clay, both of Milford, Michigan, U.S.A., 4th June, 1892; 5 years.

Claim.—1st. A scoop in which the inside tines are arranged in pairs, each pair united near the point where they curve upward at the heel of the scoop, substantially as and for the purpose described. 2nd. A scoop with the inside tines arranged in pairs, each pair united near the point where they curve upward at the heel of the scoop, with an opening between said point of union and the extreme heel end of the tine, substantially as described. 3rd. A scoop with its inside tines arranged in pairs, united near the point where they curve upward at the heel, the shank of the central pair stiffened with a longitudinal flange or flanges, substantially as described. 4th. A scoop with its inside tines arranged in pairs, each pair united near the point where the tine curves upward at the heel, the shank beyond said point of union convex upon one side and concave upon its opposite side, substantially as described.

No. 39,075. Electric Controller for Railway Trains.

(*Contrôleur électrique pour chars de chemin de fer.*)

Frank E. Kinsman, Plainfield, New Jersey, U.S.A., 4th June, 1892; 5 years.

Claim.—1st. The combination, with the controlling device for a railway brake, of a governing electro magnet on the locomotive or other vehicle, a relay electro magnet whose circuit includes the rails

of a section of track, and a relayed circuit governed by said magnet and formed through devices on the road bed, and a section of a conductor located on the vehicle and containing the controlling magnet of the brake mechanism. 2nd. The combination, with a railway brake, of a controlling cock, a driving mechanism, a reducing gear between said driving mechanism and the cock, and a governing electro magnet, whereby when the magnet throws the driving mechanism into operation, a gradual application of the brakes may be produced. 3rd. The combination, with a railway brake mechanism, of a controlling cock, a driving power, an intermediate reducing gear, a governing electro magnet on the locomotive or other portion of the train, and means controlled by said magnet for throwing the driving power into operation. 4th. The combination, with a railway brake, of a controlling cock, a driving power, means connected with the same for giving a gradual movement to the cock under the operation of the driving power, and a governing electro-magnet whereby, through the operation of the magnet, a gradual application of the brakes may be secured. 5th. The combination, with a relay whose coils include the rails of a section of track, of a relayed circuit completed through the back contact of the armature, and means for periodically lifting the armature away from its circuit closing stop. 6th. The combination, with a railway brake mechanism and a controlling magnet therefor, of a circuit for said magnet including the back contacts of a relay, and means for periodically lifting the relay from its back contact stop. 7th. The combination of a cock on a railway vehicle, a magnet controlling the operation of the same, a circuit for said magnet including the back contacts of a relay, a circuit for said relay governed by the passage of a train over a section of track, and means for periodically restoring the armature of the relay to normal position, as and for the purpose described. 8th. The combination of a relay in a normally closed circuit, including circuit breakers operated by the passage of a train, and means for periodically lifting the armature of the relay from its back contact. 9th. The combination, with a railway gate, of a circuit controller therefor, a railway brake mechanism, an electro-magnet governing the same and placed on the locomotive, and circuit closing devices on the roadbed for completing the circuit of said magnet on the vehicle or locomotive when the gate is open. 10th. The combination, with a railway bridge, of an electric circuit passing over the same and including one or more thermostats, a cock on the locomotive or railway train, and a controlling magnet for the same, governed by the condition of the circuit upon the bridge, whereby on the action of the thermostat device a cock may be turned though the controlling agency of the electro magnet, as and for the purpose described. 11th. The combination, with a railway bridge, of a thermostat circuit passing over the same, a locomotive or railway vehicle carrying an electro magnet, whose circuit is governed by the condition of the thermostat circuit, a railway brake mechanism, and a controlling cock therefor governed by said electro magnet. 12th. The combination, with a railway bridge, of a thermostat circuit, a railway brake mechanism, a controlling cock for the same, the governing electro magnet on the locomotive or other vehicle, and a circuit for said magnet governed by the condition of the thermostat circuit and the position of the locomotive with regard to circuit closing device on the road bed. 13th. The combination, with the controlling mechanism for a locomotive whistle, of operating devices for actuating the same according to a signal code, and a controller magnet, as and for the purpose described. 14th. The combination, with the controlling devices for a steam whistle on a locomotive, of a driving wheel carrying operating projections disposed and constructed in accordance with a signal code, and an electro-magnet governing the operations of said wheel, as and for the purpose described. 15th. The combination, on a locomotive, of a steam whistle, governing devices therefor, a wheel H^2 , carrying projections whose length and intervals correspond to a signal code, a detent mechanism governing the rotation of the wheel, and a controlling electro magnet on the vehicle having a circuit completed through devices on the road bed. 16th. The combination, with a locomotive whistle and a controlling magnet therefor, of a relay governing the action of said magnet, and a circuit for the relay including the rails of a railway track. 17th. The combination, with a relay R , and a section of track b , the rails of which are included in a circuit with the relay, of one or more track circuit breakers normally closed, but arranged in the circuit and in position to be operated by a passing train. 18th. The combination, with a line of rails b , included in the circuit of the relay R , of one or more circuit breaking devices interposed in said circuit for interrupting the relay circuit on the passage of a train over the section of track. 19th. The combination, with the cock D , and its driving electro motor, of a controlling magnet and a catch for holding the circuit of the motor closed, as and for the purpose described. 20th. The combination, with a railway car brake, of a controlling cock, an electric motor geared to the same, a governing magnet, a relay armature for the same normally retracted, and a catch for holding the armature up and in position to close the circuit of the motor, as and for the purpose described.

No. 39,076. Vapor Lamp. (Lampe à vapeur.)

Harry Andrew Kerslake, Auburn, New York, U.S.A., 4th June, 1892; 5 years.

Claim.—1st. The combination, with a reservoir provided with a cover having an upward extension adapted to hold a wick, and provided with a vapor discharge opening, of a wick provided with a com-

press and held in said extension, substantially as shown and described. 2nd. The combination, with a reservoir provided with a cover having an upward extension adapted to hold a wick, and provided with a vapor discharge opening, of a wick provided with a compress and held in said extension, and means for heating the extension and generating vapor, substantially as shown and described. 3rd. The combination with a reservoir, the top of which is provided with a wick holding socket having a vapor discharge opening in its top, of a wick held and secured in said socket, and means for heating the said socket and generating vapor, substantially as shown and described. 4th. The combination, with a reservoir, the top of which is provided with a wick holding socket having a vapor discharge opening, and oil or naphtha holder adjacent thereto, of a wick held in and suspended from said socket, substantially as shown and described. 5th. The combination, with a reservoir, the top of which is provided with a wick holding socket, having a vapor discharge opening, of a wick held and secured in said socket, and a tube surrounding the same, and connected therewith, provided with air ingress openings and means for heating the parts and generating vapor, substantially as shown and described. 6th. The combination, with a reservoir, the top of which is provided with a wick holding socket having a vapor discharge opening, and a cavity adjacent to said socket, of a wick provided with a compress and held in said socket, and a tube provided with air ingress openings surrounding the vapor discharge opening, substantially as shown and described. 7th. The combination, with a reservoir, the top of which is provided with a wick holding socket having a vapor discharge opening, of a wick provided with a compress held in said socket, that end of the wick within the socket being enclosed within a cap having passages for oil or vapor, substantially as shown and described. 8th. The combination, with a reservoir, the top of which is provided with a wick holding socket having a vapor discharge opening, of a wick provided with a compress and held in said socket, substantially as shown and described. 9th. The combination, with a reservoir, of a vapor burner or plumber's torch, of a wick provided with a compress whereby the capillary action of the wick is limited.

No. 39,077. Ice Cream Freezer.

(*Congélateur pour crème glacée.*)

Charles Lucius Bellamy, Arlington, U.S.A., 6th June, 1892; 5 years.

Claim.—1st. In an ice cream freezer of the character here specified, a horizontally rotating freezing cylinder adapted and arranged to rotate in a cream feeding pan, within which is an agitator for mixing the cream before it is taken up by the cylinder, substantially as shown and described. 2nd. In an ice cream freezer of the character herein specified, the combination, with the freezing cylinder and a milk holder, of a movable band arranged to enter the milk holder and bear against the periphery of the freezing cylinder, substantially as and for the uses and purposes shown and described. 3rd. In an ice cream freezer of the character herein specified, an adjustable scraper and cream receiver, said receiver being mounted upon trunnions near its inner upper edge, and engaging at bottom with an adjusting bar, substantially as shown and described. 4th. In an ice cream freezer of the character herein specified, a divided milk holder wherein are located separate milk applying devices, whereby two separate and distinct kinds of cream may be frozen upon the freezing cylinder at one and the same time, substantially as shown and described.

No. 39,078. Hotel Room Card.

(*Cartes pour chambres d'hôtel.*)

Luther Leroy Higby, Fort Worth, Texas, U.S.A., 6th June, 1892; 5 years.

Claim.—In a hotel room card, the combination, of a flexible card, banner or hanger, of suitable textile fabric, provided with series of horizontal and vertical lines dividing its surface into suitable spaces of different sizes, and enclosed within a marginal border, with a series of rings attached to its upper edge, a suspension rod loosely inserted in said rings, hooks or loops secured near the ends of said rod outside the lines of said rings, a chain or chord secured to said hooks or loops, and a series of ornamental weights secured to the lower edge of the said flexible card.

No. 39,079. Fence Tightener.

(*Appareil à serrer les clôtures.*)

Thomas J. Andre, Wauseon, Ohio, U.S.A., 6th June, 1892; 5 years.

Claim.—1st. In a fence, the combination, with two posts, wire leading inwardly therefrom, and a loop in the end of one wire, of a roller beneath said loop, provided with a slot in its body, the end of the other wire passing through the outer end of the loop and being fastened into said slot, substantially as specified. 2nd. In a fence, the combination, with two posts, wires leading inwardly therefrom, and a vertically bent loop in the end of one wire, of a roller within the bend of said loop, said roller having a longitudinal slot in its body and an angular end, the end of the other wire passing through the outer end of the loop and being fastened into said slot, and a U-shaped fastener passed under the unlooped wire and having its tips removably seated in said slot to prevent a retrograde movement of the roller after the latter is turned, as and for the purpose herein-

before set forth. 3rd. In a fence, the combination, with two posts, wire leading inwardly therefrom, and a loop in the end of one wire, of a roller beneath said loop having a slot in its body, the end of the other wire passing through the outer end of the loop and being fastened into said slot, and a fastener for the roller, as and for the purpose set forth. 4th. In a fence, the combination, with two posts, wires leading inwardly therefrom, and a loop in the end of one wire, of a roller beneath said loop having a slot in its body and having its end squared, with the corners of one end standing opposite the faces of the other, the end of the other wire passing through the outer end of the loop and being connected with said slot, and a fastener for the roller, as and for the purpose hereinbefore set forth. 5th. In a fence, the combination, with two posts, and a fence wire leading from each post towards the other, of a roller having a longitudinal slot in its body, with which the inner ends of the fence wire are connected, the ends of said roller being squared, with the corners of one end standing opposite the faces of the other, and a U-shaped fastener removably seated in said slot, as and for the purpose set forth. 6th. A fence tightener, consisting of a roller having a longitudinal slot in its body, with which the inner ends of the fence wires are connected, the ends of said roller being squared, with the corners of one end standing opposite the faces of the other, and a U-shaped fastener removably seated in said slot, as and for the purpose set forth. 7th. A fence tightener, consisting of a roller having a longitudinal slot in its body, with which the inner ends of the fence wires are connected, the ends of said roller being squared, with the corners of one end standing opposite the faces of the other, and a fastener for the roller, as and for the purpose set forth.

No. 39,080. Thermostat. (Thermostat.)

Archibald H. Brintnell, Toronto, Ontario, Canada, 6th June, 1892; 5 years.

Claim.—1st. In combination, the opposing spring contact arms, the means for movably supporting said arms consisting of the two opposing diaphragms, each of which is movable towards and from the other, the ring for holding the diaphragms together, and the adjusting means for said springs, contacts carried by and movable with the said diaphragms, and bearing against the said springs to retain them in adjusted position, substantially as described. 2nd. In combination, the opposing contact arms, the means for enclosing and movably supporting each of said arms consisting of the two opposing diaphragms, each of which is removable towards and from the other, and the means for holding the two diaphragms together and exposing both of them, consisting of the binding ring engaging the edges of the diaphragms, and retaining them against separating movement. 3rd. The spring arms H and P, connected to and insulated from the diaphragm B, in combination with the interposed arm G, connected to and supported from the diaphragm A, substantially as described. 4th. The spring arm H and P, connected to the diaphragm B, by the binding screws F and G, which form terminals for the trouble alarm and fire alarm wires *b* and *d* respectively, in combination with the interposed arm G, connected to and supported from the diaphragm A, and the binding screw J, which forms terminal for the battery wire *a*, as specified. 5th. The spring arms H and P, connected to the diaphragm B, by the binding screws F and O, and insulated from the diaphragm by the plates D, and the set screw Q, for adjusting the arms H and P, in combination with the interposed arm G, connected to and supported from the diaphragm A, substantially as specified. 6th. The arms H and P, connected to the diaphragm B, by the binding screws F and O, and insulated from the diaphragm by the plate D, in combination with the interposed arm G, connected to and supported from the diaphragm A, and adjusted by the set screw J, substantially as specified. 7th. The arms H and P, connected to the diaphragm B, by the binding screws F and O, and insulated from the diaphragm by the plate D, the set screws Q and S, for adjusting the arms H and P, in combination with the interposed arm G, connected to and supported from the diaphragm A, and adjusted by the set screw J, substantially as specified. 8th. The arms H and P, connected to the diaphragm B, by the binding screws F and O, and insulated from the diaphragm by the plate D, the set screw O, for adjusting the arms H and P, in combination with the interposed arm G, connected by the hollow rod I, to the adjusting screw J, and the plate K, insulated from the diaphragm A, and extending from the rod I, to the binding screw L, as specified.

No. 39,081. Annunciator. (Indicateur.)

Archibald H. Brintnell, Toronto, Ontario, Canada, 6th June, 1892; 5 years.

Claim.—1st. In combination, the main circuit, including the trouble alarm wire and the fire alarm wire, the said trouble alarm wire including in its circuit a relay to bring into action a local battery when the current on the trouble alarm wire is thrown off, a thermostat for throwing the current off the trouble alarm wire and onto the fire alarm wire, a trouble alarm and a fire alarm, each comprising a magnet and armature, the electrical connection between the relay, the trouble alarm, the local battery, including the armature U, and the contact *i*, the said fire alarm wire including the magnet T, of the armature U, and the contact *j*, electrically connected with the fire alarm, substantially as described. 2nd. In combination, the main battery, the trouble alarm circuit, and the

fire alarm circuit, with the thermostat for throwing the current from the former to the latter, the relay included in the trouble alarm circuit, the local battery circuit controlled by the relay, a trouble alarm and a fire alarm, and electrical connections therefrom to the local battery, including a switch T U, in the fire alarm circuit, adapted to cut out the trouble alarm bell from and cut in the fire alarm bell to the local circuit when the thermostat directs the current to the fire alarm circuit, substantially as described. 3rd. In combination, the main battery, the trouble alarm wires, including a thermostat to throw the current off of said wire, a relay in the trouble alarm circuit, controlling a local battery and circuit, a trouble alarm in said local circuit, and the movable indicating plate controlled by the armature of the relay to be operated simultaneously with the completing of the local circuit and the ringing of the alarm, substantially as described. 4th. In combination, the main battery, the trouble alarm wires, including a relay, an indicating plate, and a local battery, controlled by the said relay, a trouble alarm in the local circuit, the fire alarm wire, the thermostat for throwing the current from the trouble alarm to the fire alarm circuit, the fire alarm and electrical connections from the fire alarm wire to the said alarm, whereby upon the presence of incipient heat the trouble alarm and the indicating plate will be operated and remain in this position when the current is switched from the trouble alarm wire into the fire alarm wire, substantially as described. 5th. In combination, the main battery, the trouble alarm wire including a relay, an indicating plate and a local battery circuit controlled thereby, a trouble alarm in the local battery circuit, the fire alarm wire, the thermostat for throwing the current from the trouble alarm wire to the fire alarm wire, a switch T, U, in the fire alarm wire, controlling the battery circuit leading to the trouble alarm, and the fire alarm controlled by said switch. 6th. In combination, the trouble alarm and fire alarm wires, the thermostat for transferring the current from the trouble alarm wire to the fire alarm wire, the series of relays in the trouble alarm wires, the strips X and Y, in the relay or battery circuit, the strip X, carrying the frames of the relays and the strips Y, the contacts by which the local circuit is completed through the strip X, the contact, the relay armature and frame, and the strip Y, the trouble alarm, and the fire alarm, with connections to the relay battery, substantially as described. 7th. In combination, the trouble and fire alarm wires, the said trouble alarm wires forming closed circuits, the thermostat for directing the current from the trouble alarm wire to the fire alarm wires, the series of relays in the trouble alarm circuits, the trouble alarm, and the fire alarm, the switch T, U, in the battery circuit leading to the trouble and fire alarms, the strips X, Y, forming parts of the relay battery circuit and carrying the relays and the contacts, the weak battery alarm, the magnet V, in the trouble alarm circuit, the armature W, the contact *n*, and the electrical connections from the said contact to the weak battery alarm and thence to the relay circuit and the wire 14 from the strip X, to the frame of the magnet and armature, substantially as described. 8th. The battery and trouble alarm wires *a* and *b*, the trouble alarm wire *b*, of which runs through each of the magnets Q, R and S, and is designed when the current passes over the complete circuit of the wires to hold the indicating plate up, but when the current is broken through any one magnet, the armature of that magnet is drawn away by the spring *s*, the stop *t*, removed from in front of the curved arm *r*, and the indicating plate is forced down by the spiral spring *q*, as specified. 9th. The battery and trouble alarm wires *a* and *b*, the trouble alarm *b*, of which runs through each of the magnets Q, R and S, and is designed, when the current passes over the complete circuit of the wires to hold the indicating plate up, but when the current is broken through any one magnet, the armature of that magnet is drawn away by the spring *s*, the stop *t*, removed from in front of the curved arm *r*, and the indicating plate is forced down by the spiral spring *q*, in combination with the stop *u*, secured on the strip Y, and coming in contact with its respective armature and conveying the current from the local battery through the wire 6, strip Y, frame *p*, strip X, frame *g*, of the magnet T, lower part of the armature U, stop *i*, through the magnets E and H, back to the local battery, as specified. 10th. The battery and trouble alarm wires *a* and *b*, the trouble alarm *b*, of which runs through each of the magnets Q, R and S, and is designed, when the current passes over the complete circuit of the wires, to hold the indicating plate up, but when the current is broken through any one magnet, the armature of that magnet is drawn away by the spring *s*, the stop *t*, removed from in front of the curved arm *r*, and the indicating plate is forced down by the spiral spring *q*, in combination with the fire alarm wire *c*, and auxiliary wire 7, by which the current from the local battery running through the wire 6, strip Y, frame *p*, strip X, frame *g*, of the magnet T, is transferred through the armature U, to the stop *j*, then along the wires 9 and 11, thus completing the circuit to the local battery and operating in its course by the magnets D and G, the fire alarm bell and indicating lever as specified. 11th. The combination, with the wire running from the main circuit battery and completing the circuit through the magnet V, of the armature W, which, when the current over the main wire becomes weak or extinct, is drawn by the spring *z*, against the stop *y*, and the current is thus thrown upon the local battery wire which now follows a course through the wire 6, strip *y*, wire 14, frame *z*, lower part of the armature W, stop *y*, and then proceeds by the wires 14 and 12 back to the battery, operating in its course as it passes through the magnets F and I, the weak battery alarm bell

and indicating lever as specified. 12th. In an annunciator an indicating plate supported on a spindle journaled in brackets on the frame of the magnet, and supported in position above the opening by a curved arm, the free end of which presses against a stop formed on the L-shaped lower end of the armature which is held in position by the current passing through the magnet as specified. 13th. In an annunciator an indicating plate supported on a spindle journaled in brackets on the frame of the magnet, and supported in position above the opening by a curved arm, the free end of which presses against a stop formed on the L-shaped lower end of the armature which is held in position by the current passing through the magnet in combination with the spiral springs, designed to draw the lower end of the armature against the stop, thereby freeing the curved arm from its contact with the stop, and allowing the spiral spring *q* to force the indicating plate down opposite the opening, in which position it is supported by the free end of the curved arm pressing against the bottom of the frame *p*, substantially as and for the purpose specified.

No. 39,082. Tool for Dressing Saws.

(*Outil pour redresser les scies.*)

George C. Ferguson, Odell, Nebraska, and Mathias Oswald, Hanover, Kansas, U.S.A., 6th June, 1892; 5 years.

Claim.—The herein described tool for dressing saw teeth, the same comprising a handle proper having a deep longitudinal notch in one end and a recess at said extreme upper end in one face across the notch and in the arms at the sides thereof, the file, a bolt passing transversely through the arms at the sides of the notch, and directly back of said recess to removably clamp the file in said recess, adjusting screws passing through each arm into the back or rear wall of said recess at right angles to said bolt above and below the same and contacting with the back of the file to adjust the same, a cross piece on the handle between its ends, and gage screws through the ends of the cross piece and the end of the handle remote from its notch, substantially as described.

No. 39,083. Car Coupler. (*Attelage de chars.*)

Andrew H. Weir and Charles T. Maguire, both of Los Angeles, and James O'Bannon, San Gabriel, all of California, U.S.A., 6th June, 1892; 5 years.

Claim.—1st. In a car coupling, the pin support and dropper comprising a bar suspended in the path of the link by suitable swings, substantially as set forth. 2nd. In a car coupling, the combination of the draw bar, the gravity bar provided with the clevis holes and provided with the forward extension extending beyond the front clevis hole to form the pin supporting nose, and the clevises passed through the clevis holes and pivoted at their upper ends to the draw bar. 3rd. In a car coupling, the combination of the draw bar, the gravity bar, provided with the rear clevis hole and the front oblong clevis hole, and provided with the top forward extension extending beyond the front clevis hole to form the pin supporting nose, and the clevises passed through the clevis holes and pivoted at their upper ends to the draw bar. 4th. In a car coupling, the combination of the draw bar, the gravity bar provided with the rear clevis hole and the front oblong clevis hole, the front stop and the forward extension extending beyond the front clevis hole to form the pin supporting nose, the front and rear clevises passed through the clevis holes and pivoted to the draw bar at their upper ends, and so arranged with relation to the stop that when in the normal position the lower end of the rear clevis is held back, substantially as and for the purpose set forth. 5th. In a car coupling, the combination of the pin, the draw bar, the gravity bar provided with the rear clevis hole, and the oblong front clevis hole and provided with the top forward extension extending beyond the front clevis hole to form the pin supporting nose, and provided with the slight pin retaining elevation and the front and rear clevises pivoted to the draw bar. 6th. In a car coupling, substantially such as set forth, the gravity bar having the front end of the top of its oblong front clevis hole slightly curved upward, as and for the purpose set forth. 7th. In a car coupling, the combination of the draw bar provided with the link supporting shoulders, the link and the gravity pin supporter and dropper provided with the forwardly projecting nose to rest upon the point of the link. 8th. In a car coupling, the pin pulling device comprising the combination of the bearings secured to the end of the car and provided with the shoulders, the journaled rod, provided with the handles, the pin pulling arm, the side stops, the central arc stop and the chain and pin.

No. 39,084. Pavement, Flooring, etc.

(*Pavé, plancher, etc.*)

William Brenner, Montreal, Quebec, Canada, 6th June, 1892; 5 years.

Claim.—1st. A pavement or flooring formed of composite pressed slabs with interlocking edges. 2nd. A pavement or flooring formed of composite pressed slabs with furrowed surfaces. 3rd. A pavement or flooring formed of composite pressed slabs with furrowed surfaces and interlocking edges. 4th. A pavement or flooring formed of slabs with tongue and groove interlocking edges. 5th. A pavement or flooring formed of slabs with furrowed under and upper surfaces, for the purpose set forth.

No. 39,085. Bracket for Window Shades.*(Console pour rideaux de fenêtre.)*

Alexander Traill, Hamilton, Ontario, Canada, 6th June, 1892; 5 years.

Claim.—1st. In a window shade bracket, the combination, of a bracket with its opening and eye for the suspension of roller, and the prongs C, and head D, substantially as described and set forth. 2nd. In a window shade bracket, the bracket B, with its eye O, and an opening S, in combination with its head D, prongs C, and rigid projections E, substantially as and for the purposes hereinbefore set forth.

No. 39,086. Milk Aerator. (Garde-lait.)

Joseph Cyprien Thibault, Arthabaskaville, Quebec, Canada, 6th June, 1892; 5 years.

Claim.—1st. In a milk aerator, the combination, with the closed vessel D, of the perforated flanges C, surrounding vessel A, the arms a, the perforated funnel E, secured to the top of the vessel D, and strainer F, substantially as set forth. 2nd. In a milk aerator, the combination, with the vessel A, having means for support on the top of the can and closed vessel D, of the central annular opening B, the hooked arms H, securing the closed vessel G, and means for filling said vessel, the closed vessel G, having its top raised in the centre, a raised flange having a series of perforations in its outer edge, substantially as set forth.

No. 39,087. Horseshoe. (Fer à cheval.)

Charles Hammelmann, Buffalo, New York, U.S.A., 6th June, 1892; 5 years.

Claim.—1st. The combination, with the body of the horseshoe, having a tapering groove or socket, of a tapering calk seated removably in said socket and provided at its narrow end with a lip or spur which is bent against the wall of the socket, substantially as set forth. 2nd. The combination, with a removable calk, having a fastening lip, of the horseshoe provided with a groove or socket for the calk, having one of its walls extending lengthwise beyond the opposite wall, whereby the bending of such lip against the projecting wall of the socket is facilitated, substantially as set forth. 3rd. The combination, with the horseshoe, provided with a longitudinally tapered groove or socket having curved side walls and open ends, of a tapered calk curved lengthwise and removably seated in said socket, substantially as set forth. 4th. The combination, with the body of the horseshoe provided with a longitudinally tapered groove or socket having curved side walls, of a correspondingly shaped calk arranged in said socket and provided at its narrow end with a lip or spur which is bent against the wall of the socket, substantially as set forth.

No. 39,088. Ink Stand. (Encrier.)

Emry Davis, New York, State of New York, U.S.A., 6th June, 1892; 5 years.

Claim.—1st. An inkstand having a buoyant vertically movable ink supply tube, and means for holding said tube in equilibrium, substantially as shown and described. 2nd. An inkstand having a buoyant vertically movable ink supply tube, provided with air inlets at its lower end, and means for holding said tube in equilibrium, substantially as shown and described. 3rd. An inkstand having a buoyant vertically movable ink supply tube, provided with air inlets at its lower end, and a flange or rim at the top of the pen cup at its upper end, and means for holding said tube in equilibrium, substantially as shown and described. 4th. An inkstand having a buoyant vertically movable ink supply tube, provided with air inlets at its lower end, and a flange or rim at the top of the pen cup at its upper end, and having the inlet for the ink at its lower end contracted, and means for holding said tube in equilibrium, substantially as shown and described. 5th. An inkstand having a buoyant vertically movable ink supply tube, provided with air inlets at its lower end, and a flange or rim at the top of the pen cup at its upper end, and having the inlet for the ink at its lower end contracted, and means for holding said tube in equilibrium, for regulating the point of equilibrium of said tube, and for filling the inkstand, substantially as shown and described. 6th. An inkstand having a buoyant vertically movable ink supply tube, provided with air inlets at its lower end, and a flange or rim at the top of the pen cup at its upper end, and having the inlet for the ink at its lower end contracted, and means for holding said tube in equilibrium, for regulating the point of equilibrium of said tube, and for filling the inkstand, and an ink overflow chamber surrounding said tube, eccentrically thereto, substantially as shown and described for the purpose specified. 7th. An inkstand having a buoyant vertically movable ink supply tube, provided with air inlets at its lower end, and a flange or rim at the top of the pen cup at its upper end, and having the inlet for the ink at its lower end contracted, and means for holding said tube in equilibrium, for regulating the point of equilibrium of said tube, and for filling the inkstand, and an ink overflow chamber surrounding said tube, eccentrically thereto, and means for connecting the cover with the well, substantially as shown and described for the purpose specified. 8th. In an inkstand, the combination, with a centrally apertured cover, having a plug controlled aperture at one side of its centre, and also having a central sleeve integral with its under face, and an eccentrically arranged

ink overflow chamber in the sleeve next the cover, of a buoyant ink supply tube movable in said sleeve and cover, provided with air inlets at its lower end, and having a flaring pen cup at its upper end, and a flange or rim at the upper end of the pen cup, the inlet for the ink at the lower end being contracted, and means for holding said tube in equilibrium, for regulating the point of equilibrium of said tube and for filling the inkstand, and means for connecting the cover with the well, substantially as shown and described for the purposes specified. 9th. In an inkstand, the combination, with a centrally apertured cover, having a plug controlled aperture at one side of its centre, and also having a central sleeve integral with its under face, below the central aperture and open to the ink well, said well having a concave bottom, and an eccentrically arranged ink overflow chamber in the sleeve next the cover, of a buoyant ink supply tube movable in the sleeve and cover, provided with air inlets at its lower end, and having a flaring pen cup at its upper end, and a flange or rim at the upper end of the pen cup, and an ink inlet communicating with the ink well, the lower end of which is contracted, and means for holding said tube in equilibrium, for regulating the point of equilibrium of said tube, and for filling the inkstand, and means for connecting the cover with the well, and a removable plug fitting the diagonal aperture in the cover of the ink well, substantially as shown and described for the purposes specified.

No. 39,089. Chain. (Chaîne.)

Harvey Eugene Kelley, Niagara Falls, New York, U. S. A., 6th June, 1892; 5 years.

Claim.—A sheet metal chain link doubled upon itself and provided with transversely slotted end portions, and having its body adjacent to one of said slotted end portions of the proper width to be passed through the slots of an adjoining link, and recesses in the edges of said body portion adjacent to the slotted end portion, whereby a contracted neck is formed of less width than the adjacent body portion, substantially as set forth.

No. 39,090. Governor for Dynamoes.*(Gouverneur pour dynamos.)*

Mahlon Smith Conly, Chicago, Illinois, U. S. A., 7th June, 1892; 5 years.

Claim.—1st. The combination, with a dynamo of a governor, comprising a series of electro magnets included in the dynamo circuit, or a shunt thereof, and an armature common to all of said magnets, one of said organisms being normally stationary but rotatable, and the other continuously rotating, whereby with every change of current strength, the voltage or electro motive force of the current produced by the dynamo will be correspondingly altered, substantially as and for the purpose described. 2nd. The combination, with a dynamo, and a current controlling apparatus, of a governor comprising a series of electro magnets included in the dynamo circuit of a shunt thereof, and an armature common to all of said magnets, one of said organisms being normally stationary but rotatable, and the other continuously rotating, and a connection between the normally stationary organism and the current controlling apparatus, whereby every change in the current strength produces a corresponding change in the voltage or electro motive force of the current, substantially as described. 3rd. The combination, with a dynamo, of a governor comprising a rotatable but normally stationary series of electro magnets included in the dynamo circuit, and a continuously rotating armature common to all of said magnets and working in proximity thereto, substantially as described. 4th. The combination, with a dynamo, and a current controlling apparatus, of a governor comprising a rotatable but normally stationary series of electro magnets included in the dynamo circuit, a continuously rotating armature common to all of said magnets and working in proximity thereto, and a connection between the support for the series of magnets and the current controlling apparatus whereby every change in the current strength produces a corresponding change in the current produced by the dynamo, substantially as described. 5th. The combination, with a dynamo, and a current controlling apparatus, of a governor comprising a rotatable but normally stationary series of electro magnets included in the dynamo circuit, of a rotating armature common to all of said magnets, mounted upon and carried by the armature shaft of the dynamo in proximity to the poles of said magnets, and a connection between the support of said series of magnets and the current controlling apparatus, substantially as described. 6th. The combination, with a dynamo, and a current controlling apparatus of a governor comprising a series of electro magnets included in the dynamo circuit, a rotatable but normally stationary support therefor, mounted upon an axis common to the armature shaft of the dynamo, an armature common to all of said magnets, mounted upon the armature shaft of the dynamo, and working in proximity to the poles of said magnets, and a connection between the support for said magnets and the current controlling apparatus, substantially as described. 7th. The combination, with a dynamo, of a governor comprising a wheel connected with the dynamo, but loosely journaled upon the armature shaft and carrying a circumferential series of electro magnets included in the dynamo circuit, and an armature common to all of said magnets, mounted upon and carried by the armature shaft of the dynamo in proximity to the poles of said magnets, substantially

as described. 8th. The combination, with a dynamo, of a governor, comprising a wheel connected with the dynamo but loosely journaled upon the axis of the armature shaft and carrying a circumferential series of electro magnets, included in the dynamo circuit, for which the wheel constitutes a common heel piece, and an armature common to all of said magnets, mounted upon and carried by the armature shaft of the dynamo in proximity to the poles of said magnets, substantially as described. 9th. The combination, with a dynamo, of a governor, comprising a wheel connected with the current controlling apparatus, but loosely journaled upon the axis of the armature shaft, and carrying a circumferential series of electro magnets, for which the wheel constitutes a common heel piece, said magnet having alternate polarities, and an armature common to all of said magnets, mounted upon and carried by the armature shaft of the dynamo, in proximity to the poles of said magnets, substantially as described. 10th. The combination, with a dynamo, of a governor, comprising a wheel connected with the current controlling apparatus, but loosely journaled upon the axis of the armature shaft, and carrying a circumferential series of electro magnets, included in the dynamo circuit, a counterpoise for said wheel, and an armature common to all of said magnets, mounted upon and carried by the armature shaft of the dynamo, in proximity to the poles of said magnet, substantially as described. 11th. The combination, with a dynamo, of a governor, comprising a wheel connected with the current controlling apparatus, but loosely journaled upon the axis of the armature shaft and carrying a circumferential series of electro magnets included in the dynamo circuit, an adjustable counterpoise for said wheel, and an armature common to all said magnets, mounted upon and carried by the armature shaft of the dynamo, in proximity to the poles of said magnets, substantially as described.

No. 39,091. Printing and Bookbinding Machinery,

(*Machine à imprimer et à relier.*)

Thomas Gibson, 35 Snow Hill, London, England, 8th June, 1892; 5 years.

Claim.—1st. The combination of two revolving impression cylinders parallel with and close to one another, each cylinder having across it at equal distances apart around its circumference, lines of grippers, mechanism for feeding sheets of paper on to one of the cylinders, so that the forward edge of each sheet as it meets the cylinder is in position to be grasped by one or other of the lines of grippers, a revolving form cylinder parallel with and touching the first impression cylinder, a second revolving form cylinder touching the second impression cylinder, and cam surfaces for opening the grippers and allowing them to close in such manner that each sheet of paper taken by the first impression cylinder is first brought into contact with a printing plate on the first form cylinder, then its forward edge taken hold of by a line of grippers on the second impression cylinder at the same time that it is released from the grippers of the first, and the sheet then carried by the second impression cylinder into contact with the second form cylinder. 2nd. The combination of mechanism for feeding sheets of paper to printing machines consisting of two pairs of rollers for feeding forward a continuous web of paper, a pair of cutting cylinders or segments between the pairs of feed rolls, detaching gripping mechanism which takes hold of the forward edge of the paper at a time when a partial line of severance formed across the paper by the cutting segments has passed beyond the second pair of feed rolls and then moves away from these rollers at a higher speed than the paper is being fed forwards by them, and thereby completes the severance of the sheet of paper. 3rd. Mechanism for cutting a continuous web of paper into sheets consisting of segment bars carried by and parallel with parallel revolving axes, the bar or bars on one axis carrying a cutting blade, and the bar or bars on the other having a narrow slit formed in them for the knife to enter, and the bars movable radially towards or from their axes and capable of being locked at different distances from them, and the bearings for the axis also capable of being moved towards or from one another, so that they may always be retained at such a distance apart that the knife on a bar carried by one shall enter the slit in a bar carried by the other. 4th. The combination of an impression cylinder having across it at equal distances apart around its circumference lines of grippers, two pairs of feed rollers for feeding forward a continuous web of paper to this cylinder, pairs of cutting segments adjustable radially on the axes which carry them situated between the pairs of feed rolls, gearing for driving them from the axis of the impression cylinder at a slower surface speed than this cylinder, and change gear wheels for enabling the feed rollers and segments to be always driven at the same surface speed, gripper rods carried by a revolving axis which nip the forward edge of the paper between themselves and the

impression cylinder at a time when a partial line of severance formed across the paper by the cutting segments has passed beyond the second pair of feed rolls, a form cylinder parallel with and touching the impression cylinder, a second impression cylinder parallel with and touching, or nearly so, the first impression cylinder, and a second form cylinder parallel with and touching the second impression cylinder. 6th. The impression cylinder carrying at equal distances apart around its circumference removable beds which pass across it from one side to the other, the outer surface of each bed covered with thick blanket which at its ends is secured to two rollers at the back of the bed, and means for turning these rollers to wind up and stretch the blanket and for preventing the rollers from turning back and allowing the blanket to slacken, and with canvas covering attached at its end to other rollers at the back of the bed, one impeded by friction from revolving too freely, the other caused to revolve slowly and wind canvas onto itself. 7th. The form cylinder with removable beds at equal distances apart around its circumference, each bed having undercut grooves formed longitudinally in its outer face, and having bars lying across it, each bar having projections upon it which enter and fit into the undercut grooves, and the sides of the bars being undercut so that they may overlap the sides of printing plates placed on the bed and hold the plates. 8th. The form cylinder with removable beds at equal distances apart around its circumference and having a projecting flange around it at each of its ends for the impression cylinder to bear against. 9th. The pasting cylinder, with the pin bar which it carries, capable of being set nearer to or further from the slit through which the paste is delivered. 10th. The grippers formed in two halves, substantially as described, so that any gripper in a row or grippers can be removed from the axis which carries it without interfering with the others.

No. 39,092. Power Brake for Railway Trains.

(*Frein pour chars de chemin de fer.*)

John Joseph Hooker, Tideswell, Stockport, Derby, England, 8th June, 1892; 15 years.

Claim.—1st. In a power storing brake for facilitating the starting of train cars, the combination, with a drum, springs and sleeves connected and arranged as described, and mounted loose on the wheel axle or on a shaft geared therewith, of brakes independently controlling the rotation of the barrel and of the sleeve respectively, and of friction clutches adapted to connect the wheel axle or shaft with the barrel or with the sleeve respectively, and of oppositely acting sets of pawl and ratchet gear respectively, connecting the barrel and the sleeve with the corresponding brakes and clutches, the whole arranged for storing or giving out power indifferently by the drum or the sleeve, as may be required, substantially as specified. 2nd. In the apparatus herein specified, the combination, with the independently acting spring pressed brake straps respectively controlling the rotation of the barrel and sleeve of the lever, and crank gear, substantially as described, by which the brake straps are separately operated as specified. 3rd. In the apparatus herein specified, the combination, with the spring pressed brake straps, and with gear by which they are independently released, of the cam gear substantially as herein described, whereby the clutches are respectively operated, the connection between the clutch and brake operating gears being such that the one or other of the former must necessarily be caused to gear the barrel or sleeve with the wheel axle or shaft before the corresponding brake can be relieved, as specified. 4th. In the apparatus herein specified, the combination, with the clutches and clutch levers and clutch operating and cam gear, of spring or yielding fulera for the clutch levers, whereby the pressure of the clutches is limited and overstraining is prevented. 5th. In the apparatus herein specified, the combination, with the one longitudinal shaft of the two sets of clutch operating, and locking cam gear, the brake operating crank, disc and lever connections, and of the carrier abutments on the crank disc whereby independent motion of the said shaft and the clutch operating gear is permitted within certain limits, as and for the purposes described.

No. 39,093. Signal for Telephone Pay Stations.

(*Signal pour perceuteur de péage de téléphone.*)

William Gray, Hartford, Connecticut, U.S.A., 9th June, 1892; 5 years.

Claim.—1st. In combination, with the sound receiving and transmitting part of a telephone apparatus, a coin channel and guide, and a signal sounding device having a part located in the path of movement of the falling coin, all substantially as described. 2nd. In combination with the sound receiving and transmitting part of a telephone apparatus, the signal device consisting of a coin guide with one wall cut away adjacent to the several signal devices, and the plural number of signal devices each having a sounding part located in the path of movement of a falling coin, all substantially as described. 3rd. In combination with a transmitter for telephone service, a coin channel or guide having a part of one wall cut away adjacent to the bell, and the bell with a part located in the path of movement of the coin, all substantially as described. 4th. In combination with a transmitter for telephone service, a tubular coin channel having an opening through the wall of the channel for the passage of a coin smaller than the one normally adapted for the channel, and a bell having a part located in the path of movement of a coin, all substantially as described. 5th. In combination with

a transmitter for telephone service, a tubular coin channel having an opening through the wall of the channel for the passage of a coin smaller than the one normally adapted for the channel, a bell having a part located in the path of the movement of a coin, and the guard protecting the signal device, all substantially as described. 6th. In combination, with a transmitter for telephone service, the tubular coin channel having openings on one side and offset portions forming sockets on the opposite side, and a plural number of sounding devices, each having a part located in the path of movement of the coin, all substantially as described. 7th. In combination, in a telephone pay station, the automatic signal sounding device, and the transmitter located within the signal box, all substantially as described. 8th. In combination, in telephone pay station, a box containing a signal sounding device, the signal sounding device, the transmitter located within the signal box, and the mouth piece connected at an opening through the signal box opposite the transmitter, substantially as described. 9th. In a telephone pay station, in combination, a signal box, a transmitter located and covered within the box, a coin channel having an opening for the reception of a coin and a bell having a part projecting into the path of movement of a falling coin, all substantially as described.

No. 39,094. Medicinal Apparatus.

(Appareil médical.)

Carl Harald Liedbeck, Stockholm, Sweden, 9th June, 1892; 5 years.

Claim.—A universal shaking machine for the movement cure, consisting of a handle, one driving shaft *g*, surrounded by this handle and supporting an eccentric *h*, and a shell, fork or frame *k*, surrounding this eccentric and having at the inner side two parallel plans, between which the eccentric is moving, thus imparting to the shell, the fork or the frame and the part of contact *r*, connected therewith in same way, an oscillating or shaking motion, adapted to the purpose in view.

No. 39,095. Garment Hook. (Crochet pour vêtement.)

William Henry Hart, assignee of John Murray Guilbert, both of Philadelphia, Pennsylvania, U. S. A., 9th June, 1892; 5 years.

Claim.—1st. A Garment hook adapted for use with an eye, consisting of a shank and a hook proper, the latter extending substantially parallel with said shank, a portion of said shank and hook proper being formed with normally engaging bent portions extending towards each other, substantially as described. 2nd. A garment hook adapted for use with an eye, consisting of a shank and a hook proper, a portion of said shank and hook proper being formed with normally engaging bent portions, one of said bent portions being straight and the other oblique or slanting, substantially as described.

No. 39,096. Type Writing Machine. (Clavigraphie.)

Austin Lowe, Minneapolis, Kansas, U.S.A., 9th June, 1892; 5 years.

Claim.—1st. In a type writing machine, the combination, with a plate adapted to slide upon the spacing bar, of a vertically movable plate secured thereto, and printing mechanism secured to the vertically movable plate, and provided with type bars having the faces of its type upon different planes, whereby the movement of the vertically movable plate will cause the printing mechanism to print from different type, substantially as set forth. 2nd. In a type writing machine, adapted to print upon a fixed sheet, the combination, with a spacing bar adapted to be secured in fixed relation to the sheet, of a main frame movably secured to the spacing bar, and provided with the slotted support *Q*, through the slot of which the type are adapted to be struck for the purpose of printing and a roller upon the end of said support, substantially as set forth. 3rd. In a type writing machine, the combination of type bars having the faces of their type arranged upon different planes, and a frame carrying the type bars pivotally carried upon suitable supports, and adapted to be rotated upon its pivot, with mechanism adapted to impart such rotation to the frame, substantially as set forth. 4th. In a type writing machine, the combination, with a curvilinear pivot piece *R*, of type bars arranged thereon, two rows of keys, each key in respective rows being connected by a system of levers with a type bar upon opposite sides of the pivot piece, respectively, the bar *G*¹, extending across the frame of the machine above the curvilinear pivot piece *R*, and a spring coiled around the bar *G*¹, and connected at its opposite ends to one of the levers of opposite type bars, respectively, whereby each of said type bars is adapted to be returned to its normal position after having been struck, substantially as set forth. 5th. The combination, with the frame of a type writing machine and type bar operatively carried thereon, of a spring plate secured to the frame and projecting in the path of the bar, substantially as set forth. 6th. In combination, with the frame of a type writing machine and type bar, of a spring plate located in the path of the type bar near the point where it strikes the paper, substantially as set forth. 7th. The combination with the frame of a type writing machine and type bar operatively carried thereon, of a spring plate secured thereto under the heel of the type bar and extending radially towards the centre of the machine so as to oppose a yielding resistance to the stroke of the bar, substantially as set forth. 8th. The combination, with the frame of a type writing machine and type bar operatively carried thereon, of a plate secured to the frame and provided with a V-shaped slot located in the path

of the bar near its head, substantially as set forth. 9th. The combination, with the frame of a type writing machine and a type bar operatively carried thereon, of a spring plate secured at one end under the heel of the type bar, projecting in the path of the type bar, and terminating in a forked end, substantially as set forth.

No. 39,097. Machine for Moving Coal, etc.

(Transport à charbon, etc.)

William Keenan, Korah, Algoma, Ontario, Canada, 9th June, 1892; 5 years.

Claim.—1st. A machine consisting of one or more chutes, one end of each chute supported upon the end of a pivoted bar, the opposite end having an elongated bearing fitted onto a long throw crank connected to a shaft suitably journaled and geared to an engine or other suitable driving power, substantially as and for the purpose specified. 2nd. A machine consisting of one or more chutes, one end of each chute supported upon the end of a pivoted bar, the opposite end having an elongated bearing fitted onto a long throw crank connected to a shaft suitably journaled and geared to an engine or other suitable driving power, in combination with the rods *H* and *J*, connected to the supporting bar of the chute, and having a plate pivoted on the end of each of said rods, substantially as and for the purpose specified.

No. 39,098. Apparatus for Cutting Paper from Rolls.

(Appareil pour couper le papier des rouleaux.)

John Brooks Young, Montreal, Quebec, Canada, 10th June, 1892; 5 years.

Claim.—In an apparatus for cutting paper from rolls, the combination, with a frame having a transverse head piece or bar and spindle carrying the roll, of spring arms secured at one end to such bar and bent in S form, so as to be located in part on each side of the vertical axis of the frame, and a knife carried by the free ends of such springs.

No. 39,099. Metallized Roofing Fabric.

(Tissu métallisé pour toitures.)

Rudolf Graf Westphalen, Vienna, Austria-Hungary, 10th June, 1892; 5 years.

Claim.—1st. The herein described mode of metallizing felted fabrics or materials made of non-conductive fibres, which consists in rendering such fibres conductive by coating the same with a conductor of electricity, as graphite, burnishing or polishing the graphite coated surface by calendering or otherwise, and electro-plating said surfaces, for the purpose set forth. 2nd. The herein described mode of manufacturing waterproof fabrics or materials, which consists in combining with fibrous substances, oxide of zinc, chloride of zinc, soap, alum, soda and sugar of lead, in the order named in or about in the proportions set forth, and sufficient water to form a composition adapted to be molded or otherwise formed into slabs or sheets. 3rd. The herein described mode of manufacturing waterproof fabrics or materials, which consists in combining with fibrous substances, oxide of zinc, chloride of zinc, soap, alum, soda and sugar of lead, in the order named, in or about in the proportions set forth, and sufficient water to form a composition adapted to be molded or otherwise formed into slabs or sheets, and electro-plating the said slabs or sheets, for the purpose set forth. 4th. Plates or roofing fabric of asbestos or of other fibrous material, electrolytically coated with a metallic deposit, and intended for water and weather proof wall linings and roof coverings, substantially as described.

No. 39,100. Dumping Car for Railways.

(Char-tombereau pour chemin de fer.)

Jacob J. Souder, Washington, District of Columbia, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. A dumping car, which is provided with a hopper like bottom, which extends from end to end of the bed frame, and with coincident exteriorly hinged drop doors which extend lengthwise of the car, and from the top to the bottom of the hopper, and which when unfastened spring away from each other and from the longitudinal center of the car toward the outside thereof, into line with the car wheels and into contact with the track rails, substantially as and for the purposes described. 2nd. In a dumping car, the hopper, having grooves along the margin of its discharging opening, the outwardly hinged, centrally meeting doors, each having longitudinal and transverse flanges, the meeting bar, having grooves, and a revoluble chain shaft by which the doors are closed, and by which the flanges upon the doors are brought into engagement with the grooves in the body of the hopper, and in the meeting bar, in combination, substantially as specified. 3rd. In a dumping car, the combination, with the bed frame, of the transverse sill plates *A*^s, provided with central bearing, end braces and intermediate bearings, as described, the central bearing receiving the chain shaft and the meeting bar, the end braces receiving the outer longitudinal truss rods, and the intermediate bearings receiving the inner longitudinal truss rods, substantially as set forth and shown. 4th. In a dumping car, the combination, with the hopper, of the drop doors, hinged to the outer portion of the hopper, and adapted when open to rest against the inner face of the tread of the track rails, and to form in connection with such rails a

discharging chute for the contents of the hopper. 5th. The combination, with the winding shaft g , having ratchet wheel and pawl, as described, of the covering and securing bar or plate l^2 , having holding lug l^4 , for engagement behind the pawl, when the securing plate is in its locked position. 6th. The combination, with the locking plate L , secured to the body of the car, as shown, and having the locking lug l , of the winding shaft g , having ratchet wheel and pawl, and the securing bar or plate l^2 , pivoted upon the locking plate, and engaging with the pawl, and with the arbor of the winding shaft, and provided with perforated end lug g^2 , coincident with the lug l , upon the locking plate. 7th. The combination, with the transverse supporting bars $A7, A^7$, each provided with a bearing a^{20} , of the bearing bar a^{19} , and the superposed angle plates a^{16}, a^{17} , substantially as and for the purposes set forth. 8th. The combination, with the end wall of a car, and with the pivoted end section a^1 , of the hopper, of the adjustable extension a^2 , whereby the pivoted extension, whether in its inclined or in its horizontal position, is in close contact with the wall of the car, substantially as shown and described. 9th. In a railway car, the combination, of hinged drop doors, or dumping sectional, and means for closing such doors or sections, such means embracing a winding shaft, centrally arranged longitudinally of and below the plane of the upper surface of the bed frame of the car, substantially as described. 10th. A railway car, which is provided with hinged or swinging dumping sections, and with a winding shaft for operating such sections, arranged centrally lengthwise of the car, and below the plane of the upper surface of the bed frame thereof. 11th. In a convertible dumping and merchandise car, the combination, of a movable or changeable main floor, exteriorly hinged drop doors, extending lengthwise of the car, and a central, longitudinal winding shaft below the top of the bed frame of the car, for closing such doors, substantially as set forth. 12th. In a railway car, coincident oppositely inclined, outwardly hinged drop doors or dumping sections, and a central longitudinal winding shaft, below the plane of the upper surface of the bed frame of the car, in combination.

No. 39,101. Dumping Car. (Char-tombereau.)

Jacob J. Souder, Washington, District of Columbia, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. In a dumping car, the combination, with the body of the hopper, of the drop doors or dumping sections, and the interior overhanging longitudinal shields or covering plates s, s , substantially as and for the purposes specified. 2nd. In a dumping car, the combination, with the hopper, of the longitudinal shields or covering plates s, s , the transverse covering shield or channel bar s^2 , and the dumping sections D and D^1 , adapted when closed to be engaged by the shields or covering plates s, s , and s^2 , substantially as described and shown. 3rd. In a dumping car, the combination, with the hopper and with the drop doors or dumping sections thereof, of the holding plate or securing bar p , adapted, as described, to engage the dumping sections when in their closed position, and provided with appliances, substantially as set forth, whereby when thus engaged, it is itself firmly locked to the body of the hopper. 4th. The combination, with the bed frame and the hopper of the car, of the transverse supporting bars A^2 , each having downturned ends which engage the exterior vertical face of the outer longitudinal sills, and each having transversely inclined central portion a , which corresponds to the downward inclination of the end portion of the hopper.

No. 39,102. Dumping Car for Merchandise.

(*Char-tombereau pour les marchandises.*)

Jacob J. Souder, Washington, District of Columbia, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. The combination, with a railway car, having a transverse discharging opening in the floor thereof, of a closing section, composed of two parts which are hinged together at their meeting edges, such closing section resting normally in a horizontal position upon the bed frame of the car. 2nd. The combination, with a railway car, which has a transverse discharging opening in the floor thereof, of a section which is composed of two coincident parts which are hinged together at their meeting edges, and which is adapted to close the discharging opening, and a means for elevating the two part section at the center thereof, whereby the two parts are each drawn inwardly and the discharge of the contained material directly downward is permitted. 3rd. The combination, with a railway car, which has a transverse discharging opening in the floor thereof, of a centrally hinged two part section which is adapted to rest horizontally and close the discharging opening, and a rack and pinion by means of which the two part section is elevated and its wings are drawn inwardly from the sides toward the center of the discharging opening. 4th. The combination, with a railway car, which has a transverse discharging opening in the floor thereof, of a hinged two part section which is adapted to rest in a horizontal position and close the discharging opening, and a rack and pinion secured to the frame of the floor of the car, and engaging the bottom surface of the central portion of the two part closing section to open the same. 5th. The combination, in a railway car, of a tilting discharging floor section, a transverse discharging opening in the floor of the car, and a two part normally horizontal closing section adapted to the transverse opening. 6th. The combination, in a railway car, of a tilting, retractible floor section, a transverse discharging opening

in the floor of the car, and a hinged, two part normally horizontal closing section, which is adjustable upwardly from below. 7th. The combination, with a railway car, of a tilting floor section, which is provided upon its side edges with scrapers or clearing plates. 8th. The combination, with a railway car, of a tilting floor section, which is provided upon its side edges with scrapers or clearing plates, a transverse discharging opening and a centrally hinged elevatable two part closing section. 9th. The combination, in a railway car, of a tilting floor section, which is provided upon its side edges with hinged scrapers or clearing plates, a transverse discharging opening and a two part centrally hinged closing section, which in discharging the contents of the car is elevated above its closed position and operates simultaneously with the tilting section to unclose the discharge opening. 10th. In a railway car, the combination, of a tilting floor section and scrapers or clearing plates, hinged to the floor section, and provided with holding plates or projecting lugs which engage with the frame of the car, and thereby hold the edges of the scrapers or clearing plates closely against the inner surface of the lining of the car. 11th. In a railway car, the combination, of an interior floor section, which is provided with scrapers or clear plates, with mechanism which is secured upon the bed frame of the car, and connected to the frame of the floor section, whereby such section may be elevated, to discharge the contents of the car. 12th. In a railway car, which is provided with a transverse discharging opening, the combination, with a fixed two way discharging chute, of two oppositely placed directing plates, which meet at the center of the chute, whereby the contents of the car may be directed wholly toward either side of the same. 13th. In a railway car, which is provided with a discharging opening in the floor thereof, the combination, with a fixed two way discharging chute, of two oppositely placed directing plates, each pivoted at or near the center of such chute, whereby the contents of the car may be discharged wholly at either side thereof. 14th. A railway car, which is provided with two adjustable, transverse, two part closing sections, and an intermediate fixed floor section. 15th. A railway car, which is provided with two adjustable, transverse, two part closing sections, an intermediate fixed floor section, and a removable flanged partition.

No. 39,103. Wire Mat and Matting.

(*Natte en fil de fer.*)

Thomas C. McPherson, Bayer Falls, Pennsylvania, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. A wire mat or matting constructed of parallel helices of wire connected together, and having extending through the helices in the direction of their length bars of suitable material, having a cross section corresponding in shape to the form of coil composing said helices, and of a size sufficient to fill the interior thereof, substantially as described, whereby the helices are rendered firm and rigid and the flexibility of the connections of the helices preserved, so that the mat may be rolled or folded. 2nd. A wire mat or matting composed of parallel helices interlinked, and having the interior of every alternate helix provided with a bar of suitable material, having a cross section corresponding to the form of coil composing the helices, the said bars being of approximately the size of the helices, substantially as described, whereby to fill the same and render the coils, so provided, firm, while by its alternate open helix the flexibility of the mat is preserved and accumulations permitted to go through the same. 3rd. A wire mat or matting composed of parallel helices interlocking, each or every alternate helix provided with a bar extending therethrough, having a cross section corresponding to the form of coil composing said helices and filling the same, and the terminals of each helix bent in substantially hooked form and connected with its adjacent terminal thereby, substantially as described, whereby the free ends are disposed of and the bars secured within the helix. 4th. In a mat, a border composed of sections of wood or other material inserted in the coils of the mat at its sides and ends, those forming a side border extending into the coil but a short distance, while those forming the end border extend the entire width of the mat. 5th. A border frame for flexible wire mats composed of short sections of wood or other material, inserted in the end coils of the mat on each side, and sections inserted in the end coils of a length corresponding to the width of the mat, substantially as described. 6th. A wire mat provided with a border composed of sections of wood, or other suitable material, inserted in the coils of the mat across the side and ends, the said sections being provided with pins for holding the sections in place, substantially as described.

No. 39,104. Hook. (Crochet.)

Ezra Dederick, Milwaukee, Wisconsin, U.S.A., 18th June, 1892; 5 years.

Claim.—1st. A hook consisting of a shank, a curved part, a tongue substantially parallel with the shank, and a spring catch rigid to the tongue at its free end, which catch extends therefrom towards the curved part obliquely across the space between the tongue and shank, and reversely obliquely from the shank toward the curved part to the tongue, its free end bearing against the tongue near the curved part, the spring catch being thus supported at both ends against the pressure required to compress it sufficiently to allow an eye to pass between it and the shank, substantially as

described. 2nd. A hook consisting of a single piece of wire or strap bent and formed into loops, a shank, a curved part, a tongue and a spring catch extending from the free end of the tongue obliquely to the shank, and in reverse oblique direction from the shank to the tongue against which it bears yieldingly at its free end the spring catch being thus supported at both ends against the pressure required to compress it sufficiently to allow an eye to pass between it and the shank, substantially as described.

No. 39,105. Belt Tightener. (*Agrafe de courroie.*)

Carl Jernander, La Crosse, Wisconsin, U. S. A., 10th June, 1892; 5 years.

Claim.—1st. The combination, with an endless belt, of a tightener composed of a carrier pivoted at unequal distances from and having pulleys at its ends to travel and press upon the opposite portions of the said belt, the pulley on the longer portion of the carrier pressing down on the upper portion of the belt, and an auxiliary carrier similarly pivoted between and having its ends connected, respectively, with the opposite ends of the main carrier, substantially as and for the purpose described. 2nd. The combination, with an endless belt, of a carrier pivoted at unequal distances from and having pulleys at its ends, the pulley on the longer portion of the carrier pressing down on the upper portion of the belt, an auxiliary carrier similarly pivoted between its ends in a different plane from the main carrier, and adjustable connections between the ends of the main and the auxiliary carriers to regulate the degree of pressure of the said pulleys on the upper and lower portions of the belt, substantially as described.

No. 39,106. Hydraulic Compressor for Air.

(*Machine de compression hydraulique.*)

William R. Phillips, Seattle, Washington, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. In a hydraulic air compressor, the combination, with a compression chamber and a supply pipe having a drain passage, of a piston valve located in the supply pipe, a similar valve located in the drain passage, a water passage operatively connecting the valves, and means for opening and closing the water passage, whereby the compression chamber is adapted to be alternately filled and emptied of water, substantially as set forth. 2nd. In a hydraulic air compressor, the combination, with the compression chamber, the valve casing D communicating therewith, the valve *a* in said casing, and the valve casings F and H, both provided with piston valves, and the casing H, provided with a drain passage, of the pipe I, operatively connecting the valves in the casings F and H, and a gravity valve J, connected with the pipe I, whereby water is supplied to the compression chamber as long as the valve J is closed and the chamber is emptied by the opening of the valve J, substantially as set forth. 3rd. The combination, with a compression chamber, of a supply pipe and drain pipe, a valve in each of said pipes automatically acting by hydraulic pressure, a passage I between said valves, a valve J, adapted to actuate said valve through said passage in the manner set forth, the pivotally supported arm K, provided with a weight O, adapted to keep the valve J closed, and a tank N, communicating by means of flexible tubes with the interior of the compression chamber and adapted, by becoming filled with water, to overcome the weight O and open the valve J, as and for the purpose specified. 4th. The combination, with an air reservoir and a compression chamber, of a supply pipe communicating with the interior of the compression chamber, and provided with a valve *g*, acting automatically by hydraulic pressure, of the drain valve casing H and its valve, a communicating passage between said valve, a valve J, joined to said passage, and a pivotally supported arm K, provided with a weight for closing the valve J, the valve casing H, communicating with the interior of the air reservoir, and provided with a valve, the valve S, operatively connected therewith, the pivotally supported arm K and its weight O, and a connecting piece between the arms K and K¹, whereby the swinging of arm K is dependent upon that of the arm K¹, substantially as set forth. 5th. In a hydraulic air compressor, the combination, with a compression chamber, a supply pipe communicating therewith, and a valve located in the supply pipe and adapted to regulate the supply of water to the chamber, of the valve casing D, communicating with the compression chamber and the supply pipe, and provided with an outlet opening *c*, a valve *a*, provided with a head *b*, and a piston bearing at its opposite end, said head being larger than the other end, whereby pressure of the water admitted into the compression chamber upon the head of the valve *a*, will close the valve while the machine is in operation, and pressure upon the end *d* will open it when the chamber has been filled with water, substantially as set forth. 6th. In a hydraulic air compressor, the combination, with a compression chamber and a water supply pipe communicating therewith, of the valve casing F located within the pipe between the chamber and the source of water supply, and provided with a valve *g*, that carries at one end a piston head *c* within the valve casing, an opening *i* in said piston head a discharge pipe I behind the piston head, and means for opening and closing the same, said piston head being larger than the valve head, whereby the valve may be operated through the water supply, substantially as set forth. 7th. In a hydraulic air compressor, the combination, with a compression chamber, of a supply pipe communicating therewith, and provided

with a valve for regulating the supply of water, the valve casing H, communicating with the supply of water and provided with a piston headed valve *l*, and a discharge opening *m*, the pipe I, connecting the supply pipe with the valve casing behind the piston head, the valve *l*, and means for opening and closing the pipe I, whereby the valve *l* may be opened and closed for the passage of water from the compression chamber, substantially as set forth.

No. 39,107. Shears for Cutting Hot Metal.

(*Cisailles pour couper le metal chaud.*)

William T. Cleveland, Newport, Texas, U. S. A., 10th June, 1892; 5 years.

Claim.—1st. In a metal shearing device, the combination of a frame having a cutting edge, and downwardly projecting pointed ends at each end thereof, as described, with a cutting lever and a bolt connecting same to the frame, substantially as and for the purpose specified. 2nd. The combination, in a metal shearing device, of a frame having a cutting edge and downwardly projecting ends, as described, with a cutting lever, a brace, and a bolt for connecting the lever with a frame and brace, substantially as and for the purpose set forth. 3rd. In a metal shearing device, the combination, with a cutting lever, of a frame having a cutting edge and downwardly projecting pointed ends, and hammer blocks at each end of the frame, a brace, and a bolt, whereby the lever is connected with the frame and brace, substantially as and for the purpose set forth.

No. 39,108. Extension Table. (*Table à rallonge.*)

Joel Couch, Clayton, New York, U. S. A., and George Wellington Williams, Ottawa, Ontario, Canada, 19th June, 1892; 5 years.

Claim.—1st. An extension table, consisting of a series of frames supported at one end by legs, and the other end open and telescopically connected with or without the interposition of frames or single extension rails, and the top longitudinally flexible and consisting of transverse slats secured to a flexible sheet, said top having one of its intermediate portions rigidly secured to the main or stationary frame, and each end to a self coiling spring rail secured to the end frames, substantially as set forth. 2nd. In an extension table, the combination, of the main frame A, B, C, the extension rails *b* connected slidingly with the rails B, the frame A¹, B¹, C¹, having its rails B¹, connected slidingly with the rails *b*, plates 7 having a flange 8 secured to the top of the rails B, the spring roller T¹, brackets T¹¹, secured to the frame end A¹, C¹, and carrying said roller and the top T partly secured to the main frame and one end to said spring roller, substantially as set forth. 3rd. In an extension table, the combination of the legs A, cross rail C, connecting said legs, longitudinal rails B, having one end secured to said legs and provided on the outer face with a grooved runner 2, extension rails *b*, connected slidingly to said rails B, and having pins 4, engaging the grooves 3, in said runner, and having on its outer face a dovetailed slideway 5, rails B¹, having on their inner face a dovetailed slideway 6, engaging the slideway 5, the legs A¹, secured to said rails B, the cross rail C, connecting said legs and the flanged plate 7, secured to the top of the rails B, substantially as set forth. 4th. In an extension table, the combination, of the frame A, B, C, extension frame A¹¹, B¹¹, D¹¹, E¹¹, having its rails B¹¹, slidingly connected with the inner face of the rails B, by fillets 9 and 10, the extension frame B¹¹¹, D¹¹¹, E¹¹¹, having its rails B¹¹¹, slidingly connected with the inner face of the rails B¹¹, by fillets 11, 12 and 13, and its central rail D¹¹¹, sliding in a channel on the rail D¹¹, the frame A¹, B¹, C¹, D¹, E¹, having its rails B¹, slidingly connected with the inner face of the rails B¹¹¹, by fillets 14, 15 and 16, the roller T¹, journaled to the legs and rail A¹, C¹, by brackets, and the top T, secured to the main frame A, B, C, and said roller, substantially as set forth. 5th. The combination, of a pair of rails B¹¹, adapted to slide on and between a pair of rails, a flat central rail B¹¹¹, having a slideway on its upper face, and the downward sloping crosspieces C¹, connecting the lower part of the rails B¹¹, with the edges of the central rail B¹¹¹, substantially as set forth. 6th. In an extension table, a table top consisting of transverse slats *t*, secured to a flexible sheet *t*¹, substantially as set forth. 7th. In an extension table, the combination, with the cross rails C and C¹, of a tube F, provided with a long slot having a serrated edge, and having one end secured to one of the rails, and having a bridge piece F¹¹, at the other, the tube G, within said tube F, having a narrower slot, one end of which is serrated and the other turned up and overlapping the plain edge of the containing tube, and provided with bridge pieces at the ends with a pin adapted to engage the serrated edge of the containing tube, the tube H, within said tube G, and having a narrower slot than the latter, one edge of which is serrated and the other overlapping the other edge of the containing tube, and provided with bridge pieces at the ends, and with a pin adapted to engage the serrated edge of the containing tube, and a rod I, slidingly contained within the tube H, and having a pin adapted to engage the serrated edge of the tube H, and having one end journaled in the rail C¹, and provided with a lever I¹, substantially as set forth. 8th. In an extension table, the combination, with the rails C and C¹, of the tube J, adapted to slide and turn in the rail C, and having a slot, one edge of which is serrated, and a serrated ridge J¹¹, a disk or plate F¹, adapted to engage said serrated ridge, the rod

K, slidably contained in said tube and journaled at one end in the cross rail C¹, and provided with a lever K¹, and provided at the other end with a pin adapted to engage the serrated edge of said tube, substantially as set forth.

No. 39,109. Dumping Car. (Char-tombereau.)

Jacob J. Souder, Washington, District of Columbia, U. S. A., 10th June, 1892; 5 years.

Claim.—1st. The combination, with the end sills *b*, *b*, of the intermediate transverse sills B, B, the intermediate longitudinal sills *b*², the half sills *b*³, *b*³, forming in connection with the intermediate and the exterior longitudinal sills, the discharge openings or clearing spaces *b*⁴, and the longitudinal truss rods *b*⁵, extending across the inner ends of the half sills *b*³, substantially as and for the purpose set forth. 2nd. The combination, with the hopper H, of the hinge bar *h*², the transverse supporting bars *h*, inclosing the hinge bar at its ends and having the lugs *h*³, the drop doors D, having the end notches *d*, and the supporting arms E, pivoted to the transverse bars H, and to the body of the hopper substantially as and for the purposes specified. 3rd. The combination, with the bed frame, of the car, having the swiveled holding lugs *a*, of the drop doors D, having the projections *d*¹, substantially as described and shown. 4th. The combination, with the bed frame of the car, having the holding lugs *a*, provided with the pins *a*², of the pivoted locking bar *c*, having perforations *c*¹ for engagement by such pins, substantially as and for the purposes described. 5th. In a dumping car for railways, the combination, with the hopper H, of the inwardly swinging wings W, W, adapted when closed to rest at length upon the face of the drop door, and adapted when open to form the sides of the discharging chute substantially as set forth. 6th. In a dumping car for railways, a hopper which has upon the margin of its discharging opening, an exterior down turned edge or flange, combined with a drop door which has upon its inner surface, an upwardly extending flange, which in closing the door, engages behind the flange upon the hopper, to effect a tight closure therewith. 7th. In a dumping car for railways, a hopper which has upon the margin of its discharging opening, an exterior downwardly extending flange, and a transverse supporting bar which extends along the bottom of the hopper, at a short distance from and parallel to a downwardly extending flange upon the margin of its discharging opening combined with a drop door which has an inner upwardly extending flange, whereby in effect a groove or recess is formed in or upon the outer surface of the hopper, and whereby in closing the doors, a joint which is secure against loss of granular material, is produced. 8th. The combination, with the hopper H, and with the longitudinal shaft or hinge rod *h*², of the drop doors D, having the flange or stop *d*², and the inwardly swinging wings W, W, substantially as specified. 9th. The combination, with the bed frame of the car, of the locking appliances F, having the holding studs *f*², for the locking bars *c*, and having also the hasp *f*³, provided with locking opening *f*⁴, for the shaft S, and with opening *f*⁵, for the locking loop *f*⁵, substantially as set forth and shown. 10th. The combination, with the hopper H¹, of the hinge bar *h*², the transverse bars *h*, having the lugs *h*³, the drop doors D, having the end notches *d*, the supporting arm E, engaging the lugs upon the transverse bars *h*, and a locking bar, connected to such supporting arm, and adapted to be secured to a fixed part of the car, substantially as described. 11th. The combination, with the intermediate longitudinal sills *b*³, *b*³, and with the longitudinal shaft or hinge bar *h*², of the stirrups *h*¹, embracing the hinge bar, and secured by their ends to the intermediate longitudinal sills, substantially as specified. 12th. The combination, with the intermediate longitudinal sills *b*³, *b*³, and with the half sills *b*³, *b*³, of the transverse tie plates B³, substantially as and for the purpose set forth. 13th. The combination, with the fixed end section *g*³, of the floor G, of the section *g*, loosely pivoted to the exterior sill of the bed frame of the car, substantially as and for the purposes described. 14th. The combination, with the bed frame, of the detachable floor sections *g*¹; having end recess *g*¹¹; the pivoted floor sections *g*, having flange *g*², and the pivoted stop *a*², the flange engaging the recess, and the stop engaging the flange, to secure both floor sections in position upon the bed frame.

No. 39,110. Check Book Holder.

(*Porte-livret de contrôle.*)

James Laws McTiervey, Xenia, Ohio, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. A holder for check books, consisting of a wire frame having an open mouth wire forming its top end, members depending therefrom to form the front side, said members being extended across the horizontal plane of said frame from front to rear to form the bottom, and thence carried upwardly to the rear side of said mouth wire, and across the latter to form the rear side of said holder frame, with ring terminals on said members above said mouth wire, substantially as and for the purpose hereinbefore set forth. 2nd. In a check book holder, a hollow wire frame of substantially oblong form having an open mouth at the top end, formed by an enclosing wire, members extending from the latter downward, and across the plane of the frame, to the rear side of the latter, thence upward and across said enclosing wire, forming said mouth end, and having ring terminals above the latter to allow of the means of suspension described, substantially as set forth. 3rd. In a check book holder, a hollow

wire frame having an open mouth end, members extending downwardly from the latter, crossing each other on the front and rear sides and crossing the plane of said frame transversely to form the bottom at their lowest points, the upper member of said wires being bent to conform to the shape of the under member at the points where they cross each other, and secured together by brazing or soldering, as and for the purpose set forth. 4th. In a check book holder, an open mouth wire, integral members extending downwardly therefrom, crossing each other on the front side, and extending across the plane of said mouth wire at their lowest points to form the bottom end of said holder, thence upwardly, crossing each other on the rear side, and extending over and above the rear side of said mouth wire, and ending in ring terminals above the latter, said members being united to each other and to said mouth wire at their crossing points, as set forth. 5th. In a check book holder, a wire frame having an open mouth end, adapted for holding and carrying a check book in an upright position, said frame being provided with a member, plate or card, having thereon the number of the salesman using the same, and with means of suspension, as set forth. 6th. In a check book holder, the combination, with the wire frame, of a sheet metal plate for stiffening and strengthening the same, and having a loop projecting therefrom to adapt it for holding and carrying a pair of scissors to be used by the salesman in connection therewith, substantially as set forth. 7th. The combination, with a check book holder, of a number plate or card to identify the number of the salesman, and an attachment for holding and carrying a pair of scissors to be used by the latter in connection therewith, substantially as hereinbefore set forth.

No. 39,111. Cigarette Making Machine.

(*Machine à faire les cigarettes.*)

Joseph B. Underwood, Fayetteville, North Carolina, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. In combination, with a casing and means contained within it for feeding tobacco stock, a grooved forming disk in said casing, and a grooved compressing disk working in the groove of said forming disk to form a filler rod, substantially as described. 2nd. In combination, with a casing and means for feeding tobacco stock, a grooved forming disk having a broad circular horizontal flange at its bottom edge, and arranged in the casing, and a grooved compressing disk overlapping said flange and working in the groove of the forming disk to form a filler rod, substantially as described. 3rd. A distributing and forming disk provided with a circle of teeth, a circular horizontal flange at the bottom, and a circular forming groove adjacent to said flange and having a cutting lip above, in combination with a feed casing and a grooved compressing disk working in conjunction with said forming disk to form a filler rod, substantially as described. 4th. The combination, with the outer carding case or cylinder, and the inner carding cylinder having an annular space between them, of the flanged grooved distributing and forming disk in the carding case, and a grooved compressing disk operating therewith, substantially as described. 5th. In combination, with the outer carding cylinder having card clothing on its inner surface, the inner spirally grooved carding cylinder secured to a rotary shaft within the outer cylinder for feeding and distributing tobacco, and suitable filler rod forming and compressing devices beneath them. 6th. In combination, with the outer carding cylinder, the inner carding cylinder secured to a rotary shaft within the outer cylinder, and the grooved forming disk secured to a separate rotary hollow shaft and arranged below the carding cylinders, and a grooved compressing disk operating with said forming disk, substantially as described. 7th. In combination, with the outer and inner carding cylinders, and the grooved forming disk secured to a shaft below the inner cylinder, a serrated distributing band 36 of greater diameter than the disk, and secured to its periphery, and a grooved compressing disk, substantially as described. 8th. In combination, with the outer carding cylinder, the inner rotary carding cylinder having spiral grooves extending from its upper surface downward into its periphery, and spiral rows of teeth in its periphery, the grooved rotary forming disk provided with a circle of teeth, and arranged at the bottom of the outer carding cylinder, and a grooved compressing disk, substantially as described. 9th. In combination, with the outer carding cylinder, the inner carding cylinder secured to a rotary shaft within the outer cylinder, the grooved forming disk secured to a separate rotary shaft and arranged below the carding cylinders, a grooved compressing disk operating with said forming disk, and the stripper guides projecting tangentially into the grooves of said disks for detaching the filler rod, substantially as described. 10th. In combination, with the outer carding cylinder, the inner carding cylinder secured to a rotary shaft within said outer cylinder, the grooved forming disk secured to a separate rotary hollow shaft and arranged below the inner carding cylinder, and gearing secured to the shafts of said inner cylinder, and a forming disk adapted for turning them at different speeds, and a grooved compressing disk operating with said forming disk, substantially as described. 11th. In combination, with the outer and inner carding cylinders and the grooved forming disk provided with a bottom flange and distributing teeth, and secured to a shaft below the inner cylinder, a grooved compressing disk working in the groove of said forming disk, and a bridge plate 38, arranged above the compressing disk at its junction with the forming disk, substantially as described. 12th. In combination, with the outer carding cylinder, the inner

rotary carding cylinder provided at the bottom with a circular row of teeth, the grooved rotary forming disk 12 secured to a separate shaft below said inner cylinder, and having a bottom flange 31 and a circle of teeth, the distributing band 36, having a serrated lower edge and secured to disk 12, the grooved compression disk 39, working in the groove of said disk 12, and a bridge plate 38 above disk 39 in the outer carding cylinder, substantially as described. 13th. The combination, with feeding and distributing devices comprising outer and inner carding cylinders, and the grooved forming and compressing disks at the bottom of said carding cylinders, and working in conjunction with each other, said forming disk being provided with teeth, of the lolding channel and the filler and wrapper carrying belt below said disks substantially as described. 14th. In combination with a slotted folding channel, the compound belt composed of the longitudinally connected power belt and a filler and wrapper carrying belt, said power belt having a longitudinal groove in its under surface and arranged below the folding channel, and said carrying belt being arranged in the folding channel, and a longitudinal supporting bar below the power belt, and having a longitudinal guide rib fitting in the groove of said power belt, substantially as described. 15th. In combination with the side bars T, T', spaced apart, and the slotted folding chamber, the compound power belt and carrier belt connected together, as described, said power belt being arranged in the space between such side bars, and said carrier belt being arranged in the folding channel, and a longitudinal supporting bar below the power belt, substantially as described. 16th. The combination, with the folding channel and carrier belt arranged therein, a presser finger 55, adjustably supported within the channel above the carrier belt, and suitable adjusting devices 56, 57 and 58 therefor, substantially as described. 17th. In combination with the folding channel and carrier belt arranged therein, the pivoted and concave adjustable presser finger 55, supported within the channel above the carrier belt and provided with an adjusting screw for raising or lowering one end thereof, substantially as described. 18th. In combination with the folding channel and carrier belt therein, the presser finger 55, adjustably supported in the channel above the belt, and the curved deflector 59, attached to one wall of the channel beyond and adjacent to said finger, substantially as described. 19th. In combination with a folding channel and carrier belt therein, the curved deflector 59 in the channel, and the separating finger 80, having a concave under surface and located in the channel beyond and adjacent to said deflector for separating the carrier belt from the turned down edge of the wrapper, substantially as described. 20th. In combination with a folding channel and carrier belt therein, the curved deflector 59, projecting from one wall of the channel, the separating finger 80 in the channel beyond and adjacent to deflector 59, and the curved deflector 82 attached to the other wall of the channel beyond and adjacent to finger 80 for turning down the belt and pasted edge of the wrapper, substantially as described. 21st. The folding channel, consisting of the two laterally adjustable guide bars, set to form a slot between them, at the bottom having their inner walls gradually and laterally converging and gradually increasing in height and carrying on their upper surfaces inwardly turned guard flanges, which are gradually turned downward from nearly a horizontal to a vertical position, in combination, with a carrier belt, substantially as described. 22nd. The adjustable guide bars, having wide flaring inner surfaces at their front ends, and gradually converging to a deep vertical form towards their middle portions, and forming a folding channel open at top, in combination, with the carrier belt in such channel and the inwardly projecting guard flanges, extending from the top of said bars for curving the carrier belt and wrapper into a U-shape, substantially as described. 23rd. In combination, with the folding channel, composed of the guide bars having a slot between them and the compound power and carrier belt, the latter arranged in the channel, the curved belt deflector 59, attached to one of the guide bars of the channel, the other bar of said channel having a vertical wall opposite said deflector for supporting the standing edge of the paper, and the paste wheel arranged across the channel above such deflector 59, for applying paste to the standing edge of the paper, substantially as described. 24th. In a continuous cigarette machine, a longitudinal reciprocating carriage carrying a cigarette holder 89, provided with a transverse slot, and a longitudinal rock shaft having arms 93 and 94 the latter provided with a rotating cutter, a belt on a pulley on said shaft for rotating the shaft of the cutter, means for rotating the pulley, and a rotating cam bearing on the lower end of arm 93, all combined and operating, substantially as described. 25th. In a cigarette machine, a longitudinal reciprocating carriage carrying a cigarette holder, and a longitudinal rock shaft having arms 93 and 94, the latter provided with a rotating cutter, a pulley on said shaft having a driving belt for rotating the shaft of the cutter, a driving shaft provided with a cam bearing against arm 93, and a pulley and belt for operating the former pulley, and an arm connecting the carriage with the hub of the pulley and cam, whereby said pulley and cam are adapted to slide on said driving shaft, all combined and operating, substantially as described. 26th. The horizontal paste cylinder, having a longitudinal slot in its side for receiving the edge of a paste wheel, the paste wheel working in said slot, in combination with a piston rod provided with a pulley, and a cord or chain fixed at one end, passing over said pulley and provided at its opposite end with a weight whereby the paste in the cylinder is fed up to the slot, as set forth.

No. 39,112. Sink Trap. (Valve d'evier.)

Samuel Christopher Perkins, Ottawa, Ontario, Canada, 10th June, 1892; 5 years.

Claim.—1st. In a trap, the combination of the body A, having rim *a* and screw threads *a*¹, inlet *a*¹¹, outlet *a*¹¹¹, and flange *a*⁴, the screw cover B tightly fitting the top of the body, the tubular excrescence D communicating with the body near the bottom, the discharge pipe D¹, being a continuation of the tubular excrescence D, and the strainer basket E, having rim *e* and handle E¹, said strainer suspended below the inlet *a*¹¹ upon the flange *a*⁴ by its rim, substantially as set forth. 2nd. A trap composed of a body A, having an inlet near the top, of an outlet near the bottom, a cover closing said body tight, a tubular vertical excrescence covering the outlet and communicating therewith, and continued upwardly and then downwardly, forming the discharge pipe, and a strainer basket suspended by its upper rim upon a flange in said body below the inlet, and provided with upwardly projecting handle, substantially as set forth. 3rd. In a trap, the combination, with a cylindrical body having an inlet near the top, an outlet near the bottom, and a flange or projection between the two, a strainer basket suspended by its rim in said body upon a flange below the inlet, and provided with upwardly projecting handle, substantially as set forth. 4th. In a trap, the combination, with a trap body, of a removable strainer basket suspended therein, substantially as set forth.

No. 39,113. Corner Piece for Travelling Bags, Boxes, etc. (Cornière pour sacs de voyages, boîte, etc.)

William Roemer, Newark, New Jersey, U.S.A., 10th June, 1892; 5 years.

Claim.—1st. The improved angle piece consisting of an angle iron *c*, and two outer sections *b*, having outer and inner flanges *b*¹, *b*², said outer sections being independent of one another to admit of separate assembling, substantially as set forth. 2nd. In combination, an angular section *c*, and sections *b*, *b*, each provided with wide and narrow flanges adapted to receive the edges of the body material between, substantially as and for the purposes set forth. 3rd. In combination, with the body of the receptacle, corner sections *b*, *b*, *c*, the former receiving the adjacent edges of the sides forming the angle and having wide and narrow flanges, and rivets or pins uniting the said body with said wide flange and angle iron, substantially as set forth. 4th. The improved corner pieces for boxes, bags and similar receptacles, consisting, essentially, of wide and narrow flanges *b*¹, *b*², adapted to receive the edges of the body material between, as described, the wider flanges being held at right angles to one another by an angular portion *c*, and means, as described, for fastening the body material to the wider flanges without perforating, indenting or otherwise interfering with the narrow flanges, substantially as set forth.

No. 39,114. Anvil Vise. (Etau d'enclume.)

George Washington Harris, Brampton, Ontario, Canada, 10th June, 1892; 5 years.

Claim.—1st. In combination, with an anvil, the auxiliary anvil head B, having a beveled face *b*¹, and provided with a shank *b*, extending down the side of the anvil and having lugs *b*⁴, at its lower end, the lever C, pivoted in said lugs and having a curved upper end *c*, carrying a jaw *c*¹, and its lower end turned through the anvil base and provided with foot piece *c*¹¹¹, and the screw or bolt B¹, holding said shank to the anvil, substantially as set forth. 2nd. In combination, with an anvil, an auxiliary anvil head B, having a beveled face *b*¹, the shank *b*, attached to or forming part of said head, so as to form an obtuse angle with the face *b*¹, and so that said head rests with its lower face on the anvil face, and the screw or bolt B¹, holding the shank to the side of the anvil, substantially as set forth. 3rd. The combination, of the auxiliary anvil B, provided with a shank *b*, forming an inner right angle therewith, adapting it to sit upon the square edge of an anvil, and being secured to the side thereof, said auxiliary anvil having a beveled face *b*¹, and said shank having lugs *b*⁴, and a lever C, pivoted in said lugs, and provided with a jaw *c*¹, above said pivot and the foot piece *c*¹¹¹, at the lower end, substantially as set forth.

No. 39,115. Price Ticket. (Etiquette de marchandise.)

Edgar Macklin, Stratford, Ontario, Canada, 10th June, 1892; 5 years.

Claim.—A special pin having the upturned point B, the rounded shoulder E, and the part of the pin below the surface of the ticket forming the two sides of a right angle C, combined with and attached to a price ticket.

No. 39,116. Ointment. (Onguent.)

Paul F. Briere, Thetford Mines, Quebec, Canada, 10th June, 1892; 5 years.

Claim.—An ointment, composed of fresh, unsalted and unwashed butter, red spruce gum, red oxide of mercury, and essence of turpentine, mixed in the manner and in the proportions above stated.

No. 39,117. Mantel Bed. (Commode-lit.)

D. Henri Langlois, St. John, Quebec, Canada, 11th June, 1892; 5 years.

Claim.—1st. The combination, in mantel beds, of the head board A, with the short sides *a*, having holes *h* and *h'*, substantially as and for the purpose hereinbefore set forth. 2nd. In mantel beds, the combination of the case B, with the slanting guides S, the supports O, and the shelf or bar *i*, substantially as and for the purpose hereinbefore set forth. 3rd. In mantel beds, the folding frame C, having sides with joints *m* and *n*, in which the pins project outwardly, substantially as and for the purpose hereinbefore set forth. 4th. In mantel beds, the mode of suspending or connecting the folding frame C to the head board A, and to the case B, substantially as and for the purpose hereinbefore set forth.

No. 39,118. Hose Coupler. (Joint de boyaux.)

Henry Augustus White and John D. Evans, both of Hamilton, Ontario, Canada, 11th June, 1892; 5 years.

Claim.—1st. In a hose coupling, a spiral wire threaded tube formed to fit and be inserted about one half its length into each end of hose, and a spring band of sheet metal made to cover the outer joint, and provided with soft metal lugs, so as to be capable of being compressed around the joint and held firmly to make it water tight, substantially as and for the purpose specified. 2nd. In a hose coupling, the combination of the spiral wire threaded tube C, one half being inserted in the hose A and one half in the hose B, and the spring band D, the same constructed with lugs *c*, *c'*, and formed to fit over the joint, and tightened with a screw *f*, passing through both lugs, and tightened up sufficiently to form a water tight joint, substantially as and for the purpose specified.

No. 39,119. Cut Off for Gas Burners.

(*Détente pour bees à gaz.*)

Eli Denne, Newmarket, and Arthur Denne, Stayner, both of Ontario, Canada, 11th June, 1892; 5 years.

Claim.—1st. A pivoted lever, one end arranged in proximity to the gas burner and the other end in proximity to the gas cock, in combination with a spring arranged to actuate the gas cock, and means for connecting the pivoted lever to the cock by which the rocking of the lever on its pivot will cause the spring to close the cock, substantially as and for the purpose specified. 2nd. A notched quadrant A, connected to the gas cock B, which is actuated by the spring C, in combination with the lever D, supporting the globe F, on the disk E, in combination with the weight G, and pin H, substantially as and for the purpose specified.

No. 39,120. Device for the Filling Motion of Looms.

(*Appareil d'engrenage pour métiers à tisser.*)

William O'Brien and Sylvanus M. Thomas, both of Taunton, Massachusetts, U.S.A., 11th June, 1892; 5 years.

Claim.—In combination with the lathe provided with the crease or groove T, the attachment shown and described and consisting essentially of the base U, ribs U¹ extending up therefrom and parallel with the sides of the crease, and weft grate V extending up from the parts U, U¹, and integral therewith, substantially as and for the purpose herein set forth.

No. 39,121. Nut Lock. (Arrête-écrou.)

David C. Terry, J. S. Beasley, Frank Foster and R. M. Price, all of Abilene, Texas, U.S.A., 11th June, 1892; 5 years.

Claim.—1st. The combination, with a nut and bolt of a washer fitted on the bolt beneath the nut, and locking plate having openings adapted to fit around said washers, the edges of said openings being inclined rearwardly, and the height of the lower end thereof being equal to the thickness of the washer, substantially as described. 2nd. The combination, of the bolts, the washers fitted thereon, the nut, and the locking plate having openings adapted to fit over the nuts and around the washers, the edges of said openings being inclined backward, the corners of said nut being arranged to be forced up on the inclines, substantially as described. 3rd. As an improved article of manufacture, a locking plate and a nut opening in said plate, each side of the opening being inclined from one corner of said opening to the opposite corner, as and for the purpose specified.

No. 39,122. Desk. (Pupitre.)

Frank Hawken, Ottawa, Ontario, Canada, 11th June, 1892; 5 years.

Claim.—1st. In a desk having a desk top super-imposed on the desk table, the space *b* on said table at each end of said desk top, substantially as set forth. 2nd. In a desk, the combination, with the desk table, of a desk top casing D secured to said table, a sliding case F provided with shelves and divisions and fitting slidably in the casing D, and wheels or rollers *f*¹, on the feet of the ends extending below the bottom shelf of said inner casing, substantially as set forth. 3rd. In a desk, the combination, of a desk table B, sliding leaves B¹ in front and slide leaf B² at the back, substantially as set forth. 4th. In a desk, the combination, of a table B, a well formed by a downward projecting boxing *c*, a top or lid C forming a top or cover of said well hinged to and adapted to be flush

with the table B, the legs *c*¹ pivoted to said cover, and the racks *c*¹¹ secured to the box *c* and adapted to be engaged by said legs and hold said cover at an angle suitable for a writing table, substantially as set forth. 5th. The body of a desk divided to have a knee space, a space for drawers on one side, a book space on the other side, a closet at the rear of said book space opening at the end, and a series of closets at the rear, backing in succession the aforesaid closet, knee space and drawer space, substantially as set forth.

No. 39,123. Hammer. (Marteau.)

William Jacoby, Fulda, Minnesota, U.S.A., 11th June, 1892; 5 years.

Claim.—1st. A hammer head, provided with an opening M, a plunger O, sliding in said opening, a clamping device N, receiving the nails forced down the opening, and a shoulder P, adapted to bear against the nail head while clamped in said device, substantially as described. 2nd. In a hammer, provided with a nail box C, means for moving a cut off J, consisting of a notched slide R, having a spur *a*¹, sliding in a slot *b*¹, in the throwing piece *f*, which is connected with the cut off, and pivoted to the handle, substantially as shown and described. 3rd. The plunger O, the crank lever *a*, pivoted to the hammer head and having a positive connection with the plunger O, so as to operate it vertically, the notched slide R, by which the crank lever is actuated, and mechanisms for actuating it and the cut off, whereby a nail is fed under the plunger at each upward stroke, as specified. 4th. The combination, of the box C, with a nail slot E, and a nail opening F, slotted handle A, cut off J, plunger O, and opening M, whereby nails are fed from the box to the cut off, delivered by the same into the opening, and forced down by the plunger into position to be driven, substantially as specified and shown. 5th. The slotted hammer head B, provided with the shoulder P, the pivoted block N, plunger O, and cut off J, whereby nails are forced by the block N, under the shoulder P, substantially as shown and described. 6th. The combination, in a nailing hammer, having the slotted handle A, chambered head B, and box C, with the cut off J, operated by the slotted throwing piece *f*, notched slide R, having the spur *a*¹, and connected with the spring A¹, with the rod C¹, substantially as shown and described.

No. 39,124. Cut Off Valve and Gear.

(*Détente de soupape.*)

William Joseph Cremer and Jennie Gorham, both of St. Paul, Minnesota, assignees of Benjamin Frank Fitch, La Crosse, Wisconsin, all of the U.S.A., 11th June, 1892; 5 years.

Claim.—1st. A rotary valve for steam engines, having a series of segmental inlet ports and exhaust spaces alternating therewith, and so arranged that a port and an exhaust space are diametrically opposite, cylinder port coverings close up to the edge of the port and of slightly greater width than the ports, the angular dimensions of ports, port coverings and exhaust spaces having such relation to each other that a cylinder port is opened to an exhaust space slightly in advance of the opening of the opposite live steam port, whereby exhaust takes place slightly in advance of taking steam, and one exhaust opens simultaneously with the closing of the other, substantially as specified. 2nd. A rotary valve for steam engines, having a series of steam inlet ports and exhaust spaces alternating therewith, so arranged that a port and an exhaust space are diametrically opposite, the relative angular dimension of ports and exhaust spaces being such that the distance between the corresponding edges of a port and an opposite exhaust space is slightly less than one hundred and eighty degrees, substantially as specified, whereby the exhaust takes place slightly in advance of taking steam. 3rd. A rotary valve for steam engines, having a series of segmental steam inlet ports and exhaust spaces alternating therewith, and so arranged that the outer line of a port and an exhaust space are diametrically opposite, and the relative angular dimensions of port and exhaust space being such that the distance between the corresponding edges of a port and the opposite exhaust space is slightly less than one hundred and eighty degrees, substantially as specified, whereby the exhaust space is opened slightly in advance of the closing of the opposite port. 4th. A rotary valve for steam engines, having a series of segmental steam inlet ports and exhaust spaces alternating therewith, and so arranged that the outer line of a port and an exhaust space are diametrically opposite, cylinder port coverings between said valve ports and exhaust spaces of slightly greater width than said ports, and the angular distance between the corresponding edges of a port and the opposite exhaust space being slightly less than one hundred and eighty degrees, whereby one port is closed slightly in advance of the opening of the opposite port, while the exhaust continues up to the end of the stroke, substantially as specified. 5th. A rotary valve for steam engines, having a series of segmental steam inlet ports and exhaust spaces alternating therewith, and leading to a central exhaust passage, the portion of the body of the valve separating each two adjacent ports and exhaust spaces being chambered underneath the port covering upon the exhaust side, leaving only a thin wall for the inlet port continuous with the port coverings, substantially as described, whereby the entire space upon the face of the valve, except that necessary for the ports, the walls thereof, and the port coverings, is included in the exhaust space. 6th. A rotary valve for steam engines, having segmental steam inlet ports

and a balance column arising from the back of the valve inside the inner edges of said ports, the said column having its outer part of larger diameter than the inner part, and secured thereto by means of an inwardly projecting annular flange, substantially as specified, whereby a seat for the cut off slide is formed between the extended portion of said column and the back of the valve. 7th. A rotary valve for steam engines, having segmental steam inlet ports and exhaust spaces, steam balance column integral with or secured to the back of the valve, a spindle adapted to rotate by means of suitable connection with the crank shaft, a flange formed upon or secured to the end of said spindle and loosely fitting the interior of said column, and lugs formed upon said column or flange and adapted to engage with a corresponding notch upon the other of said parts, the said lugs and notches being so disposed as to lie out of diametrically opposite positions, substantially as and for the purpose herein specified. 8th. In combination with a rotary valve having steam balance column integral with or secured to the back of the same, a single expansion packing ring surrounding the outer edge of said column, adapted to seat against the valve chest cover and rotate with said column and valve, whereby a steam tight joint is formed by the pressure of the steam between the column and cover, and the wear upon the ring is confined to its plane face and in the direction of its length, equal wear being thus secured upon all parts of the ring, substantially as specified. 9th. A rotary valve for steam engines, having segmental steam ports, and a cut off slide seated against the back of the valve, having segmental steam passages adapted to register with said ports, the back of the valve between said ports being chambered or hollowed out, substantially as and for the purpose herein specified. 10th. In combination with a rotary valve for steam engines, having a series of segmental steam ports, a cut off disk having ports adapted to register with said valve ports and seated against the back of the valve, cogs upon the periphery of said cut off disk, a pinion in mesh therewith, and operative connection between said pinion and the crank shaft, substantially as described, for continuously rotating said cut off in a direction contrary to that of the valve. 11th. In combination with a rotary valve having a series of segmental steam ports, a cut off disk having segmental openings adapted to register with said valve ports, and provided with cogs upon its periphery, a pinion in mesh therewith, a wheel upon the crank shaft loose with reference thereto within certain limits, but rotating substantially in unison therewith, operative connection between said loose wheel and said pinion, and a centrifugal governor controlling the rotation of said loose wheel with reference to the rotation of the crank shaft, substantially as and for the purpose herein specified. 12th. In combination, with a rotary valve and cut off disk and loose cogged wheel upon the crank shaft in operative connection with the said cut off disk, a band wheel mounted upon the crank shaft, carrying a centrifugal governor connected with said cog wheel and adapted to control the rotation of the latter relatively to the band wheel, a fly wheel fixed upon the crank shaft, and a spring connection between said fly and band wheels, substantially as and for the purpose specified. 13th. In combination, with a rotary valve and cut off slide, and a loose cog wheel upon the crank shaft in operative connection with said cut off slide, a band wheel mounted upon the crank shaft carrying a centrifugal governor connected with said cog wheel, and adapted to control the rotation of the same relatively to the band wheel, a fly wheel fixed upon the crank shaft, springs having their opposite extremities attached to the said fly and band wheels, respectively, at substantially the same distance from the axis, and curved supports for said springs attached to said fly wheel, substantially as specified and for the purpose set forth. 14th. In combination, with a rotary valve for steam engines, having segmental steam ports and exhaust spaces, a spindle for operating said valve, a divided shaft, one section of which is in operative connection with the crank shaft and the other with the valve, an external gear upon the driven section, a pinion in mesh with said internal and external gears, and a lever upon which said pinion is mounted, the said lever being pivoted in the axis of said shafts, substantially as specified, whereby by the swinging of the lever and pinion the driven shaft is rotated and the relative position of the valve ports and exhaust openings is reversed. 15th. In combination, with a rotary valve for steam engines, having segmental steam ports and exhaust openings, a spindle for operating said valve, a divided shaft, one section of which is in operative connection with the crank shaft and the other with the valve spindle, an external gear upon the extremity of the driven section, an internal gear upon the extremity of the driven section, in pinion in mesh with said internal and external gears, a lever upon which said pinion is mounted, the said lever being pivoted in the axis of said shafts, and spring stops for retaining the said lever at the proper limits for reversing against the motion of the reversed movement of the drive shaft, whereby by the release of the stops the operation of reversing is automatically effected. 16th. In combination, with a rotary valve having segmental steam ports and exhaust openings, a circular cut off slide having segment steam ports and exhaust openings, adapted to register with said ports, and connections between said cut off slide and the crank shaft of the engine, whereby the same is caused to rotate continuously in a contrary direction to that of the valve, substantially as and for the purpose herein specified. 17th. In combination, with a rotary valve having steam balance column integral with or secured to the back of the same, an expansion packing ring surrounding the outer edge of said column and adapted to seat against the back of the valve chest cover and rotate with said column and

valve, the said packing ring consisting of a single metallic ring divided at one point and having an angular flange secured to one of the ends thus formed and overlapping the joint upon the two outer sides of the rings, substantially as specified, whereby expansion and contraction of the body of the ring are allowed, while a steam tight joint is maintained.

No. 39,125. Loop for Harness Straps.

(*Joint pour bandes de harnais.*)

Thomas Granville Nelson and William Peter Gelabert, both of Sweet Springs, Missouri, and Thomas Cannon Crenshaw, of Lexington, also in Missouri, all of the U. S. A., 11th June, 1892; 5 years

Claim.—1st. The metallic twin or double loop for harness straps, constructed independently of and disconnected from the buckle in a triangular or approximately V-form, the same having two bifurcated triangular or V-shaped side jaws, and three suitably shaped connecting transverse bars, one of which bars is forward of and intermediate the other two bars, and preferably provided with a notch in its forward edge, substantially as described. 2nd. The combination of the independently constructed and separately attached metallic twin or double loop A, of triangular or approximately V-shape, the independently constructed and separately attached buckle C, the strap B, and one or more fastening rivets passed through the strap where it is lapped or doubled, substantially as described.

No. 39,126. Cheque Book. (*Livret de contrôle.*)

Rosa Jane Oldfield, assignee of Joseph Oldfield, both of Toronto, Ontario, Canada, 11th June, 1892; 5 years.

Claim.—1st. As a new article of manufacture, a carbon leaf for check books made of textile fabric, one side of which is smooth and impervious to the passage of the carbon, and the other side carbonized, as and for the purpose specified. 2nd. The combination, with a black leaf cheque book, of a black leaf made of a textile fabric attached to or forming part of the cover, as specified, and having a margin b, turned over from the smooth or clean face upon the carbon face and affixed thereto, as and for the purpose specified.

No. 39,127. Cheque Book. (*Livret de contrôle.*)

Rosa Jane Oldfield, assignee of Joseph Oldfield, both of Toronto, Ontario, Canada, 11th June, 1892; 5 years.

Claim.—1st. In a duplicating book, having the cover made in three sections, and in which the black leaf and tally sections are intended to fold at right angles to the line of printing or to the stub of the book, the combination of the body A, having a tongue C, secured to the back upper portion and the slit f', designed for the insertion and connection of the body of the book to the cover, as specified. 2nd. In a duplicating book, having the cover made in three sections, and in which the black leaf and tally sections are intended to fold at right angles to the line of printing, or to the stub of the book, the combination of the body A, having a tongue C, with beveled ends c, secured to the back upper portion and the slit f', designed for the insertion and connection of the body of the book to the cover, as specified.

No. 39,128. Autographic Register.

(*Registre autographique.*)

The Dayton Autographic Register Company, assignee of John Kirby, jun., and John Bernard Thies, all of Dayton, Ontario, Canada, 11th June, 1892; 5 years.

Claim.—1st. In an autographic register, a paper cutter, a filing compartment, mechanism for moving the paper into the compartment, and a movable arm for filing the paper within the compartment. 2nd. In an autographic register, a cutter for severing a strip of paper into slips and a file for receiving the severed slips, in combination with a filing arm for placing the slips upon the file. 3rd. In an autographic register, a paper cutter, a filing compartment, guides for directing the paper to the compartment, and an arm for removing the paper from the guides and piling it in the compartment. 4th. In an autographic register, a filing compartment containing a file for receiving slips of paper, and means for supporting a slip prior to filing, in combination with a filing arm for placing the slip upon the file. 5th. In an autographic register, a filing compartment containing a file for receiving slips of paper, and means for supporting a slip prior to filing, in combination with an automatically actuated filing arm for placing the slip upon the file. 6th. In an autographic register, a filing compartment containing a file, a paper carrying roll, feeding mechanism for moving the paper forward, a cutter for severing the paper into slips, and a slip support within the filing compartment, for supporting the paper previous to filing. 7th. In an autographic register, a case provided with a filing compartment having a file arranged therein, and a feed roller located adjacent to the said compartment, in combination with guides extending within the filing compartment and at an angle to the file, a paper cutter for cutting a strip of paper into slips, and a filing arm for forcing a severed slip on to the file. 8th. In an autographic register in which a writing tablet, a number of strips of paper and interposed manifold material are employed, mechanism for propelling the paper through the register, and a paper cutter for cutting

the under strip of paper into slips, in combination with mechanism intermediate the cutter, and the propelling operating mechanism, whereby the said paper is severed by the action of the propelling operating mechanism. 9th. In an autographic register, a feed roller, a paper cutter, and a movable arm to which the movable blade of the cutter is connected, in combination with a shaft, and mechanism carried thereby for actuating respectively the feed roller and the movable arm. 10th. In an autographic register in which a writing tablet, a number of strips of paper, and interposed manifold material are employed, feeding mechanism capable of being revolved in one direction only, while its propelling mechanism is revolvable in either direction, and a paper cutter for cutting the under strip of paper into slips, in combination with mechanism intermediate the paper cutter and the propelling operating mechanism, whereby the paper is severed by the reverse movement of the latter. 11th. In an autographic register, a feed roller revolvable in one direction only, a paper cutter, and a movable frame to which one blade of the cutter is attached, in combination with a shaft revolvable in either direction, and a separate mechanism carried by the shaft for engaging respectively with the feed roller and with a movable arm attached to the frame, whereby when the shaft is turned in one direction the feed roller will be revolved and when turned in the opposite direction the cutter will be actuated. 12th. In an autographic register, a paper carrying roll, mechanism for feeding the paper forward from said roll, and a case having an opening in its top for the exit of the upper strip or strips, in combination with a paper cutter, guides for directing the under strip in the path of the cutter, a file for receiving slips severed from said strip, and filing arm to place the slips upon the file. 13th. In an autographic register in which a writing tablet, a plurality of strips of paper, and interposed manifold material are employed, a case having an opening in its top for the exit of the upper strip or strips and a sight opening forward of the exit opening, in combination with mechanism for feeding the paper forward, a support for the under strip beneath the sight opening, and an automatically actuated paper cutter for severing the under strip into slips, said cutter being located in the path of travel of said strips forward of the sight opening, whereby the slip immediately preceding the last one written upon, which latter is visible through the sight opening, is severed before the visible slip is moved from its position. 14th. In an autographic register, a paper carrying roll, means for feeding the paper forward from said roll, and a paper cutter, in combination with guides for directing the paper in the path of the cutter, pressure arms co-acting with said guides for holding the paper while being severed, and a movable arm for removing the severed slip from the guides. 15th. In an autographic register, a paper carrying roll, means for feeding the paper forward from said roll, and a paper cutter, in combination with guides for directing the paper in the path of the cutter, pressure arms co-acting with said guides for holding the paper while being severed, a file, and a movable arm for removing the severed slip from the guides and placing it upon the file. 16th. In an autographic register, a paper carrying roll, means for feeding the paper forward from said roll, and a paper cutter, in combination with guides for directing the paper in the path of the cutter, automatically actuated pressure arms co-acting with said guides for holding the paper while being severed, a file, and an automatically actuated movable arm for removing the severed slip from the guides and placing it upon the file. 17th. In an autographic register, a paper carrying roll and a feed roller, the latter being revolvable in one direction only and provided with ratchet teeth upon one end, in combination with a pawl carrier, revolvable in either direction, for engaging with the teeth to turn the roller, and steps for limiting the forward and backward revolutions of the carrier, whereby uniform lengths of paper are fed forward on the partial revolutions of the roller. 18th. In an autographic register, a paper carrying roll, mechanism for feeding the paper from the roll, and a paper cutter for cutting the under strip of paper into slips, in combination with a movable arm carrying a spring for keeping the cutting edges of the two blades in close contact while the paper is being severed. 19th. In an autographic register, a paper carrying roll, a main shaft revolvable in either direction, and a feed roller mounted upon said shaft and revolvable with it only in a forward direction, in combination, with a paper cutter automatically actuated to sever the paper on the backward revolution of said shaft. 20th. In an autographic register, a paper carrying roll, a main shaft revolvable in either direction, and a feed roller mounted on said shaft and revolvable with it only in a forward direction, in combination, with a paper cutter, a sliding arm to which one blade of the cutter is attached, a printing device operated by said arm, and a cam on the shaft for imparting a forward movement to the sliding arm on a backward revolution of the shaft, whereby the paper cutter and the printing device are automatically actuated. 21st. In an autographic register, a paper carrying roll and a feed roller, the latter being revolvable in a forward direction only, in combination, with a paper cutter, a movable arm to which one blade of the cutter is attached, a shaft revolvable in either direction, a pawl carrier on said shaft for turning the roller, and a cam carried by the shaft for actuating the movable arm on a backward revolution of the shaft. 22nd. In an autographic register, a shaft and a pawl carrier mounted thereon, provided with a laterally projecting pin, in combination, with a rock shaft carrying a filing arm and a lever, the latter engaging the said pin, whereby, when the said carrier is turned the rock shaft will be rocked, and thus operate the filing arm. 23rd. In an autographic register, a shaft and a pawl carrier mounted

thereon, provided with a laterally projecting pin, in combination, with a rock shaft carrying a filing arm and a jointed lever, the latter engaging the said pin, and mechanism for returning the lever to its normal position after having been operated by the pin. 24th. In an autographic register, a feed roller provided with ratchet teeth at one end, a paper cutter, and a sliding frame, to which one blade of the paper cutter is attached, in combination, with a shaft having one end provided with a cam for imparting a forward movement to the said frame, and a spring for returning the frame to its normal position after having been actuated by the cam. 25th. In an autographic register, a feed roller provided with ratchet teeth at one end, a paper cutter, and guides for supporting a strip of paper while being severed by the said cutter, in combination, with a sliding frame, to which one blade of the paper cutter is attached, a shaft carrying respectively a pawl carrier for engaging with the ratchet teeth, and a cam for engaging with the sliding frame, a shaft carrying respectively a pawl carrier for engaging with the ratchet teeth, and a cam for engaging with the sliding frame, a shaft carrying pressure arms designed to co-act with the guides to hold the paper strip taut while being severed, and fingers carried by the latter shaft, one of which fingers engages with the sliding frame to bring the pressure arms into engagement with the paper strip, and the other connects with a spring for moving the pressure arms out of engagement with the paper strip. 26th. In an autographic register, a paper cutter and a printing device, in combination, with a sliding frame for actuating the paper cutter and the printing device and mechanism, substantially as described, for actuating the sliding frame. 27th. In an autographic register, a paper cutter, a printing device, and a series of pressure arms, in combination, with a sliding frame which actuates the said mechanism and means, substantially as described, for actuating the sliding frame. 28th. In an autographic register, a printing device, arms connecting with the handle thereof, and pivoted links connecting with the arms, one of which links is provided with an extension, in combination, with a sliding frame which contacts with the said extension to depress the stamp and make an impression, and mechanism for actuating the said frame. 29th. In an autographic register, the combination, with the case, of guides or ways, and a paper carrying frame provided with ribs adapted to move in said ways. 30th. In an autographic register, the combination, with the case having a hinged end, and guides or ways arranged interior of the case, of a paper carrying frame provided with ribs adapted to move in said ways. 31st. In an autographic register, a case having interior guides or ways, in combination, with a paper carrying frame provided with ribs adapted to engage said ways, said frame consisting of two sides united by cross bars. 32nd. In an autographic register, provided, with a series of paper rolls and feeding mechanism for drawing out the paper from the rolls, the combination, with the case, of a frame supporting the paper rolls, and arms pivoted thereto and to the case so that the frame carrying the rolls can be swung up out of the case, substantially as shown and described. 33rd. In a register, a case having an opening in its top and a writing tablet below the opening, in combination, with an arm rest hinged to the case and adapted to be moved over the said opening. 34th. In a duplicating register in which a writing tablet, a plurality of strips of paper and interposed manifold material are employed, the combination, with the case having an opening in its top through which the entries on the strips of paper are made, of a folding arm rest hinged to the case and adapted to cover the said opening. 35th. In a duplicating register in which a writing tablet, a plurality of strips of paper and interposed manifold material are employed, the combination, with the case having an opening in its top through which entries on the strips of paper are made, of a folding arm rest, of which one portion is hinged to the end of the case, and another portion is adapted when desired, to be moved over the opening in the top of the case, both portions being hinged together. 36th. In a duplicating register in which a writing tablet, a plurality of strips of paper and interposed manifold material are employed, the combination, with the case having an opening in its top through which entries on the strips of paper are made, of a folding arm rest, of which one portion is hinged to the end of the case, and another portion provided with means for holding a writing pad, is adapted when desired, to be moved over the opening in the case, both portions being hinged together. 37th. In a duplicating register in which a writing tablet, a plurality of strips of paper and interposed manifold material are employed, the combination, with the case having an opening in its top, through which the entries on the strips of paper are made, and longitudinal grooves in its sides above said opening, of an arm rest comprising a support hinged to the end of the case, a plate hinged to the support, and a slide working in the grooves in the case and hinged to the plate. 38th. In a duplicating register, the combination, with a case having a longitudinal opening in one side, of a roller bearing a plurality of strips of paper, a writing tablet for supporting the strips while being written upon, a roller around which one end of suitable manifold material is wound, and a pivoted clamping device on the outer side of the case for securing the free end of the manifold material passed through the said opening. 39th. In a duplicating register embracing a roller carrying a plurality of strips of perforated paper, a feed roller having studs adapted to engage the perforations in the paper to move it through the machine, a writing tablet and a roller carrying manifold material, a casing having a hinged top and slotted springs carried by the top and adapted to straddle the said studs, whereby to keep

the paper in its proper position with relation to the feed roller. 40th. In an autographic register in which a number of strips of paper and interposed manifolding material are employed, the combination, with a case having an opening in its top through which written entries are made and an exit opening for the upper strip or strips, of a feed roller adapted to move the paper through the machine, a friction roller adapted to press the paper against the feed roller, a receiving roller for the under strip, means for operating the receiving roller by turning the feed roller, and an automatically adjusted bearing for the receiving roller. 41st. In an autographic register, a feed roller carrying a gear wheel, a receiving roller provided with a friction surface, and a combined gear wheel and friction pulley engaging respectively with the gear of the feed roller and the friction surface of the receiving roller, whereby the latter is operated by the turning of the feed roller. 42nd. In an autographic register, a feed roller carrying a gear wheel, a receiving roller provided with a friction surface, and an automatically adjusted bearing for the receiving roller, in combination, with a combined gear wheel and friction pulley engaging respectively with the gear of the feed roller and the friction surface of the receiving roller. 43rd. In an autographic register, the combination, with the feeding mechanism operated by a hand lever, of reciprocating knife, knife carrier and filing pins attached thereto, said parts arranged to be operated simultaneously by said lever, so that by the movement of one hand lever, the paper is alternately fed forward and severed from the rolls for filing, substantially as shown and described. 44th. In an autographic register, the combination, with the feeding mechanism operated by a hand lever, of a reciprocating knife carrier and double armed rock shaft, one arm of which engages with and operates said knife carrier, and the other is operated upon and rocked by the backward movement of said hand lever so that the paper is alternately fed and cut from the rolls, substantially as shown and described. 45th. In an autographic register, the combination, with the feeding rollers, sprocket wheel with dog and ratchet to operate the same, and sprocket chain operated by a hand lever of a rock shaft journaled in the frame, and arms integral therewith, one arm of which engages with the sprocket chain during its backward movement, and thus rocks the shaft while the other operates the knife carrier, substantially as shown and described. 46th. In an autographic register, the combination of shaft e^{11} , having arm f^{11} and g^{11} , knife carrier T^1 , sprocket wheels 60 and k^{11} , sprocket chain 61, and hand lever 63, to operate the same, substantially as shown and described.

No. 39,129. Reamer. (Foret.)

Nathaniel E. Smith and John Rhoderic McPherson, both of Jersey City, New Jersey, 11th June, 1892; 5 years.

Claim.—1st. A reamer, consisting essentially of a clamp or holder for retaining the pipe ends, a reaming tool mounted and free to slide in a frame to which the clamp or holder is attached, the reamer being placed in a line with the clamp or holder, and a nut placed upon the shank of the tool and bearing against the portion in which the tool slides, substantially as described. 2nd. A reamer, consisting of a clamp or holder composed of two hinged portions provided with a central opening for the reception of the pipe, a locking device, whereby the parts of the clamp or holder may be speedily joined together or released from each other, a reaming tool having a screw threaded shank arranged in line with the pipe to be worked upon, a nut placed on the shank of the tool, and bearing against an abutment, substantially as described. 3rd. A reamer, consisting of a clamp or holder, composed of hinged parts provided with a locking device, and with a central opening for the reception of the pipe, removable sections provided with projections designed to be placed in the opening in the clamp or holder, and to regulate the size of the opening for the reception of the pipe, and a reaming tool arranged in line with the opening in the clamp or holder, and provided with a screw threaded shank passing through a nut, whereby by turning the tool, the same will be advanced, substantially as described.

No. 39,130. Railway Rail. (Rail de chemin de fer.)

The Johnson Company, assignee of Maximilian M. Suppes, all of Johnstown, Pennsylvania, U.S.A., 11th June, 1892; 5 years.

Claim.—1st. As a new article of manufacture, a rolled rail provided at intervals with a base or support integral with said rail. 2nd. As a new article of manufacture, a rail provided at intervals with a base or support, welded to said rail. 3rd. As a new article of manufacture, a rolled rail provided at its extremities, and intermediate points with a base or support integral with said rail. 4th. As a new article of manufacture, a railroad rail provided with a rolled head and web throughout its length, and provided at intervals with a base or support integral with said rail. 5th. As a new article of manufacture, a railroad rail provided with a rolled head and web throughout its length, and at intervals with a base or support having an upward extension integral with said rail. 6th. As a new article of manufacture, a railroad rail and support welded together, substantially as described. 7th. As a new article of manufacture, a railroad rail provided with a head and web, and a base or support welded to said web. 8th. As a new article of manufacture, a railroad rail provided with a head and web, and a base or support provided with an upward extension and welded to said web.

No. 39,131. Artificial Tartaric Acid.

(Acide tartrique artificiel.)

Benoit Gabriel Talbot, Bordeaux, Gironde, France, 11th June, 1892; 5 years.

Claim.—1st. In the manufacture of tartaric acid, the method of first treating saccharine or glucosic matters with ozone, ozonised oxygen, or nascent oxygen, and then exposing the intermediate acids resulting from this action to the air for transforming them into tartaric acid. 2nd. In the manufacture of tartaric acid, the use of permanganate of potash or analogous salts in the presence of chlorine for producing oxygen in the body of a cold solution of the saccharine matters, the chlorine serving as agent for the dissociation of the saccharine matter and for the decolorisation of the products obtained, substantially as described. 3rd. As new products, the tartaric acids obtained by the means herein described, such acids being decolorised and purified and ready for use without its being necessary to refine them after crystallisation, as also the alkaline or other salts produced by the said tartaric acids after or during the operation of the transformation of the saccharine matters. 4th. The herein described process of transformation of the cellulose, saccharine or amylaceous substances whether effected by the action of allotropic oxygen chemically prepared by any known process, or by the action of oxygen of the air ozonised by means of electrolyses or by other means.

No. 39,132. Cover and Cooler for Milk Cans.

(Couvercle et aérateur pour bidons à lait.)

Nicholas Henry Terens, Mishicot, Wisconsin, U.S.A., 11th June, 1892; 5 years.

Claim.—1st. The combination, of a milk can cover, provided with a central aperture, a ring surrounding said aperture, latches secured to the ring and having their free ends engaging catches upon the cover, a cylindrical perforated or wire cloth screen secured to and projecting above the ring, and a flaring top projecting a distance beyond the cylindrical wire cloth, substantially as set forth. 2nd. The combination, of a milk can cover, having a central screw threaded neck, a suitable cap therefor, a cylindrical perforated or wire cloth screen, having a base support surrounding the neck, and a series of flaring rings arranged exteriorly of the cylindrical screen, the upper one of the series forming a top or cover and provided with a projecting screw threaded neck to receive a suitable cap, substantially as set forth.

No. 39,133. Sewer Ventilating Shaft and Support for Electric Wires. (Poteau-ventilateur d'égouts et support pour files électriques.)

James Jolliffe and Frank Moses, both of Toronto, Ontario, Canada, 13th June, 1892; 5 years.

Claim.—1st. A hollow street pillar connected to the sewer and having one or more gas jets within it, substantially as and for the purpose specified. 2nd. A hollow street pillar connected to a sewer and having one or more gas jets within it, arms for supporting the electric railway and light wires extending from the pillar, substantially as and for the purpose specified. 3rd. A sewer ventilating shaft forming a support for electric light and other electric wires, and for holding post office and fire alarm boxes, substantially as and for the purpose specified.

No. 39,134. Car Coupler. (Attelage de chars.)

William Nicholas Robinson, Galt, Ontario, Canada, 13th June, 1892; 5 years.

Claim.—A draw head having a projection B, and shoulder G, formed on its top, and a link C fixed to a spindle D, secured within the elongated hole E, and having loosely connected to it a bolt F, arranged to project beyond the face of the draw head, substantially as and for the purpose specified.

No. 39,135. Nut Lock. (Arrête-écrou.)

Charles Parker Sherman, Toledo, Ohio, U.S.A., 13th June, 1892; 5 years.

Claim.—1st. In an improved nut lock, consisting of a concavo-convex washer having a smooth central aperture, and a series of semi-circular recesses or cut out portions produced in the sides of said central aperture. 2nd. In a nut lock, the combination, with the bolt, of the nut arranged thereon, the concavo-convex washer having a smooth central aperture, and a series of semi-circular recesses or cut out portions produced in the sides of said central aperture, said washer being adapted to be flattened out upon the face of the nut.

No. 39,136. Foot Support for Telegraph Poles.

(Support pour base de poteaux télégraphiques.)

Emma Augusta Streeter, Church St., White Plains, New York, U.S.A., 13th June, 1892; 5 years.

Claim.—1st. A spike for climbing poles composed of prongs adapted to be driven into the pole and to form a substantially horizontal rest for the foot, said prongs being upwardly turned near their outer ends to form a foot guard, and a cross bar connecting said prongs at the extremity of their upwardly turned ends, substantially

as shown and described. 2nd. A spike for climbing poles composed of prongs adapted to be driven into the pole, and adapted to form a substantially horizontal rest for the foot, said prongs being furnished with shoulders to limit their penetration and being upwardly turned near their outer ends to form a foot guard, and a cross bar connecting said prongs at the extremities of their upwardly turned ends, substantially as shown and described.

No. 39,137. Wire Stretcher. (*Tendeur de fil de fer.*)

Rémi Beaupré, Kingston, Ontario, Canada, 14th June, 1892; 5 years.

Claim.—1st. The combination, with the box A, having a dog P, of the pinion G, parallel rack bars K, K¹, reciprocating in holes in said box, and engaging with said pinion, the ends of said bars provided with a clamp, to hold the wire to be stretched, as set forth. 2nd. The combination, with the parallel rack bars K, K¹, provided at the ends with clamps for holding a wire, of the box A, having a diagonal slot B, and a pinion G engaging said bars, and provided with a crank handle J, as and for the purpose set forth. 3rd. The combination, with the box A, parallel rack bars K, K¹, and pinion G, of the loops M, attached to the end of said bar or bars, and the hooked jaws 2, 2, hinged together to hold an inserted wire N, as set forth. 4th. The combination of the box A, pinion G, parallel rack bars K, K¹, having clamps at the ends, dog P, and crank or handle J, as set forth.

No. 39,138. Chemical Fire Extinguisher.

(*Extincteur d'incendie chimique.*)

Israel Lewis Carr, Toronto, Ontario, Canada, 14th June, 1892; 5 years.

Claim.—1st. A portable chemical fire extinguisher comprising a cylinder A, an internal jar or vessel B containing a liquid, said jar or vessel having a neck C placed eccentrically in the upper end, a hollow glass stopper D, containing a liquid chemical inserted in said neck and cemented therein, an inserted disk G, above said jar, a chamber H, below the top of the cylinder, said chamber containing the dry chemical, said cylinder having a driving pin I, to break the glass stopper and a cock J, near the top of the cylinder at a point farthest from the neck C, as and for the purpose set forth. 2nd. The jar or vessel B, having a neck C, provided with internal projections E, in combination, with a glass stopper D, inserted in said neck, as and for the purpose set forth. 3rd. In a portable chemical fire extinguisher, a chamber H, containing the dry chemical, said chambers intervening the outlets of the cylinder A, and jar or vessel B, said chamber H, being lowermost when the extinguisher is inverted for use, as set forth.

No. 39,139. Oven Door. (*Porte de fourneau.*)

James Thompson, Toronto, Ontario, Canada, 14th June, 1892; 5 years.

Claim.—A disc C, having one or more notches F, made in its periphery and pivoted to the door A, so that it shall project beyond the edge of the said door, in combination, with a projection E, having a series of teeth a, made in its bottom edge, substantially as and for the purpose specified.

No. 39,140. Apple Parer. (*Machine à peler les pommes.*)

Elmore H. Elliott, Truebada, West Virginia, U.S.A., 14th June, 1892; 5 years.

Claim.—1st. In a machine of the class described, the combination, with a base, a pair of bearing standards rising from the same, of a shaft rotatably mounted in the bearing standards, and provided with a longitudinal bore and slot, a plunger rod mounted for reciprocation in the bore and terminating at its outer end in a spike, spikes located upon the end of the shaft, a sleeve mounted for reciprocation upon the shaft and connected rigidly with the plunger rod, a coring tube mounted in the path of the plunger rod and provided with radial knives, means for operating the shaft, and a parer, substantially as specified. 2nd. In a machine of the class described, the combination, with the base having the opening, the box mounted thereover, the coring tube mounted in the box and having its rear end terminating outside the same, the radial knives extending from the tube and secured to the walls of the box, and the standards rising from the base in front of the box and provided with bearings, of the shaft longitudinally bored and slotted, mounted in the bearings and provided at one end with a crank and at its opposite end with spikes, a plunger rod mounted for reciprocation in the bore and terminating at its outer end in a spike, a sleeve, externally shaped to form a handle, mounted for reciprocation upon the shaft, a transverse bar connected to the plunger rod and sleeve, and mounted for reciprocation in the slot of the shaft, and a parer, substantially as specified. 3rd. In a machine of the class described, the combination, with a base, an apple supporting rotating mechanism mounted thereon, of an arm extending from the base, and a paring knife, and a flexible strap adjustably connecting the paring knife and arm, substantially as specified. 4th. In a machine of the class described, the paring tool consisting of a handle merging at its outer end in a head having a beveled side, a U-shaped blade secured at its ends to the opposite sides of the head, a spring plate secured to the handle and terminating under the blade, and set screws for adjusting the spring plate to and from the blade, substantially as specified.

No. 39,141. Log Carrier. (*Monte-billots.*)

Daniel Simkins Stombs, Stillwater, Minnesota, U.S.A., 14th June, 1892; 5 years.

Claim.—1st. A sectional log carrier, made of similar frames arranged end to end, means for detachably connecting them together, the concave rollers journaled transversely on said frames, having spurs upon their concave surfaces, the conical end roller having its reduced end free of spurs, sprocket wheels upon the roller shafts, the link belts connecting the alternate rollers, and means for applying power to drive said belts, substantially as described. 2nd. A log carrier, made up of a series of independent frames, arranged end to end, and detachably connected together, comprising the cross ties, and the longitudinal stringers arranged thereon, the series of concave rollers journaled transversely on said stringers, spurs upon the surface of said rollers, the tapering roller arranged at the terminus of the carrier, having its smaller end free of spurs, sprocket wheels carried by the roller shafts, the link belts connecting the sprockets of alternate rollers, and means for applying power to drive said belts, substantially as described. 3rd. In a log carrier, the combination, with the frame thereof, of a connected series of concave rollers journaled transversely thereon, and driven from a suitable source of power, and the tapering or conical rollers journaled at the terminus of said carrier, substantially as described.

No. 39,142. Excavating Machine. (*Machine pour creuser.*)

Friedrich W. Vollhering and Carl Bernhardt, both of Lubeck, Germany, 14th June, 1892; 5 years.

Claim.—In excavating machines, a bucket frame consisting of three parts, such as A C, C D, and D B, connected to each other by articulated joints in such manner as to be capable of assuming varying angular positions relatively to each other, within the limits prescribed by the general construction and arrangement of the machine, substantially as described.

No. 39,143. Car Coupler. (*Attelage de chars.*)

Charles Henry Olds, Sayre, Pennsylvania, U.S.A., 14th June, 1892; 5 years.

Claim.—1st. In combination, a draw head carrying one member B, of the car coupler, a shaft F journaled in the draw head and provided with a socket F¹, an arm or pin F² removably mounted in the socket F¹, and an actuating shaft f² mounted on the car and connected to the arm or pin F², substantially as and for the purpose set forth. 2nd. In combination, a draw head A, carrying one member B, of the car coupler, a shaft F journaled in the draw head and provided with a socket F¹, an arm or pin F² removably mounted in the socket F¹, a link F⁴ pivoted to the pin F², and an actuating shaft f², having a crank f¹ pivoted to the link F⁴, substantially as and for the purpose specified. 3rd. In combination, a pair of draw heads A, A, locking members B, B, on the opposite draw heads, having vertically arranged locking arms B³, B³, a socket G on one of the draw heads, and a projection G¹ on the other draw head for entering the socket G and preventing vertical disengagement of the locking members B, B, substantially as and for the purpose set forth. 4th. In combination, a draw head A, having a central chamber a², a locking member B pivoted to the draw head A, and provided with an arm B¹, for engaging a corresponding locking member, and an arm B² extending within the chamber a², and formed with the inclined face B³, and the vertically arranged engaging face B³, and a catch lever D, having one end pivoted to the draw head and the other provided with a cut out D¹, and the inclined face D² for engaging the arm B², of the locking member B, substantially as and for the purpose specified. 5th. In combination, a draw head A, having a central chamber a², a locking member B pivoted to the draw head A, and provided with an arm B¹, for engaging a corresponding locking member, an arm B², extending within the chamber a², and formed with the inclined face B³, and the vertically arranged engaging face B³, a catch lever D, having one end pivoted to the draw head and the other provided with a cut out D¹, and the inclined face D², for engaging the arm B², of the locking member B, and a cam E, for rocking said catch lever D out of engagement with the locking member B, substantially as and for the purpose set forth. 6th. In combination, a draw head A, having a central chamber a², a locking member B pivoted to the draw head A, and provided with an arm B¹, for engaging a corresponding locking member, an arm B², extending within the chamber a², and formed with an inclined face B³, and the vertically engaging face B³, a catch lever D, having one end pivoted to the draw head A, and the other adapted to engage the inwardly extending arm B², of the locking member, and a cam E, having a face e¹ for engaging the arm B², of the locking member, substantially as and for the purpose specified. 7th. In combination, a draw head A, having a central chamber a², a locking member B pivoted to the draw head A, and provided with an arm B¹, for engaging a corresponding locking member, an arm B², extending within the chamber a², and formed with an inclined face B³, and the vertically engaging face B³, a catch lever D, having one end pivoted to the draw head A, and the other adapted to engage the inwardly extending arm B², of the locking member, and a cam E, having a face e, for rocking the catch lever D upwardly, and having a face e¹, for engaging the arm B², of the locking member B, substantially as and for the purpose set forth. 8th. In combination, a draw head A, having a central chamber a², a locking member B,

pivoted to the draw head A, and provided with an arm B¹, for engaging a corresponding locking member, an arm B², extending within the chamber a², and formed with the inclined face B¹, and the vertically arranged engaging face B², a catch lever D, having one end pivoted to the draw head and the other provided with a cut out D¹, and the inclined face D², for engaging the arm B², of the locking member B, a cam E, for rocking said catch lever D out of engagement with the locking member B, a shaft F, for operating the cam, and an actuating shaft F² journaled on the car and loosely connected to the shaft F, substantially as specified. 9th. In combination, a pair of draw heads A, A, locking members B, B, on the opposite draw heads, having vertically arranged locking arms B¹, B¹, and B², B², catch levers D, D, for engaging the arms B², B², of the locking members, cams E, E, for rocking the catch levers D, D, out of operative position, a socket G on one of the draw heads, and a projection G¹ on the other draw head for entering the socket G and preventing vertical disengagement of the draw heads, substantially as and for the purpose set forth.

No. 39,144. Car Coupler. (Attelage de chars.)

Thomas Dee, Concord, New Hampshire, U.S.A., 14th June, 1892; 5 years.

Claim.—1st. A car coupling consisting essentially of two parallel draw bars having lateral hooks, one of said draw bars being made to extend beyond the other, substantially as described. 2nd. A car coupling comprising two draw bars pivoted to the car and provided with lateral hooks, one of said bars being longer than the other and provided with an enlarged head, substantially as described. 3rd. A car coupling comprising two draw bars provided with lateral hooks, and pivoted to the car to swing outward or away from each other only, one of said bars being longer than the other, and having an enlarged head, substantially as described. 4th. A car coupling comprising a casing fixed to the car bottom, and parallel draw bars pivoted in the casing, and provided with laterally extending hooks having vertical corrugations, substantially as described. 5th. A car coupling comprising a casing fixed to the car bottom and parallel draw bars extending through the casing and pivoted near opposite sides of the same, said draw bars having laterally extending hooks near their front ends, and having their rear ends pressed against the sides of the casing by a spring, substantially as described. 6th. A car coupling comprising a casing fixed to the car bottom and parallel draw bars pivoted in the casing, said draw bars being of different lengths and having rounded heads, and laterally extending and horizontally aligning hooks, substantially as described. 7th. A car coupling comprising a casing fixed to the car bottom, parallel draw bars pivoted in opposite sides of the casing, said draw bars having rounded front ends and laterally extending hooks, and a spring fixed to the casing so as to press outwardly against the rear ends of the draw bars, substantially as described. 8th. A car coupling comprising a casing fixed to the car bottom, parallel draw bars pivoted in opposite sides of the casing so as to swing outwardly, said draw bars having rounded front ends and laterally extending hooks, and a spring fixed to the casing so as to press outwardly against the rear ends of the draw bars, substantially as described. 9th. A car coupling comprising a casing fitted to the car bottom, parallel draw bars fitted in opposite sides of the casing, said draw bars having inclined rear ends and rounded forward ends provided with laterally extending hooks, a spring fixed to the casing so as to press outwardly against the rear ends of the draw bars, and a suitable lever mechanism for actuating the draw bars, substantially as described. 10th. The combination, with a draw bar having a lateral hook, of a block fitted to slide on said bar and having a hook extending oppositely to the bar hook, substantially as described. 11th. The combination, with a horizontally slotted draw bar, of a block arranged to slide in the slot, said block having one side formed into a hook, substantially as described. 12th. In a car coupling, a link having a central eye, and parallel arms terminating in eyes, said link being adapted to connect a double coupling with a locomotive, substantially as described.

No. 39,145. Signal Lamp. (Lampe à signaux.)

William Henry Brady, Belleville, Ontario, Canada, 14th June, 1892; 5 years.

Claim.—1st. The colored bulls-eye contained within a frame forming a shield on either side of the colored bulls-eye and attached to a lamp, substantially as and for the purpose specified. 2nd. A colored bulls-eye contained within a frame forming a shield on either side of the colored bulls-eye and attached to a lamp, in combination with a removable cover for the bulls-eye, substantially as and for the purpose specified. 3rd. A metal shield A, provided with a hook C, and knobs F, to detachably connect it to the wires D and I, a bulls-eye B, fitted into one of less diameter than the shield A, in combination with a removable cover for the bulls-eye, substantially as and for the purpose specified.

No. 39,146. Railway Track. (Voie de chemin de fer.)

Walter John Hough, Montreal, Quebec, Canada, 14th June, 1892; 5 years.

Claim.—1st. The combination in a railway track, of the screws c, and the rails e, the whole substantially as described. 2nd. The combination in a railway track, of the screws c, and sockets b, with

rails e, the whole substantially as described. 3rd. The combination in a railway track, of the screws c, and sockets b, having thimbles g, with ends e, substantially as described.

No. 39,147. Nut Lock. (Arrête-écrou.)

David B. Daniels, Lake Charles, Louisiana, U.S.A., 14th June, 1892; 5 years.

Claim.—A lock nut, consisting of two separate parts having grooves across their inner or meeting faces, and keys or spline for uniting said parts by engaging said grooves, in combination, with a bolt having depressions in its threaded portion with which the keys or splines also engage for locking the parts together.

No. 39,148. Cement. (Ciment.)

Marce Laffont, Paris, France, 14th June, 1892; 5 years.

1. L'emploi de mélanges d'argiles réfractaires crues, séchées, broyées et finement tamisées, avec des débris de roches éruptives, telles que grès, phyllades, schistes ardoisiers métamorphosés, sables, etc., séchés, broyés, plus ou moins finement tamisés, mélangés à sec puis uniformément humectés, mis en forme et comprimés ou non, selon les objets et leur destination, desséchés, puis portés progressivement à une haute température, toujours supérieure à 1250 degrés centigrades, sans qu'à cette température on puisse assigner de limite supérieure, celle-ci dépendant de la nature et du degré d'infusibilité des matières. 2. L'emploi de mélanges d'argile cuite fusible et d'argile crüe réfractaire, traitées, comme il vient d'être spécifié pour les mélanges précédents, ces mélanges étant portés à une température supérieure à 1250 degrés centigrades, donnent un produit similaire aux précédents, ayant toutes les propriétés des plus belles roches éruptives, ayant une cassure esquilleuse ou couchoïde, d'aspect cristallin, cristallitique ou euritique, n'absorbant pas l'humidité, ne happant pas à la langue, inattaquable aux acides, polissable par sa propre poussière ou avec l'émeri, et possédant une dureté de 7 à 8. 3. L'emploi, pour certaines argiles peu fusibles, de mélanges faits d'argile crüe et d'un ciment de la même argile, dans le but précité. 4. L'emploi de mélange de plusieurs masses, telles que je les ai définies, dans le but d'obtenir par le même procédé de cuisson, des pyrosiles, bigarrés, veinés, zones bréchoides, etc. 5. L'emploi des mélanges précédents, en combinaison avec le mode opératoire qui a été décrit, dans le but d'obtenir des matières ayant une forme définitive quelconque, obtenue par moulage, estampage, rebattage, etc.

No. 39,149. Fire Extinguisher.

(Extincteur d'incendie.)

George Washington Hoglen, Dayton, Ohio, U.S.A., 14th June, 1892; 5 years.

Claim.—1st. In a fire extinguisher, the combination, of a movable rod, a clasp or holder hinged thereto, a vessel secured in said holder and situated with its centre of gravity above the hinge, a stationary stopper for the vessel, and means for supporting said rod to hold the vessel in place, substantially as set forth. 2nd. In a fire extinguisher, the combination, of a movable rod, a separable clasp or holder hinged thereto and adapted to receive bottles of varying sizes, and provided with the clamping screw h², a vessel secured in said holder and situated with its centre of gravity above the hinge, a stationary stopper for the vessel, and means for supporting said rod to hold the vessel in place, substantially as set forth. 3rd. In a fire extinguisher, the combination, with the chamber of one or more reciprocating rods F, a clamp hinged thereto, a spring for tilting the bottle relative to said rods, and a stationary stopper for the bottle, substantially as set forth. 4th. In a fire extinguisher, the combination, of a movable rod, a cap having a bearing therefor, a clasp or holder hinged to said rod, and carrying a vessel or bottle, a spring G for supporting the rod, and a packing valve or washer carried by the rod and adapted to be held by the spring tightly against the under surface of the cap, substantially as set forth. 5th. In a vessel for fire extinguishers and other purposes, the combination, with the chamber A, and an outer casing, of a non-conducting filling consisting of non-conducting board or paper K¹, and interposed material I, substantially as set forth. 6th. In a vessel for fire extinguishers and other purposes, the combination, with the chamber A, and the non-conducting filling of the casing J, and the removable bottom J¹, substantially as set forth.

No. 39,150. Clothes Drier. (Séchoir à linge.)

Austin V. M. Sprague, Rochester, New York, U.S.A., 14th June, 1892; 5 years.

Claim.—1st. In a laundry dryer, the combination, with the closet A, of the frame B, sliding therein, provided with a hollow head forming an air space at the end of the frame, as and for the purpose specified. 2nd. In a laundry dryer, the combination, with the closet A, of a series of drying frames B, B, sliding therein, said frames lying side by side, provided with heads, and made hollow, forming air spaces, as and for the purpose specified. 3rd. The combination, with the drying frame B, of the braces p, p, p, attached at the four corners of the frame and extending diagonally from one side to the other, as shown and described and for the purpose specified. 4th. In a laundry drier, the combination, with the drying frame B, of the braces p, p, attached to the four corners and extending diagonally from side to side, and the central straight draw and

push rod s, provided with handle s^t, as shown and described and for the purpose specified. 5th. In a laundry drier, the combination, with the drying frame B, of the fenders w, w, attached across the edges of the head, as shown and described and for the purpose specified. 6th. In a laundry dryer, the combination, with the closet A, of the jambs f, f, made hollow, and forming air spaces, as shown and described and for the purpose specified.

No. 39,151. Method of Transforming Heat into Mechanical Energy. (*Méthode de transformer la chaleur en force mécanique.*)

Hermann Mehner, New York, State of New York, U.S.A., 15th June, 1892; 5 years.

Claim.—1st. The method of reducing the entropy of vapors, consisting of changing the heat form of energy into the physico-chemical form by dissolving solid substances in vapors or in their products of condensation, as set forth. 2nd. The method of guiding the increase of the entropy of vapors, consisting in changing the physico-chemical form of energy into heat, by desiccating liquids charged with substances which bind heat, when combined with the said liquids, at the same temperature, as set forth. 3rd. The method of transferring heat from a lower temperature to a higher temperature, consisting of liquifying a solid substance at a low temperature under the influence of chemical affinity, and consuming heat, and recovering the said substance in solid form from the produced liquid by subjecting the latter to a reverse physico-chemical reaction at a higher temperature, as shown and described. 4th. The herein described method for actuating a thermo-dynamical machine, consisting in regaining the original amount of entropy of the system of working vapors, by changing the heat form of energy into the physico-chemical form after the entropy has been increased, and then changing the physico-chemical form of energy into the heat form, increasing at the same time the amount of entropy, substantially as set forth. 5th. The herein described method, consisting in compressing vapors to develop heat, and at the same time transferring the heat thus developed into the liquid, substantially as described. 6th. The herein described method, consisting of compressing the vapors to develop heat, and at the same time transferring the heat thus developed in the liquid, and also desiccating or decomposing the liquid by the heat, substantially as shown and described. 7th. The herein described method of compressing unsaturated vapors without heating the same, consisting in forcing the vapors into a coil of pipe or vessel without change of volume, and then compressing the vapors with a liquid, and at the same time carrying off the heat, substantially as described. 8th. The herein described method, consisting in desiccating liquids to precipitate solid substances, and to produce heat, and at the same time adding an amount of new heat for actuating motors or for cooling the source of new heat, substantially as described. 9th. The herein described method for actuating a thermo-dynamical machine, consisting of first changing the waste or exhaust heat into the form of physico-chemical energy, and then changing the physico-chemical form of energy into heat, substantially as described. 10th. The herein described method for actuating a thermo-dynamical machine, consisting of first binding the waste heat of the machine by dissolving solid substances in vapors or in their products of condensation, to form a liquid, and then desiccating the liquid to recover the solid substances and the vapor containing the waste heat and the new heat introduced with the desiccation, substantially as described. 11th. The herein described method for actuating a thermo-dynamical machine, consisting of first binding the waste heat of the machine by dissolving solid substances in the vapors or their products of condensation to form a liquid, and then desiccating the liquid at a low temperature for freezing or cooling purposes and to recover the solid substance, and the vapors containing the heat, and the new heat of a very low temperature and caused by the desiccation, substantially as described. 12th. The herein described method for actuating a thermo-dynamical machine, consisting of first binding the waste heat of the machine by dissolving solid substances in the vapors or their products of condensation to form a liquid, and then desiccating the liquid at a high temperature to recover the solid substance and the vapor containing the waste heat and the additional new heat of a high temperature and introduced by the desiccation to form power for driving the machine, substantially as described.

No. 39,152. Type Writer. (*Clavigraphie.*)

Algernon Granville and James Henry Beilby, both of Montreal, Quebec, Canada, 15th June, 1892; 5 years.

Claim.—1st. In an attachment to a type writing machine, the combination of two mirrors suitably carried in proximity to the platen, one reflecting negatively the writing and the carriage scale of the machine, and the other receiving and reflecting positively such negatively reflected matter and scale. 2nd. In combination, with a type writing machine, two or more mirrors or reflecting devices arranged and disposed to present to the operator a view of the line of writing in formation and contiguous written lines, as set forth. 3rd. In combination, with a type writing machine, two mirrors, one reflecting negatively and the other receiving and reflecting positively the matter just written and the scale, both mirrors being carried in standards in slots so as to be moved back and forth, and one or both on pins so as to be set at any angle, all as herein set forth.

No. 39,153. Ear for Vessels. (*Anse de vase.*)

Thomas McDonald, Toronto, Ontario, Canada, assignee of John Bernard Schneider, New Orleans, Louisiana, U.S.A., 15th June, 1892; 5 years.

Claim.—In a pail ear, the combination with a plate provided with an aperture and having an ear struck up therefrom, of a blank provided with an aperture in the plate, and having a nub in alignment with the opening in the plate caused by striking up the ear therefrom, and also having an edge flange bent upon the plate to effect a connection of said plate and blank, and a filling of solder or the like placed in the opening of the plate and keyed in the nub of the blank, substantially as and for the purpose specified.

No. 39,154. Fire Arm. (*Arme à feu.*)

William Dunderdale Forbes, Hoboken, New Jersey, U.S.A., 15th June, 1892; 5 years.

Claim.—1st. In a breech loading fire arm, the combination of the frame or receiver, and a breech bolt therein having a firing pin, with a trigger carried by the frame, a rotating handle on the frame to operate the breech bolt, said handle having a projection to act on the trigger to release the firing pin at each revolution, substantially as described. 2nd. In a breech loading fire arm, the combination of the frame or receiver, and a breech bolt therein, with means to open and close the breech bolt, and a rotating handle mounted on the frame and connected to the bolt, and having a segment to engage with the frame or receiver and lock the bolt to the latter while the breech is closed, substantially as described. 3rd. In a breech loading fire arm, the combination of the frame or receiver and a breech bolt therein, with means to open and close the breech bolt, and a rotating handle carried by the frame and connected to the bolt, and having a dovetailed segment engaging with dovetailed grooves in the frame or receiver to lock the bolt to the latter while the breech is closed, substantially as described. 4th. In a breech loading fire arm, the combination of the frame or receiver having a feed opening for the cartridges, and an ejection opening for the shells, and having dovetailed grooves on one side, with a breech bolt in the frame and a rotating handle mounted on the frame and connected to the bolt to open and close it, and having a dovetailed segment to engage with the grooves in the frame or receiver to lock the bolt to the latter while the breech is closed. 5th. In a breech loading fire arm, the combination of a frame or receiver and breech bolt, with a rotary operating handle for the breech bolt and a locking segment carried by the rotary handle, and engaging with both the breech bolt and the frame or receiver to lock the bolt in its closed position. 6th. In a breech loading fire arm, the combination of the frame or receiver and a breech bolt having a laterally projecting shoulder, with a rotary handle carrying a locking segment to engage with the shoulder on the bolt, and with notches on the frame or receiver to lock the bolt in its closed position, substantially as described. 7th. The combination of the receiver or frame, of a breech loading fire arm and its breech bolt, with a rotary handle having a crank pin and mounted on a pivot at right angles to the axis of the bolt, and a connecting rod connecting the breech bolt with a crank pin on the rotary handle, substantially as described. 8th. In a breech loading fire arm, the combination of the receiver or frame and breech bolt, with a rotary handle having a crank pin, and a connecting rod connecting the said crank pin of the rotary handle with the breech bolt to operate the latter, with a lost motion in the connecting rod, as and for the purpose set forth. 9th. In a breech loading fire arm, the combination of the frame or receiver and breech bolt with a rotary handle having a crank pin, a connecting rod connecting the crank pin with the breech bolt, a laterally moving cartridge extractor, and a device carried by the connecting rod to lock the extractor upon the cartridge shell during the rearward movement of the breech bolt. 10th. In a breech loading fire arm, the combination, of the frame or receiver and breech bolt having a laterally projecting lug with a rotary handle having a crank pin, a connecting rod pivoted to the latter and having an elongated slot engaging with the lug on the breech bolt, substantially as and for the purpose set forth. 11th. In a breech loading fire arm, the combination, of the frame or receiver and breech bolt having a notched laterally projecting lug and a notched cartridge extractor carried thereby with a rotary handle having a crank pin, a connecting rod pivoted at one end to the crank pin, and having at the other end an elongated slot to engage with the lug, and a projection to engage with the notches on the lug and extractor, substantially as set forth. 12th. In breech loading fire arm, the combination of the frame or receiver and breech bolt, with an operating handle for the latter having a crank pin, and carrying a locking segment to lock the bolt to the frame, and a connecting rod connecting the crank pin on the rotating handle with the breech bolt, with a lost motion in the connecting rod, substantially as and for the purposes described. 13th. In a breech loading fire arm, the combination, of the frame or receiver having notches on the edge and a breech bolt having a laterally projecting shoulder, with a rotary operating handle for the breech bolt to impart a reciprocating motion to the latter, the said handle having a dovetailed locking segment to engage with the shoulder on the bolt and notches on the frame, the forward acting edge of the locking segment being made cam-like to complete the forward movement of the breech bolt, substantially as set forth. 14th. In a breech loading fire arm, the combination of the frame or receiver carrying a pivoted trigger, with a tubular breech bolt in the frame, and containing a firing pin, and

having a longitudinal slot through which the nose of the trigger projects to engage with the firing pin, and a rotating handle mounted on the frame to operate the breech bolt, and carrying a projection to act on the trigger to release the firing pin, all substantially as described. 15th. In a breech loading fire arm, the combination of the frame or receiver and a breech bolt therein carrying a firing pin, with a rotating handle to operate the breech bolt and lock, the latter to the receiver, a detachable slide in the frame carrying the pivot for the said rotating handle and a cap to secure the slide, substantially as described. 16th. In a breech loading fire arm, the combination of the frame or receiver having openings for the feeding of the cartridges and ejection of the shells, with a sliding breech bolt in the frame, and rotary slotted cylinder around the breech bolt and within the frame to open and close the feed opening, all substantially as described. 17th. In a breech loading fire arm, the combination of the frame or receiver having feed and ejection openings for the cartridges and shells, with a breech bolt having a lug and a rotary cylinder around the breech bolt and within the frame, and provided with a cam slot in which the lug on the bolt works to open and close the feed opening for the cartridge, substantially as described. 18th. In a breech loading fire arm, the combination of the frame or receiver with a breech bolt therein having at its front end a lug grooved at about right angles to the axis of the bolt, for the reception of a sliding springless extractor which can slide in the groove to a limited extent, and means for locking the extractor closed and for releasing it again. 19th. In a breech loading fire arm, the combination, of the frame or receiver, with a breech bolt therein, having at its front end a grooved lug, a springless extractor adapted to the groove, and positively acting device, substantially as described, for locking the extractor on the cartridge rim for releasing it.

No. 39,155. Method of Separating Sulphur from Sulphurous Pig Iron. (*Méthode de séparer le soufre de la fonte sulfureuse.*)

Gustav Hilgenstock, Hörde, Westphalia, Prussia, German Empire, 15th June, 1892; 15 years.

Claim.—The process of separating sulphur from sulphurous pig iron, by combining liquid sulphurous pig iron with molten manganese iron and allowing the bath to stand, whereby sulphide of manganese is formed and caused to separate out in form of slag, substantially as described.

No. 39,156. Concentrator. (*Concentrateur.*)

The Gates Iron Works, Chicago, Illinois, assignee of William Legrand Card, St. Louis, Missouri, both in the U. S. A., 15th June, 1892; 5 years.

Claim.—1st. In a concentrator, the combination of an ore bed, a bellows, and a beater for actuating the bellows, substantially as and for the purposes specified. 2nd. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, and an elastic anvil interposed between the bellows and beater, substantially as and for the purposes specified. 3rd. In a concentrator, the combination of an ore bed, a bellows, a beater and an adjustable weight arranged on the beater to control the momentum thereof, substantially as and for the purposes specified. 4th. In a concentrator, the combination of an ore bed, a bellows, and a beater for actuating the bellows, an adjustable weight arranged on the beater, and an elastic anvil interposed between the bellows and beater, substantially as and for the purposes specified. 5th. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, a strap or yoke connected with the bellows and encircling the beater, and a thumbscrew to control the movement of the beater, substantially as and for the purposes specified. 6th. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, a strap or yoke connected with the bellows, and encircling the beater, a thumbscrew for controlling the movement of the beater, and an elastic anvil interposed between the beater and the bellows, substantially as and for the purposes specified. 7th. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, an adjustable weight arranged on the beater, a strap or yoke connected with the bellows and encircling the beater, and a thumbscrew for controlling the movement of the beater, substantially as and for the purposes specified. 8th. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, an adjustable weight arranged on the beater, a strap or yoke connected with the bellows and encircling the beater, a thumbscrew for controlling the movement of the beater, and an elastic anvil interposed between the beater and the bellows, substantially as and for the purposes specified. 9th. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, and an adjustable crank for changing the throw of the beater, substantially as and for the purposes specified. 10th. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, and a sliding clamp arranged on the beater, and a rock shaft and spring arm for actuating the beater, substantially as and for the purposes specified. 11th. In a concentrator, the combination of an ore bed, a bellows, a beater for actuating the bellows, a sliding clamp arranged on the beater, a rock shaft with spring arm for actuating the beater, and an adjustable crank for changing the throw of the beater, substantially as and for the purposes specified. 12th. In a concentrator, the combination,

with an ore bed having one or more discharge slots or ways extending downward from said bed for withdrawing the substratum of concentrates, of obstructive pieces arranged over said discharge ways or slots to prevent the formation of vortices over said discharge slots, and means for producing stratification on said ore bed, substantially as and for the purposes specified. 13th. In a concentrator, the combination, with an ore bed having a discharge way for concentrates, of a concentrate discharger arranged at the exit of the said discharge way, and mechanism for automatically actuating said discharger, whereby the discharge way may be kept full of concentrates to prevent the escape of the stratifying medium through said discharge way, substantially as and for the purposes specified. 14th. In a concentrator, the combination, with an ore bed having one or more discharge ways for concentrates and means for producing stratification on said bed, of oscillating plates arranged at the exits of said ways to prevent flow therethrough when at rest, and mechanism to automatically oscillate said plates to remove the contents of said discharge ways, substantially as and for the purposes specified. 15th. In a concentrator, the combination, with an ore bed having one or more discharge ways for concentrates, and means for producing stratification on said bed, of oscillating plates arranged at the exits of said ways, stationary plates arranged in said ways to co-act with the oscillating plates in promoting a measured rate of discharge, and mechanism for automatically actuating said oscillating plates, substantially as and for the purposes specified. 16th. In a concentrator, the combination, with an ore bed having one or more discharge ways for concentrates and means for producing stratification on said bed, of obstructive pieces arranged over said ways, and oscillating plates arranged at the exits of said ways to regulate the discharge of the concentrates, substantially as and for the purposes specified. 17th. In a concentrator, the combination, with an ore bed having one or more discharge ways for concentrates and means for producing stratification on said bed, of obstructive pieces arranged over said ways, dischargers arranged at the exits of said ways, and mechanism for automatically actuating said dischargers for discharging the concentrates in measured and regulated quantities, substantially as specified. 18th. In a concentrator, the combination, with an ore bed having one or more discharge ways for concentrates and means for producing stratification on said bed, of obstructive pieces arranged over said ways, stationary plates arranged in said ways to assist in producing a measured rate of discharge, oscillating plates arranged at the exits of said ways, and mechanism for automatically actuating said oscillating plates to discharge the concentrates at a measured rate, whereby said discharge ways may be kept always full to prevent escape of the stratifying fluid through said ways as would impair the process of stratification on the surface of the ore bed, substantially as and for the purposes specified.

No. 39,157. Nut Lock. (*Arrête-écrou*)

Daniel Rhodes, Falls Church, Virginia, and Albert Pierre Albert, Washington, District of Columbia, both in the U.S.A., 15th June, 1892; 5 years.

Claim.—The pair of opposite bushing sections, crescent shape in cross section, the interiors of said sections being provided with segments of screw threads, and their exteriors only at their ends or thickest parts made conical or tapered, and the polygonal nut provided with an elliptical opening adapted to loosely fit the bushings, said opening having its internal wall made plain or unbroken, and only at its ends inclined oppositely to the external walls of the bushings, substantially as specified.

No. 39,158. Car Coupler. (*Attelage de chars.*)

The Automatic Interchangeable Car Coupling Company, San Francisco, California, assignees of Frederick Latimer Wells, Chicago, Illinois, all of the U.S.A., 15th June, 1892; 5 years.

Claim.—1st. In a car coupler, of the class described, the combination, with the hinged interlocking block having a tail piece provided with an inclined or wedge shaped face c^2 , of the locking pin or bolt E, provided with the compound slots f, f^1, f^2 , and inclined lip or shoulder e^1 , and secured in operative position by horizontal pins g, g^1 , substantially as and for the purpose set forth. 2nd. The locking pin or bolt E, provided with the compound slots f, f^1, f^2 , and inclined lip or shoulder e^1 , substantially as and for the purpose set forth. 3rd. The hinged interlocking knuckle block C, provided with the tail piece D, having the inclined face c , and lower wedge shaped face c^2 , substantially as and for the purposes set forth.

No. 39,159. Feed Trough. (*Auge.*)

E. B. French, Oakland, California, U.S.A., 15th June, 1892; 5 years.

Claim.—1st. In a feed trough, the combination, with a bowl, of a hopper at one side of the bowl, and having a vertically movable and swinging partition extending down to within a short distance of the bottom of the bowl, substantially as and for the purpose set forth. 2nd. In a feed trough, the combination, with a bowl, of a hopper at one side of the bowl, a swinging partition forming the front of the hopper and extending down to within a short distance of the bottom of the bowl, and means for imparting a vertical movement to the said partition when pressure is applied thereto, to swing it inward, substantially as described. 3rd. In a feed trough, the combination, with a bowl and a hopper at one side of the bowl, and discharging

into the said bowl, of a cover having flange sides and open ends and hinged to the front, whereby the cover is made to serve both as a cover and a chute, substantially as described. 4th. The combination, with the bowl A, provided with the reservoir B, of the partition C, furnished with the ratchet *c*, and the pawl *f*, connected with the reservoir and adapted to engage the ratchet, substantially as specified. 5th. The combination of the bowl A, the reservoir B, provided with the studs *g*, the partition C, provided with the ratchet *c*, and lugs *d*, and the pawl *f*, adapted to engage the ratchet, substantially as specified. 6th. The combination of the bowl A, the reservoir B, having inwardly turned edges *b*, and the studs *g*, the partition C, provided with the ratchet *c*, and lugs *d*, and the lid D, hinged to the partition C, substantially as specified.

No. 39,160. Steel or Ingot Iron.

(*Lingot d'acier ou de fer.*)

Joseph Colley, 44 Wellington Road, Bilston, Stafford, England, 15th June, 1892; 5 years.

Claim.—1st. The improvement in the manufacture of steel or ingot iron, which consists in adding the carbon while enclosed in a box or receptacle to the charge before it leaves the furnace or converter, substantially as described. 2nd. The improvement in the manufacture of steel or ingot iron, which consists in first adding carbon, as described, then blowing or treating and then adding any further amount of carbon and ferromanganese necessary to produce the required metal, all substantially as set forth.

No. 39,161. Machine for Cleaning Cotton Droppings.

(*Machine pour nettoyer les résidus de coton.*)

Henry Fernihough, Hamilton, Ontario, Canada, 15th June, 1892; 5 years.

Claim.—1st. The combination, in a machine for cleaning cotton droppings, of a wire cage D, of open mesh, so arranged on an angle to admit and allow to pass through thereof, the longitudinal shaft C, secured to the ends of said cage at, or in close proximity, to the extreme corners, substantially as and for the purposes hereinbefore set forth. 2nd. In a machine for cleaning cotton droppings, the square oblong wire cage D, of a required mesh and gauge having door *d*, in combination, with the metallic end bands E, provided with cross pieces H, having hubs in position to said cage as described, to admit the longitudinal shaft C, substantially as described and for the purposes herein set forth.

No. 39,162. Fastener for Storm Sashes and Window Screens. (*Fermeture de croisées et d'écrans de fenêtre.*)

Lee Hall, St. Paul, Minnesota, U. S. A., 15th June, 1892; 5 years.

Claim.—1st. The combination, with the frame and sash fitted thereto, of a socket in the frame, a bolt fitted to said socket and having a longitudinal slot therethrough, a plate adjustably secured upon the face of the sash, and a screw threaded pivot extending through said slot and entering said plate, by means of which the bolt may be adjustably secured upon said plate, substantially as and for the purposes set forth. 2nd. The combination, with the removable sash, of a slotted bolt, a pivot therefor passing through said slot, a support for said pivot adjustably secured to said sash, and a socket for said bolt in the frame adjacent to said sash, substantially as and for the purposes set forth. 3rd. Means for securing a removable sash within its frame, comprising a plate adjustably secured upon the face of the sash, a sliding and pivoted bolt carried by said plate and adapted to enter an opening in the side of the adjacent frame, and means for securing the bolt in adjusted positions, substantially as and for the purposes set forth. 4th. An adjustable sash fastener, comprising in combination, a pivot plate adjustably secured upon the face of the shaft, a pivot carried by said plate, a slotted bolt turning and sliding upon said pivot and means for gripping said bolt upon said plate in adjusted positions, substantially as and for the purposes set forth. 5th. An adjustable sash fastener, comprising in combination, a pivot plate having slotted screw holes by means of which it can be secured upon the sash in adjusted positions, a pivot carried by said plate, a slotted bolt carried by said pivot, and means for securing said bolt upon said plate in adjusted positions, substantially as and for the purposes set forth. 6th. The combination, with the fixed frame and removable sash, of a thimble or socket in said frame offset from said sash, but in a plane substantially parallel with the face of the sash, a pivot plate having slotted screw openings upon the face of said sash, a bolt pivoted to and sliding upon said plate and adapted to enter said socket when the sash is in position, and means for tightening the connection between said bolts and said sash to secure said bolt in adjusted positions upon said plate and said sash within said frame, substantially as and for the purposes set forth.

No. 39,163. Check Rein Holder and Hook.

(*Foucs-rènes et crochet.*)

Oliver Kennedy, Brunswick, Georgia, U.S.A., 15th June, 1892; 5 years.

Claim.—1st. In a check rein worker and hook, a base provided at its forward end with a stationary strap guide, an upward projecting stationary keeper on the base in rear of the strap guide, and upwardly and rearwardly swinging pawl pivoted at its upper end to

the keeper, and extending at its lower end into a plane lower than that occupied by the strap guide, substantially as described. 2nd. In a check rein worker and hook, a base provided at its forward end with an upward projecting stationary strap guide, a stationary keeper extending upward from the base in rear of the guide, and provided with an upwardly and rearwardly swinging pawl, having an anti-friction roller projecting below its lower end, and in a plane lower than that of the said guide to engage a strap, substantially as set forth. 3rd. A check rein worker and hook, consisting in a base provided at its forward end with an upwardly extending stationary strap guide, a stationary keeper projecting upwardly from the base in rear of the strap guide, a pawl pivoted at its upper end in the keeper to swing upwardly and rearwardly in its lower end, said lower end being in a lower plane than the strap guide, and a check rein strap extending through the guide downwardly and rearwardly through the keeper under the said pawl, and provided on its upper side with a catch or projection engaging the rear face of the lower end of the pawl, substantially as set forth.

No. 39,164. Method of Casting Iron Pigs, Ingots, etc.

(*Méthode de moulage de fonte en gueuse, lingots, etc.*)

Douglas Dryenforth, Chicago, assignee of James William Cole, South Chicago, both in Illinois, U.S.A., 15th June, 1892; 5 years.

Claim.—1st. The process of treating iron which consists in introducing pulverulent carbonaceous material into a vessel, raising the temperature of the iron to a point at which it will flow freely, and while in this condition bringing the same in contact with the carbonaceous material, and thereupon permitting the carbonaceous material to act upon the iron, substantially as described. 2nd. The process of treating iron which has been cast and permitted to solidify, which consists in remelting the iron and raising its temperature to a point at which it will flow freely, introducing pulverulent carbonaceous material into a vessel, bringing the iron while in the condition named into contact with the carbonaceous matter, and thereupon permitting the carbonaceous material to act upon the iron, substantially as described. 3rd. The process of treating iron which consists in introducing pulverulent carbonaceous material into a receptacle, raising the temperature of the iron to a point at which it will flow freely, and while in this condition conveying it to the receptacle containing carbonaceous material, permitting the carbon to act upon the iron and allowing the iron to solidify, and thereupon removing and remelting the iron, substantially as described. 4th. The process of treating iron which consists in coating a metallic receptacle with pulverized carbonaceous material in substantially the proportion named, thereupon introducing into said receptacle molten iron at a temperature at which it will flow freely and allowing the same to solidify without removal, substantially as described. 5th. The process of producing castings which consists in introducing pulverulent carbonaceous material into a vessel and introducing molten iron into said vessel at a temperature at which it will flow freely, permitting the carbonaceous material to act upon the iron, and permitting the iron to solidify, thereupon remelting the iron and introducing the same into a metallic mold having an interior coating of pulverulent carbonaceous material, substantially as described.

No. 39,165. Apparatus for Manufacturing Gas.

(*Appareil pour la fabrication du gaz.*)

James R. Kendall, Terre Haute, Indiana, U. S. A., 20th June 1892; 5 years.

Claim.—1st. In an apparatus for manufacturing heating and illuminating gas, the combination, with a retort, as A, lined with fire brick or other refractory material, as *a*, and containing two communicating heating chambers, as B and C, each of which has a bottom composed of spheres, as *s*, *s*, made of refractory material, and a mass or checker work body of refractory material beneath it, as *b*, *b*, of means, as the injectors *i*, *i*, *i*¹¹, *i*¹¹, pipes *p*¹, *p*¹¹, and tuyeres *t*, *t*, for passing hydrocarbon vapor, steam and air into each of said chambers separately, and air pipes located in the walls of the retort and provided with valves and connected with pipes *p*¹, *p*¹¹, and an uptake provided with valves connected with the lower end of said retort, for causing the resultant products to pass downwardly through the refractory material under them and into a single chamber, as D, for collecting the fixed gas for transmission through an outlet, as *d*, substantially as described. 2nd. In an apparatus for manufacturing heating and illuminating gas, the combination, with a retort, as A, lined with fire brick or other refractory material, as *a*, and containing two communicating heating chambers, as B and C, each of which has a bottom composed of spheres, as *s*, *s*, made of refractory material, and a mass or checker work body of refractory material beneath it, as *b*, *b*, of means, as the injectors *i*, *i*, *i*¹¹, *i*¹¹, pipes *p*¹, *p*¹¹, and tuyeres *t*, *t*, arranged tangentially to the chambers, for passing hydrocarbon vapor, steam, and air centrifugally into each of said chambers separately, and air pipes located in the walls of the retort, and provided with valves connected with the lower end of said retort, and the pipes *p*¹, *p*¹¹, for causing the resultant products to pass downwardly through the refractory material under them and into a single chamber, as D, for collecting the fixed gas for transmission through an outlet, as *d*, substantially as described. 3rd. In an apparatus for manufacturing and producing heating and

illuminating gas, the combination, in a cylindrical generator or retort, of two communicating chambers B and C, lined with refractory material and having circumferential steam pipes i^1, i^2, i^3 , and vertical air pipes p, p , embedded in said lining and connected to the tuyeres t, t^1 , by the pipes $p^{111}, p^{111}, p^1, p^1$, each of said chambers being provided with separate injectors and having separate bottoms composed of fire clay balls or spheres s, s , resting upon a body of fire brick checker work b, b , and supports, with a receiving chamber D, situated below said decomposing chambers for receiving the gas produced therein, and having an outlet pipe d , connected with a stack or pipe for exhausting the gases or vapors in the decomposing chambers, and also with the main for conveying fixed gas to the gas holder, substantially as described.

No. 39,166. Gate Latch. (*Loquet de barrière.*)

George Mallory, Township of Harwick, Kent, Ontario, Canada, 20th June, 1892; 5 years.

Claim.—A gate latch, comprising a latch E, of the peculiar form shown and described, staples F, to loosely hold latch E, to the post and rub irons, secured to the sides of the upright gate bar or post, all arranged and combined substantially as and for the purpose hereinbefore set forth.

No. 39,167. Horse Hay Rake. (*Râteau à cheval.*)

Horace A. Alden and John E. Kirk, both of Peoria, Illinois, U.S.A., 20th June, 1892; 5 years.

Claim.—1st. In a horse hay rake, the combination, of a broad rake head, having forwardly projecting teeth adapted to be turned upwards for the purpose set forth, and suitable means for supporting said teeth in their upturned position, said rake head being provided with wheels, and with means for attaching said wheels thereto in a manner permitting the rake to be drawn forward and endwise, substantially as described. 2nd. In a horse hay rake, the combination, of a broad rake head having forwardly projecting teeth adapted to be turned upward for the purpose set forth, and a suitable frame or support suitably connected with the rake head to hold said teeth in their upturned position, said rake head and said frame or support being provided with wheels, and with means for attaching the wheels thereto in a manner permitting the rake to be drawn forward and endwise, substantially as described. 3rd. In a horse hay rake, the combination, of a broad rake head, provided with forwardly projecting teeth adapted to be turned upwards, for the purpose set forth, a frame at the rear of said rake head and hinged thereto, and provided with a wheel adapted to be shifted from its normal position to a position to rotate at right angles to the normal line of draft, and wheels attached to the rake head and adapted to be shifted from their normal position to a position to rotate at substantially right angles to the normal line of draft, substantially as described. 4th. In a horse hay rake, the combination, with a broad rake head, of a frame hinged to said rake head to permit the rake teeth to be turned upward for the purpose set forth, said rake head being supported on wheels in a plane parallel with the normal line of draft, and being provided with devices for the attachment of wheels to rotate in a plane substantially perpendicular or at right angles to the normal line of draft, substantially as described. 5th. In a horse hay rake, the combination, of a broad rake head, provided with forwardly projecting teeth, and with a frame at the rear of said rake head, provided with a wheel adapted to be shifted from its normal position to a position to rotate at substantially right angles to the normal line of draft, of a detachable shifting rod connecting said rake head and frame, whereby the rake head is permitted to be turned to elevate its teeth for the purpose set forth, and wheels for sustaining said rake head, adapted to be shifted from their normal position to a position to rotate at substantially right angles to the normal line of draft, substantially as described. 6th. In a horse hay rake, the combination, of a broad rake head having forwardly projecting teeth, and adapted to be turned to bring said teeth to an elevated position for the purpose set forth, of detachable carrying wheels, and supports for said wheels, one set of such supports being arranged at the ends of the rake head in front of the draft bars, and the other set of said supports being arranged at the rear of the rake head, whereby when the wheels are held by one set of said supports, the rake may be drawn forward, and when held by the other set of said supports the rake may be drawn endwise, substantially as described. 7th. In a horse hay rake, the combination, with the broad rake head having forwardly projecting teeth adapted to be turned to an elevated position, for the purpose set forth, of carrying wheels detachably connected thereto, detachable journals for said carrying wheels, and suitable sockets wherein said journals will be sustained, one set of said sockets being located at each end of the rake head, and the other set of said sockets being located at the rear of said rake head, whereby the carrying wheels may be sustained to rotate in the plane of the normal line of draft, or in a plane at substantially right angles thereto, substantially as described. 8th. In a horse hay rake, the combination, with a broad rake head, having forwardly projecting teeth, and adapted to be turned to bring said teeth to an elevated position for the purpose set forth, of suitable means for sustaining said rake head, with its teeth in their upturned position, suitable carrying wheels attached to said rake head, journals for said wheels, plates to which said journals are attached, and head blocks provided each with two

sockets adapted to receive said journal plates, whereby said carrying wheels may be arranged to rotate in the plane of the normal line of draft, or at substantially right angles thereto, substantially as described. 9th. In a horse hay rake, the combination of a broad rake head, having forwardly projecting teeth, the seat frame pivotally connected to said rake head, in a manner permitting said rake head to be turned to bring its teeth to an elevated position for the purpose set forth, a detachable shifting rod connecting said rake head and seat frame, a suitable catch for holding said rake head when its teeth are turned upward, suitable wheels for said rake head and seat frame, and suitable means for attaching said wheels to the rake head and seat frame in a manner permitting the wheels to rotate at substantially right angles to the normal line of draft, substantially as described. 10th. In a horse hay rake, the combination, with the rake head, and a seat frame pivotally connected thereto, of a bracket 12 mounted upon said rake head, and provided with an eye 14, and a shifting rod 11, detachably connected to said bracket 12, and provided with a hook 13, substantially as described. 11th. In a horse hay rake, the combination, with the rake head, of head blocks provided with the double sets of sockets arranged at an angle to each other, suitable carrying wheels and journals and journal plates for said carrying wheels adapted to enter the sockets of the head blocks, substantially as described. 12th. In a horse hay rake, the combination, with a rake head having the upper and lower cross bars, of the metallic head blocks B, each provided with vertically projecting arms b and b^1 , having the ledges 2 and 3 projecting inwardly therefrom for supporting the upper transverse bars A and A¹, of the rake head, and having also inwardly projecting portions b^4 and b^5 , beneath the ledges 2 and 3 for sustaining the lower cross bars of the rake head, substantially as described. 13th. In a horse hay rake, the combination, with the rake head having the upper and lower cross bars, of the metal head blocks B having the vertically projecting arms b and b^1 , provided with ledges 2 and 3 for sustaining the cross bars A and A¹, and having also the projecting portions b^4 and b^5 , for sustaining the lower cross bars of the rake head, and having also a forwardly projecting arm b^2 , for sustaining the draft bar, substantially as described.

No. 39,168. Hot Water Circulating Boiler.

(*Calorifère à eau.*)

Warden King and James Cochrane King, assignees of Charles Alexander Sullivan and Thomas Joseph Best, all of Montreal, Quebec, Canada, 21st June, 1892; 5 years.

Claim.—A hot water circulating boiler having a water stack A, divided into three column spaces B, C, B, said column spaces independently connected by ports to the water space G, of the several sections composing the boiler, said water spaces G, provided with diaphragms D, D, coinciding at one end to the division walls of the water stack, whereby the water from the middle column C is divided and returned to the smaller columns B, B, said columns B, B, closed at the bottom and connecting at the top with openings in the bottom of a water chamber J, inside of the header K, and said column C connecting at the bottom with said water chamber E, and closed at the top, as set forth.

No. 39,169. Terret for Harnesses. (*Crochet de selle.*)

George Mallory, Township of Harwick, Trent, Ontario, Canada, 21st June, 1892; 5 years.

Claim.—1st. The combination of a harness terret A, B, C, S, with a spring D, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of a harness terret A, B, C, S, with a spring D set in socket, cast with terret solid, substantially as and for the purposes hereinbefore set forth.

No. 39,170. Organ. (*Orgue.*)

Jacob R. Hessler, Chicago, Illinois, U.S.A., 21st June, 1892; 5 years.

Claim.—1st. In an organ, the combination, with the air chamber and a spring actuated bellows, of a reciprocating valve adapted to open and close the bellows throats, for the purpose substantially as specified. 2nd. In an organ, the combination, with the air chamber and spring actuated bellows, of a valve adapted to open and close the bellows throat by means of a lever connecting said valve and bellows, for the purpose substantially as specified. 3rd. In an organ, the combination, with the air chamber and spring actuated bellows, of a valve adapted to partly open and close the bellows throat, for the purpose substantially as specified.

No. 39,171. Furnace for Hot Water.

(*Calorifère à eau chaude.*)

Thomas Brooks, Peterborough, Ontario, Canada, 21st June, 1892; 5 years.

Claim.—1st. As an improved hot water furnace, a water space formed around the fire box and enclosed by a smoke jacket, substantially as and for the purpose specified. 2nd. As an improved hot water furnace, a water space formed around the fire box, a smoke flue leading from the fire box into a smoke jacket formed on top of the water space, a partition forming a longitudinal division of the said jacket, and openings located on either side to permit the smoke to pass down into jackets formed on each side of the furnace and com-

municating with a smoke jacket formed on the back of the furnace, substantially as and for the purpose specified. 3rd. As an improved hot water furnace, a water space formed around the fire box and enclosed by a smoke jacket, the smoke jacket being provided with detachable doors, substantially as and for the purpose specified. 4th. In a furnace having a water space surrounding or partially surrounding it, the combination, with a series of hollow bars connected to the water space and forming a fire grate, through which water circulates, substantially as and for the purpose specified. 5th. In a furnace having a water space surrounding or partially surrounding it, the combination of a water space formed around the smoke stack and communicating with the water space around the boiler, substantially as and for the purpose specified. 6th. In a furnace having a water space surrounding or partially surrounding it, the combination of a water partition B¹ within the furnace and suitably connected to the water space, substantially as and for the purpose specified.

No. 39,172. Switch for Electric Lighting.

(*Commutateur pour éclairage électrique.*)

Andreas Peter Lundberg, 18 Regina Road, Tollington Park, London, England, 21st June, 1892; 5 years.

Claim.—1st. In a switch, the helical contact and operating spring or springs, for the purpose specified. 2nd. In a switch, the application of the square cavity or recess in the base of the switch, in which the key works, for obtaining independent quick make and break of the circuit. 3rd. In a switch, the method of stepping the sides of said cavity or recess with brass pieces, which accelerate the make and break of the currents, substantially as described. 4th. In a switch, the brass shield or cradle, to which the helical springs are fixed, which prevents any back movement of the switch handle if an attempt is made to turn it in the wrong direction, for the purpose specified. 5th. In a switch, the use of the split posts fixed in the cradle or shield, round which the helical contact springs are wound, this cradle being fixed to the key piece by the central pin screwing into the key piece, substantially as described. 6th. In a switch, the right angle brass pieces serving the double purpose of contact plates for attaching the terminals of the switch and as steps for accelerating the make and break of the circuit, substantially as described. 7th. In a switch, the employment of one helical spring only in cases requiring single make and break, such as in 2, 3 and 4 way switches, the helical spring being wound either round the central pin of the key or tangentially placed, as in the double break method, for the purpose specified. 8th. In a switch, the combination of the pole of the base forming one bearing in which the central pin of the key works, and the corresponding levels at the top of the key and inside top of cover for obtaining true central working of the key in the hole of the cover, substantially as herein described and according to the accompanying drawing.

No. 39,173. Method of Preparing Butter and Cream.

(*Méthode de préparer le beurre et la crème.*)

Walter Cole, Landon, England, 21st June, 1892; 5 years.

Claim.—1st. The new process for the manufacture or production of butter by forcing air at a suitable temperature through the milk or cream from which the butter is to be made. 2nd. The new process hereinbefore described of obtaining whipped cream, that is to say, by forcing air at a suitable temperature through the cream to be treated. 3rd. The use in the manufacture or production of butter or whipped cream, of apparatus such as is hereinbefore described and illustrated in the accompanying drawing. 4th. Butter or whipped cream manufactured or produced by the process herein described.

No. 39,174. Grain Binder. (*Lieuse à grain.*)

James Ralph Severance, Poughkeepsie, New York, U. S. A., 22nd June, 1892; 5 years.

Claim.—1st. The combination, with the vibrating discharger arm A of a grain binder, of the intermittently revolving shaft D, crank E, and jointed connecting rod K for producing the vibratory movement of the arm, and cam F, lever L, and suitable connections adapted to give the arm a rolling movement about its longitudinal axis, substantially as described. 2nd. The combination, with the vibrating and rolling bundle discharger of a grain binder, of an intermittently revolving operating shaft, a vibrating support for the discharger connected to a crank on the operating shaft, which effects the vibration of the arm by a connecting rod provided with universal joints, a cam on said shaft, a pivoted lever operated by said cam, a crank arm on said discharger, and a universal joint connection between the lever and the crank arm, whereby the rolling movement of the discharger is secured, substantially as described. 3rd. The combination, with the frame of a grain binding mechanism, of the vibrating and rolling bundle discharger arm A, mounted in the vibrating support J, pivoted on standard I above the frame, operating shaft D, provided with crank E, and connecting rod K, having universal joints at its ends, whereby the vibrating movement of the discharger is effected, cam F on the shaft D, lever L pivoted on the frame, crank arm N attached to the discharger, and the universal joint connection M between the crank arm and the free end of the lever L, whereby the rolling movement of the discharger is secured, substantially as and for the purposes set forth.

No. 39,175. Lubricant. (*Graisneur.*)

Charles Henry Ridsdale, of the Grange, Hutton, Guisborough, and Alfred Jones, of Cleveland View, Newport Hill, Middlesbrough, both in the County of York, England, 22nd June, 1892; 5 years.

Claim.—1st. A lubricant, consisting of the combination of hard insoluble alkaline earth soap, ordinary soap, oil or grease, and a solid mineral lubricating material, substantially as described. 2nd. A lubricant, consisting of the combination of hard insoluble alkaline earth, soap, oil, grease, ordinary soap and sulphur, substantially as described. 3rd. A lubricant, consisting of ordinary soft lubricating materials, and a hard insoluble alkaline earth soap added thereto, and intimately mixed therewith, whereby the whole becomes hard and solid.

No. 39,176. Continuous Railway Rail.

(*Rail sans fin.*)

Bernhard Gustav Maercklein, Milwaukee, Wisconsin, U. S. A., 22nd June, 1892; 5 years.

Claim.—1st. A continuous railroad rail consisting of the ends of the rail constructed to form diagonal lap splices, with the webs of the main rails deflected to face with the joint in the splice, and made a portion therefore under the upper section of the rail, and the diagonal webs double at the place of bolt connections, as hereinbefore specified and shown. 2nd. A continuous railroad rail consisting of the ends of the rails constructed to form diagonal lap splices, with diagonal webs as an extension of the webs of the main rail, and the webs double and extending to the termination of the splice on the upper section of the rail, and a fish plate on opposite sides of the splice which is secured by bolts passing through the double and single webs, as and for the purpose hereinbefore set forth.

No. 39,177. Vacuum Pump. (*Pompe à vide.*)

John W. Fraser and John Wilson, both of London, Ontario, Canada, 22nd June, 1892; 5 years.

Claim.—1st. The concaved bracket A, and tube B, in combination with the standards E, the hub G, formed with trunnions d, two or more arms I, provided with anti-friction rollers J, and means for operating the hub G, substantially as shown and described and for the purpose specified. 2nd. The concaved bracket A, and the tube B, in combination with the standards E, formed with the slots c, the guides c, on the bracket A, the hub G, formed with the trunnions d, two or more arms I, provided with anti-friction rollers J, and means for operating the hub G, substantially as shown and described, and for the purpose specified. 3rd. The concaved bracket A, formed with the guides D, and boxes C, and the tube B, in combination with the standards E, the hub G, formed with the trunnions d, two or more arms I, provided with anti-friction rollers J, and means for operating the hub G, substantially as shown and described, and for the purpose specified. 4th. The concaved bracket A, formed with the guides D, and boxes C, and the tube B, in combination with the standards E, formed with slots c, the guides c, on the bracket A, the hub G, formed with the trunnions d, two or more arms I, provided with anti-friction rollers J, and means for operating the hub G, substantially as shown and described, and for the purpose specified. 5th. The concaved bracket A, formed with the boxes C, guides D, and ball K, the support N, formed with a socket L, to which the ball K is fitted, and the tube B, in combination with the standards E, formed with the slots c, the hub G, formed with the trunnions d, and two or more arms I, provided with anti-friction rollers J, and means for operating the hub G, and for securing the support N, to an object, substantially as shown and described, and for the purpose specified.

No. 39,178. Ventilator. (*Ventilateur.*)

Peter Abrahamson, San Francisco, California, U. S. A., 22nd June, 1892; 5 years.

Claim.—1st. In a ventilator, a casing square in cross section having separate passages for the incoming and outgoing currents, and having its upper end formed with openings in three of its sides, the right angled partition in the upper end of one of the passages in said casing dividing said passage into sub-passages, each of which communicates with one of the openings in the three sides of the casing, and the hood F over said openings, substantially as herein described. 2nd. A ventilator consisting of a casing having a partition dividing it into two passages, one for the incoming and the other for the outgoing currents, a right angled partition vertically disposed in the outer or upper end of the casing, forming a plurality of sub-passages, each of which communicates with a separate opening through the walls of the casing, a screen covering or cap over the outer end of one of the main passages, and a perforated or screen cover at the inner end of the other main passage, the opposite ends of said main passages, having a free opening and the two passages being relatively reversed, substantially as herein described. 3rd. A ventilator consisting of a casing having separate passages for the incoming and outgoing currents, one of said passages at its outer end having a perforated cap and at its inner end a free opening, and the other of said passages having at its inner end a perforated cover and at its outer end the right angled partitions E, forming separate sub-

passages, each of which has a separate opening through the walls of the casing to the external air, the hood F over said openings and through the said perforated cap projects, and the hood G over the whole top of ventilator, substantially as herein described.

No. 39,170. Stretcher for Boots.

(*Forme brisée de chaussure.*)

Watkin Louis Faire, London, England, 23rd June, 1892; 5 years.

Claim.—1st. A boot stretcher in which the screwed rod E is mounted in a fixed bearing and operated by a crank handle. 2nd. In a boot stretcher, the combination of an expanding last or blocks A, follower nut F, cam piece D, screwed rod E, mounted in a bearing such as G¹, and operated by a crank handle such as H, substantially as described and illustrated in the accompanying drawings. 3rd. The improved construction of boot stretchers, substantially as described and illustrated in the accompanying drawings.

No. 39,180. Apparatus for Feeding Calves.

(*Appareil pour nourrir les veaux.*)

Henry Bowman Lingford and Edward Lingford, both of North Road, Ripon, Yorkshire, England, 23rd June, 1892; 5 years.

Claim.—1st. The combination, of a tube 3 for conveying liquid to the mouth piece, attached to the cover 10, with a flexible disc 8, substantially as described, and for the purpose specified. 2nd. The combination, of a tube 3, a cover 10, and a flexible disc 8, with a plug 2, carrying a mouth piece 1, and attached to the wall or partition by means of the spring 6, and the flange 4^a, substantially as described.

No. 39,181. Knee for Bob Sleighs.

(*Support pour traineau jumeau.*)

Parker Waite, Kingston, Ontario, Canada, 23rd June, 1892; 5 years.

Claim.—The combination of two steel braces or straps movable on the rare rods or and starks, and bearing on the runner and sleigh beam during the oscillatory movements of the sleigh in the direction of the line of motion and forming an oscillating bob sleigh knee, as and for the purposes described.

No. 39,182. Damper for Stove Pipes.

(*Clé de tuyau de poêle.*)

John Baillie Cook, Hamilton, Ontario, Canada, 23rd June, 1892; 5 years.

Claim.—1st. A stove pipe damper, constructed with a notched lug upon it, a raised bridge and a steel wire loop made to be inserted under the bridge and over the notched lug, and an open cone shaped spiral spring surrounding the loop on the outside of the stove pipe, and a handle on a plane with the damper, substantially as and for the purpose specified. 2nd. In a stove pipe damper, the combination of the damper A, lug D, bridge F, loop G, spiral cone spring c, and handle d, all constructed substantially as and for the purpose specified.

No. 39,183. Metallic Post for Fences.

(*Pieux métalliques pour clôtures.*)

Benjamin Fry Randall, Fall River, Massachusetts, U.S.A., 23rd June, 1892; 5 years.

Claim.—1st. A fence post consisting of a single piece of wrought metal, having at one edge a lateral strengthening rib and rolled integral with an angular base comprising two flanges, one of which terminates in a driving head for the purpose of driving the post into the ground, substantially as described. 2nd. A metal fence post consisting of a single piece of wrought metal, having inclined wire receiving slots and rolled integral with a right angular base comprising two angular flanges, one of which terminates in a driving head below the lowermost slot for the purpose of driving the post into the ground, substantially as described. 3rd. The combination, with a fence post having upper and lower slots or recesses, of a hook which engages the lower slot or recess, and is adapted to hook over a fence strand passing through the upper slot or recess, substantially as described. 4th. The combination, with a fence post having a pair of slots 7 and 8 which are inclined in reverse directions relatively to one edge of the post, of a hook engaged with the lower slot 8, and having a hooked extremity which engages a fence strand passing through the upper slot 7, substantially as described. 5th. The combination, with a fence post having an inclined slot, the bottom wall or edge of which is beveled, of a hook engaged with the post below the inclined slot and adapted to hook over a fence strand passing through the slot, substantially as described. 6th. The combination, with fence post having upper and lower inclined slots, and a fence strand passing through the upper slot and formed with a bend 12, of a hook engaged with the lower slot and adapted to hook over the fence strand passing through the upper slot, substantially as described. 7th. A metal fence post composed of a flat plate having wire receiving slots, the edges of which converge, said slotted plate being formed with an angular base, one flange of which terminates as a driving head below the lowest wire receiving slot, substantially as described.

No. 39,184. Toe Weight. (Contre-poids de sabot.)

Charles Taro, Brockville, Ontario, Canada, 23rd June, 1892; 5 years.

Claim.—1st. A toe weight, comprising a base plate A, concave on one face to fit the hoof of a horse, and having a raised surface on the opposite side, and provided with holes C, C¹, to receive screws by which to fasten the plate to the hoof, and a tapped hole D at the middle, an elliptical concave-convex cap E having recesses on the concave face to receive the raised surface of the plate A, and conforming to its contour, said cap provided with a hole G, and connected to the plate A, by a screw H, as set forth. 2nd. The combination, of the base plate A, adapted to fit the hoof of a horse and be secured thereto by screws, said plate having a tapped hole D, and a loop B, the cap E, fitting on and conforming to the contour of said plate, and having a rounded exterior surface, and the screw H, fastening said plate and cap together, as set forth.

No. 39,185. Tea Blending Machine

(*Machine pour mêler les thés.*)

Thomas Crompton, Midland City, Ontario, Canada, 23rd June, 1892; 5 years.

Claim.—1st. A tea blender composed of the casing D, provided with integral radiating wings, and secured upon the shaft C, which is supported in suitable bearings and designed to be revolved, as and for the purpose specified. 2nd. The casing D, provided with integral radiating wings I, an opening H, provided with a cover h, and supported on the shaft C, which is journaled in suitable bearings and is revolved, as and for the purpose specified. 3rd. The casing D, provided with integral radiating wings I, an opening H, provided with a cover h, and supported on the shaft C, which is journaled and revolved in suitable bearings, in combination with the weight J, arranged as and for the purpose specified. 4th. The casing D, provided with integral radiating wings I, an opening H, provided with a cover h, and supported on the shaft C, which is journaled and revolved in suitable bearings, in combination with the oblique ends K, arranged as and for the purpose specified. 5th. The casing D, secured in bearings on the shaft C, which is revolved as specified, in combination with the wings I, provided with the holes or openings i, arranged as and for the purpose specified.

No. 39,186. Water Cock. (Robinet à eau.)

William Roberts, Toronto, Ontario, Canada, 23rd June, 1892; 5 years.

Claim.—A cock having an unobstructed water passage way formed through it and its spout, the valve seat being formed in the passage way, substantially as and for the purpose specified.

No. 39,187. Tack Driving Machine.

(*Machine à chasser la broquette.*)

Michael G. Mains, Oberlin, Ohio, U.S.A., 23rd June, 1892; 5 years.

Claim.—1st. A tack driving machine, comprising a case having a raceway therein for tacks, a spring actuated carrier or placer at the lower portion of the case, a dog for feeding the tacks one at a time to the said carrier or placer, and a plunger for driving the tack, substantially as described. 2nd. A tack driving machine, comprising a case having a raceway therein for tacks, and a filler at the top of the same, a spring actuated carrier or placer at the lower portion of said case, a feeding dog above the said carrier or placer, and a plunger for driving the tack, substantially as described. 3rd. In a tack driving machine, a feeding dog having a portion of the same extending through to the exterior of the supporting case of the same, a spring actuated rod connected to said projecting part of the dog, and means for driving the tacks, substantially as described. 4th. In a tack driving machine, a filler comprising a V-shaped receptacle, and a narrow trough arranged at one end of the receptacle and having its terminating end inclined, substantially as described. 5th. In a tack driving machine, the combination, with the case having a raceway for tacks, and means for driving the tacks, of a dog pivotally mounted in the case and having a slotted end in the path of the tacks, an operating spring actuated rod for said dog, and a spring actuated tack carrier or placer at the lower portion of the case below said dog, substantially as described. 6th. In a tack driving machine, the combination, with the casing thereof, of a ferrule on the lower end of the same having a carpet stretching attachment integrally formed therewith, substantially as described.

No. 39,188. Oil Can. (Bidon à huile.)

Abraham J. Tschantz, Orville, Ohio, U. S. A., 23rd June, 1892; 5 years.

Claim.—1st. In an oil can, the combination of an air pump comprising a vertical cylinder, a piston and piston rod therein, a perforated diaphragm across said cylinder, forming a chamber below it, which chamber has a perforated bottom communicating with the atmosphere, and a flap valve over the perforations, a vertical passage from the said chamber to the top of the can, its upper end being in the can, and a perforated partition between the lower end of said passage and the chamber, the perforations in said partition being covered by a flap valve on the passage side, a discharge pipe leading

from the bottom of the can out of the top thereof, and a relief valve at the top of the can. 2nd. In an oil can, the combination of a central air pump comprising a vertical cylinder, a piston and piston rod therein, a perforated diaphragm across said cylinder, forming a chamber below it, which chamber has a perforated bottom communicating with the atmosphere and a flap valve over the perforations, and a diagonal plate in said chamber having perforations covered by a flap valve, said plate not extending over the perforations in the said diaphragm, a vertical tube communicating with the upper side of said diagonal plate and extending to the top of the can, the upper end of said tube being in the can, a discharge pipe leading from the bottom of the can out of the top thereof, and a relief valve at the top of the can. 3rd. In an oil can, the combination of an air pump comprising a vertical cylinder, a piston and piston rod therein, a perforated diaphragm across said cylinder, forming a chamber below it, which chamber has a perforated bottom communicating with the atmosphere, and a flap valve over the perforations, a vertical passage from the said chamber to the top of the can, its upper end being in the can, and a perforated partition between the lower end of the said passage and the chamber, the perforations in said partition being covered by a flap valve on the passage side, a discharge pipe leading from a basin in the bottom of the can out of the top of the latter, and having a U-shaped nozzle for insertion in a lamp, and a relief valve at the top of the can. 4th. In an oil can, the combination of an air pump, comprising a vertical cylinder, a piston and a piston rod therein, a perforated diaphragm across said cylinder forming a chamber below it, which chamber has a perforated bottom communicating with the atmosphere, and a flap valve over the perforations, a vertical passage from the said chamber to the top of the can, its upper end being in the can, and a perforated partition between the lower end of said passage and the chamber, the perforations in said partition being covered with a flap valve on the passage side, a discharge pipe leading from the bottom of the can out of the top of the same, and a vent comprising a tube rising from the top of the can, and having a perforated upper end, a spring actuated valve within said tube closing the perforations in the same, and a push rod connected with said valve. 5th. In an oil can, the combination, with the can, of an air pump barrel extending within the can from the top to the bottom, and secured thereto at both ends, a piston adapted to be reciprocated within the barrel, a port at the lower end of the barrel communicating with an air passage leading to the top part of the interior of the can, an air inlet situated at the base of the barrel and communicating with the external air, an oil delivery pipe extending from within the can, and a relief valve, substantially as and for the purpose specified. 6th. In an oil can, the combination, with the can, of an air pump barrel extending within the can from the top to the bottom, and secured thereto at both ends, a piston adapted to be reciprocated within the barrel, a passage delivering air from the barrel to the can, an air inlet, and suitable valves, substantially as and for the purpose specified. 7th. In an oil can, the combination, with the can, of an air pump barrel extending within the can, a piston adapted to be reciprocated within the barrel, a port at the lower end of the barrel communicating with an air passage leading to the top part of the interior of the can, an air inlet situated at the base of the barrel and communicating with the external air, and an oil delivery pipe extending from within the can, substantially as and for the purpose specified. 8th. In an oil can, the combination, with the can, of the air pump barrel, extending within the barrel, a valve located below the piston, an air passage leading to the top part of the interior of the can, an oil delivery pipe extending from within the can, and a suitable relief valve located above the oil line, substantially as and for the purpose specified.

No. 39,189. Musical Instrument.

(Instrument de musique.)

Ira F. Gilmore, Bloomington, Illinois, U.S.A., 23rd June, 1892; 5 years.

Claim.—1st. In a musical instrument, the combination, with the keys and a series of reeds, of a series of horizontally adjustable reed operating devices, substantially as and for the purpose set forth. 2nd. In a musical instrument, the combination, with the keys and a pair of comb reeds, of a horizontally adjustable series of ratchet wheels, substantially as and for the purpose set forth. 3rd. In a musical instrument, the combination, with the keys and a pair of comb reeds, of a horizontally adjustable rod, a series of ratchet wheels journaled loosely thereon, and means in connection with the keys for turning the ratchet wheels, substantially as set forth. 4th. In a musical instrument, the combination, with the keys and a pair of comb reeds, of horizontal guides, boxes sliding in said guides, screw threaded rods projecting so as to engage and adjust said boxes, a horizontal rod carried by said boxes, a series of ratchet wheels loosely journaled on said rod, and means in connection with the key for turning the ratchet wheels, substantially as set forth. 5th. In a musical instrument, the combination, with a semi-cylindrical sound board, of a pair of comb reeds projecting through an opening therein, and means for engaging the points of the reeds, substantially as set forth. 6th. In a musical instrument, the combination of the wooden sounding box, a metallic semi-cylindrical sounding box secured thereto, the partition between the two being provided with

openings, comb reeds within the metallic sounding box, and strings within the wooden sounding box, substantially as set forth. 7th. In a musical instrument, the combination of a vertical sounding box, comb reeds secured thereto, means for engaging said reeds, and a series of strings within said box, substantially as set forth.

No. 39,190. Saddle for Cycle Vehicles.

(Selle pour bicyclet.)

Cyrus Wellington Salade, Cleveland, Ohio, U.S.A., 23rd June, 1892; 5 years.

Claim.—1st. In a saddle for cycle vehicles, the combination, with a seat and a post, of a spring having its front end approximately G-shape, and a clamp for holding the spring on the post, and arranged about midway between the front end of the seat and its vertical center, as and for the purpose described. 2nd. In a saddle for cycle vehicles, the combination, with a seat and a post, of a spring which suspends the seat from its opposite terminal ends, and having its front part approximately C-shape, and a clamp connecting the spring to the post at a point sufficiently in advance of the vertical center of the seat to throw the weight or load on the seat in rear of the vertical line of the clamp, whereby the front end of the spring is adapted to move rearward in unison with the downward motion of the rear end of the spring, substantially as and for the purpose described. 3rd. In a saddle for cycle vehicles, the combination with a seat and a post, of a spring connected by a clamp to the post, and a bearing arranged normally out of contact with said spring and which is brought against said spring on the downward and rearward motion of the seat, substantially as described. 4th. In a saddle for cycle vehicles, the combination, with a seat and a post clamp, of a spring and a bearing arranged in the path of the movable part of the spring, and adapted to contact with the same when the spring is depressed under the weight or load on the saddle, substantially as and for the purpose set forth. 5th. In a saddle for cycle vehicles, the combination, with a seat and a post clamp, of the spring having its terminal ends connected to the pommel and cantle of the seat, and the duplex bearing having its parts or members situated above and below the spring on opposite sides of the clamp, and adapted to contact with the spring when the same is depressed, as and for the purpose described. 6th. The combination, with a seat and a post clamp, of a spring consisting of two members which are connected by the clamp and are extended beyond the clamp to contact with the body of the spring, as and for the purpose described. 7th. In a saddle for cycle vehicles, the combination, with the seat and a post supported clamp, of the spring, consisting of two members united together at their inner ends, said inner ends of the members being extended beyond the fastening means to reinforce the body of the spring, as and for the purpose described. 8th. In a saddle for cycle vehicles, the combination, with a spring and a post, of the yoke which straddles said spring and post, a clip plate through which the threaded ends of the yoke are passed, and the nuts bearing against the clip plate, as and for the purpose described. 9th. In a saddle for cycle vehicles, the combination of a spring, a post, a clip arranged to straddle the spring and post, and having the clip plate and the nuts on its lower end, and a bearing plate fitted between the post and the spring, as and for the purpose described. 10th. In a saddle for cycle vehicles, the combination, with a spring and a post, of the yoke which straddles the spring and post, the clip plate fitted on the lower ends of the yoke and bearing against the lower side of the post, and a bearing plate fitted between the arms of the yoke to be held from displacement thereby, and arranged between the spring and the upper side of the post, as and for the purpose described. 11th. A saddle seat, provided with a longitudinal central reinforce, as and for the purpose described. 12th. A seat for saddles, having its pliable top reinforced by a longitudinal strip of unyielding material which extends from end to end of the top, and is united rigidly thereto, as and for the purpose described. 13th. A seat for saddles, having the rigid reinforce extending centrally thereof, from end to end, and with the side edges of said reinforce curved to conform to the down turned edges of the pliable top at the front or pommel end of the saddle, as and for the purpose described. 14th. A seat for saddles, having the depending sides at the front thereof, and means for preventing the sides from spreading, as and for the purpose described. 15th. A seat for saddles, having the depending sides at the front thereof connected together by transverse fastening means adapted to prevent the sides from spreading laterally, as and for the purpose described. 16th. A seat for saddles, having its downward edges provided with perforations, and a lacer extending transversely across the saddle and through the perforations in the sides thereof, as and for the purpose described. 17th. The combination, with a seat or top, of the spring having its upper extremity, at the front thereof, provided with the space eyes, a plate rigidly secured to the seat and having an eye which fits between and aligns with the eyes of the spring, and a transverse pivotal bolt passing through said aligned eyes, as and for the purpose described. 18th. The combination, with a top or seat, and a spring, of the cantle bar rigidly secured to the hind end of the saddle and provided with a pocket on its front side which receives the rear end of the spring, and the clamping screws for holding said spring in the socket, as and for the purpose described.

No. 39,191. Cigarette Making Machine.*(Appareil pour faire les cigarettes.)*

William Anderson Hulse, Rochester, New York, U. S. A., 24th June, 1892; 15 years.

Claim.—1st. In a machine for making continuous cigarettes, the combination, substantially as set forth, of mechanism for simultaneously advancing a continuous wrapper and a tobacco filler encircled thereby, to and past a seam forming mechanism, consisting of devices by which the opposite edges of the wrapper are brought into engagement with each other and a two part pressure device, one part being arranged to operate outside the wrapper, and the other inside thereof, the two parts co-acting to incorporate the engaged edges together into a longitudinal seam flattened down upon the body of the wrapper. 2nd. In a seam forming mechanism of a machine for making continuous cigarettes, composed of a tobacco filler enclosed in a paper wrapper, having a longitudinal seam formed without paste or other adhesive material, and flattened down upon the body of the cigarette, the combination, substantially as set forth, of a filler space or channel within the wrapper, and a two part pressure device, one part arranged to operate outside of the wrapper and the other inside thereof, the two parts co-operating to secure the engaged edges of the wrapper, when it envelops the filler, into a flattened longitudinal seam, without the application of adhesive material. 3rd. In a seam forming mechanism of a machine for making continuous cigarettes, composed of a tobacco filler enclosed in a paper wrapper, the combination, substantially as set forth, of a filler space or channel within the wrapper and a two part pressure device, one part being arranged to operate outside of the wrapper and the other inside thereof, the latter being separated by a wall or partition from the filler space or channel. 4th. In a seam forming mechanism of a machine for making continuous cigarettes, composed of a tobacco filler enclosed in a paper wrapper, the combination, substantially as set forth, of a tobacco filler space or channel and a two part pressure device, one part consisting of a wheel arranged to operate outside of the wrapper and having its periphery serrated or roughened, and the other part arranged to operate inside of the wrapper. 5th. In the seam forming mechanism of a machine for making continuous cigarettes, composed of a tobacco filler enclosed in a paper wrapper, the combination substantially as set forth, of a filler space or channel and a two part pressure device, one part consisting of a wheel arranged to operate outside of the wrapper and adjustably arranged thereto, and the other part consisting of a frictionally driven roller arranged to operate within the wrapper. 6th. In a machine for making continuous cigarettes, the combination substantially as set forth, of a tube, mechanism for advancing a tobacco filler, and a paper strip through the tube and for wrapping the paper around the filler, and seam forming mechanism, consisting of devices for bringing the opposite edges of the paper strip into engagement with each other, and of a two part pressure device, one part being located on the tube to operate on the outside of the wrapper, the two parts co-acting to press the engaged edges of the wrapper together when the tobacco filler is enclosed therein, and to incorporate such edges into a longitudinal seam. 7th. In a machine for making continuous cigarettes, the combination substantially as set forth, of a tube, an endless band adapted to carry or advance a continuous strip of paper, and a tobacco filler deposited therein through the tube, devices for wrapping the paper strip around the filler, and seam forming mechanism comprising devices for bringing the opposite edges of the wrapper into engagement with each other, and a two part pressure, one part being a small roller Q, located near the forward end of the tube and arranged to operate inside the wrapper when it encircles the filler and the other part being a roughened or serrated wheel N, arranged to operate on the outside of the wrapper. 8th. In a machine for making continuous cigarettes, the combination substantially as set forth, of mechanism for compressing a tobacco filler, and mechanism for uniting the edges of a continuous wrapper, when encircling such filler, into a flattened seam, without the application of adhesive material, a part of said latter mechanism being arranged to operate inside of the wrapper, whereby the tobacco filler when released from pressure will expand to fill the sealed wrapper. 9th. In a machine for making continuous cigarettes, the combination substantially as set forth, of a tapered tube, an endless band E for advancing a tobacco filler through the tube and compressing it therein when encircled by a continuous wrapper, and a roller Q located near the end of the tube and arranged to operate on the inside of the wrapper in connection with a wheel N, arranged to operate on the outside of the wrapper, whereby the compressed filler, when relieved from pressure, will expand to take up the slack of the wrapper caused by the operation of the roller Q inside the wrapper. 10th. In a seam forming mechanism, of a cigarette machine, a device L, consisting of two spirally curved pieces e, e, arranged to form a narrow way for the edges of a wrapping strip of paper, in combination with a tapered chamber f, whereby the edges of a paper strip, as they are advanced through the device L, are rolled or coiled spirally upon each other, substantially as set forth. 11th. In the seam forming mechanism of a cigarette machine, a piece M, carrying devices for spirally rolling or coiling the edges of a wrapping strip of paper upon each other and adapted to be removably secured in place, substantially as set forth. 12th. In the seam forming mechanism of a cigarette machine, a tapered chamber z, in combination with a tapered core p, whose free end projects into the

chamber, whereby the edges of a wrapping strip are rolled or coiled spirally, substantially as set forth. 13th. In a cigarette tube, comprising devices for wrapping a continuous strip of paper around a tobacco filler and uniting its opposite edges into a seam on the outside of the wrapper, metal strips d, d, in combination with a projection K, and the surface of the tube, the metal strips being secured to the projection and forming ways or guides for the edges of the wrapping strip, substantially as set forth. 14th. In a cigarette tube, comprising devices for wrapping a continuous strip of paper around a tobacco filler and uniting its opposite edges into a seam on the inside of the wrapper, metal strips j, j, provided with downwardly projecting edges k, k, in combination with a groove i, and the surface of the tube, substantially as and for the purpose set forth. 15th. A tube provided with a tobacco filler channel B¹, devices for guiding a continuous strip of paper around the filler and bringing its edges into engagement with each other, and a small roller Q located near the end of the tube and arranged to operate inside of the wrapper edges to co-act with a wheel N, arranged to operate on the outside of the wrapper, substantially as set forth.

No. 39,192. Brick Kiln. (Four à brique.)

John McLean French, assignee of Michael John Hynes, all of Toronto, Ontario, Canada, 24th June, 1892; 5 years.

Claim.—1st. An improved kiln, consisting of a brick chamber having a vertical flue in its side arranged to connect a flue extending from the furnace to a flue leading to the smokestack of the kiln, the said flue being arranged entirely around the said chamber, substantially as and for the purpose specified. 2nd. A vertical flue E, located in the centre of the brick chamber A, and communicating at its top end with a flue a, extending over the lower and round the centre of the chamber A, and communicating with a furnace or furnaces C, in combination with a flue F, formed at the bottom of the chamber A, and communicating with the vertical flue E, and flue G, which communicates with the dome H, through the openings I, regulated by the dampers J, substantially as and for the purpose specified. 3rd. A brick chamber A, surrounded by flues, as described, and provided with openings M, having dampers N, substantially as and for the purpose specified.

No. 39,193. Grain Binder. (Lieuse à grain.)

The McCormick Harvesting Machine Company, Chicago, Illinois, assignees of James Ralph Severance, Poughkeepsie, New York, both in the U.S.A., 24th June, 1892; 5 years.

Claim.—1st. The combination, of the grain platform, a throat or passage way leading therefrom, a gaveling chamber located at one side of the terminus of said throat, and a binding chamber located at the other side, a binder arm which embraces the grain in the gaveling chamber, and carries it across the throat and into the binding chamber, a pivoted positively actuated gate which during the passage of the gavel across the throat occupies a position below the path of the gavel, and suitable mechanism arranged to operate the gate at the proper time relative to the motion of the binder arm, substantially as described. 2nd. The combination of the grain platform, a throat or passage way leading therefrom, the packing device located at one side of the throat at the end of the platform, and having a fixed relation thereto, the gaveling chamber, located above the packing device and constructed to permit the movement of the binder arm in different planes, and the endwise adjustable binding table and mechanism, located on the side of the throat opposite the gaveling chamber, and provided with a pivoted positively actuated gate, which during the passage of the binder arm occupies a position below the path of the gavel, substantially as described. 3rd. The combination, with the binding mechanism of a grain binder, provided with a supporting frame and a binding receptacle in which the bundle is bound, of the vertically vibrating rear discharge ejector arm, pivoted on the frame at a point above the bottom of the binding receptacle, whereby the reversal of the bundles during the delivery operation is secured so that they strike the ground butt ends first, substantially as described. 4th. In a low down grain binder, the combination, of the main frame, with the main driving wheel located at its outer end, the grain platform, a throat or passage way leading therefrom, the packing device located at the delivery end of the platform, the gaveling chamber located above the packing device and constructed to permit the movement of the binder arm in different planes, the binding table and mechanism located outside the throat and adjustable lengthways of the grain, a positively actuated swinging gate which during the movement of the binder arm occupies a position below the path of the gavel, and a rear discharge bundle ejector, consisting of a vertically vibrating arm pivoted to the rear of the binder frame and adjustable therewith, substantially as described. 5th. The combination, of a throat or passage way with gaveling and binding chambers located on opposite sides of its terminus, a binder arm which carries the grain from the gaveling to the binding chamber across the throat, an arm or gate pivoted below the binding receptacle and operated by suitable mechanism driven by the binder shaft in such manner that the gate assists in supporting the gavel as it crosses the throat, and then rises towards the binding receptacle and with the binder arm acts as compressor, substantially as described. 6th. The combination, of a throat or passage way with gaveling and binding chambers located on opposite sides of its terminus, a binder arm which carries the grain from the gaveling to

the binding chamber, across the throat, a pivoted arm or gate operated by suitable mechanism driven by the binder shaft, in such manner that the gate is withdrawn from before the gavel during its passage across the throat, and then is forced against the gavel on the same side with the binder arm, and a rear discharge bundle ejector consisting of a vertically vibrating fork carrying arm pivoted to the rear of the binder frame, substantially as described. 7th. The combination, with the grain conveying and binding mechanism of a grain binder, of suitable rotary feeding mechanism, provided at the forward end with the revolving circular plate or disc P^1 , arranged to revolve about a horizontal axis, and opposed to the butts of the grain, substantially as described. 8th. The combination, of the conveyor belt of a sheaf binding harvester, and the throat or passage way at one end thereof, extending inward and upward, open at its rear end and closed or partially closed at its forward end by the rotating butt disk and located between the rotary feeders having projecting feeder teeth and the spring guards opposite the feeder teeth, the clearance roller at the end of the conveyor belt and the clearer bars Z , Z , substantially as described. 9th. The combination, with the binding mechanism of a grain binder, provided with a supporting frame and a binding receptacle in which the bundle is bound, of the vertically vibrating and rolling rear discharge ejector arm, pivoted on the frame at a point above the bottom of the binding receptacle, and mechanism for vibrating and rolling the said ejector arm, substantially as described. 10th. The combination, with the grain conveying and binding mechanism of a grain binder, of the continuously revolving feeder provided with projecting feeder teeth, the clearer bars extending across the path of the teeth, and the revolving plate or disc arranged to revolve on a horizontal axis and opposed to the butts of the grain, substantially as described. 11th. The combination, with the grain conveying and binding mechanism of a grain binder, of the continuously revolving feeders provided with projecting feeder teeth, the spring guards placed opposite the feeders, and the rotating disc, opposed to the butts of the grain, substantially as described. 12th. The combination, with the grain conveying and binding mechanism of a grain binder, of the continuously revolving feeders, provided with projecting feeding teeth, the clearer bars extending outwards and upwards across the path of the teeth, the spring guards placed opposite the feeders and bars, and the revolving disc, opposed to the butts of the grain, substantially as described. 13th. The combination, with the grain conveying and binding mechanism of a grain binder, of the continuously revolving feeders, the rotating disc, opposed to the butts of the grain, and the cylindrical drum, of smaller diameter than the disc, and extending from the disc to the next adjacent feeder, substantially as described. 14th. The combination, with the grain conveying and binding mechanism of a grain binder, of the continuously revolving feeders, the board constituting the forward end of the graveling chamber and the revolving butt disc opposed to the butts of the grain, and arranged to revolve in a plane parallel with the plane of the end board, substantially as described. 15th. The combination, with the grain conveying and binding mechanism of a grain binder, of the continuously revolving feeders, the spring guards placed opposite the feeders, the grooved clearance roller and the rotating butt disc, opposed to the butts of the grain, substantially as described. 16th. The combination, with the grain conveying and binding mechanism of a grain binder, of the continuously revolving feeders, provided with feeding teeth, the clearer bars extending across the path of the teeth, the rotating disc opposed to the butts of the grain and the rearwardly curved bracket arranged to support the rear end of the feeding mechanism, substantially as described. 17th. The combination, in the feeding mechanism of a grain binder, with the front row of feeder teeth of a rotary feeder, of the grain guide or guard opposite the first row of feeder teeth operating to keep the straw in contact with the teeth, and the disc revolving with the feeder teeth and forming a revolving end plate for the feeder mechanism, adapted to carry forward the butts of the grain, substantially as described. 18th. The combination, with the travelling and vibrating binder arm, of the compressor which forms the top of the binding chamber, a suitable binding table which forms the bottom of the binding chamber, the horn which forms one side of the binding chamber, and a vibrating gate which forms the other side of the binding chamber, substantially as described. 19th. The combination of the binder post, rocked by suitable mechanism, the compressor pivoted on the post so as to rock on its pivot within fixed limits, and adapted to operate as a cover for the measuring receptacle when the post is at one extreme of its oscillation, and as the cover of the binding chamber when the post is at the opposite extreme of its oscillation, substantially as described. 20th. In a grain binder of that type in which the gavel is bound between the grain platform and the master wheel, the combination of the rocking binder post, a compressor pivoted on the post so as to rock on its pivot within fixed limits, and adapted to operate as a cover for the binding chamber when the post is at one extreme, and to slide off the bundle when the post is rocked towards the other extreme of its oscillation, a rear discharge bundle ejector adapted to lift the bundle upward out of the binding chamber when the cover is removed, and suitable connecting and driving mechanism whereby the post and the discharger are operated in proper time relative to each other, substantially as described. 21st. In the binding chamber of a grain binder, the combination of the knotted casing forming one side of the chamber, the compressor gate forming the side of the chamber next the binder arm, the horn forming the opposite side, and the compressor

cover carried on the rocking post and arranged to slide off the bundle to allow of its being lifted by the discharger, substantially as described. 22nd. The combination, with the grain conveyor of a grain binder of the adjustable revolving feeder F^1 , located at the delivery end of the conveyor, and operating to feed the grain upward through a throat or passageway, the grain receptacle on the inner side of the throat and the binding chamber on the outer side, adjustable binding mechanism provided with the vibrating and traveling binding arm adapted to carry the grain across the throat from the grain receptacle to the binding chamber, and suitable connecting mechanism whereby the simultaneous adjustment of the feeder and the binding mechanism is secured, substantially as described. 23rd. The combination, with the grain conveyor of a grain binder of a compound revolving grain feeding mechanism, consisting of an adjustable feeder F^1 , and a non-adjustable feeder F , located at the delivery end of the conveyor, and operating to feed the grain upward through a throat or passageway, the grain receptacle on the inner side of the throat and the binding chamber on the outer side, adjustable binding mechanism provided with a binding arm adapted to carry the grain across the throat from the grain receptacle to the binding chamber, and suitable connecting mechanism, whereby the simultaneous adjustment of the adjustable feeder and the binding mechanism is secured, substantially as described. 24th. The combination, with the grain conveyor of a grain binder, of the adjustable revolving feeder F^1 , located at the delivery end of the conveyor and operating to feed the grain upward through a throat or passageway, the grain receptacle on the inner side of the throat and the binding chamber on the other side, adjustable binding mechanism provided with a binding arm adapted to carry the grain across the throat from the grain receptacle to the binding chamber, the connecting arm w , and rod h^1 , substantially as described. 25th. The combination, with the grain delivery throat of a grain binder of the continuously revolving feeder F , provided with feeding teeth e^1 , e^1 , e^2 , e^2 , projecting into the throat, having acting edges inclined backwards at different inclinations, substantially as described. 26th. The combination, with the grain delivery throat, of a continuously revolving feeding mechanism, provided with feeding teeth having acting edges inclined backwards, and a binding arm arranged to pass through the stream of grain at the time it is being advanced by a feeding tooth of the greatest inclination, substantially as described. 27th. The combination, with the grain delivery throat of a grain binder, of a continuously revolving grain feeding mechanism, consisting of a series of two or more feeders F , F^1 , provided with feeding teeth of different inclinations, one of the said feeders being adjustable while the other is non-adjustable, substantially as described. 28th. The combination, with the grain delivery throat of a grain binder, of an adjustable binding mechanism adapted to receive the grain from the throat, and a continuously revolving grain feeding mechanism, consisting of a series of two or more feeders provided with feeding teeth of different inclination, one of said feeders being adjustable lengthways simultaneously with the binding mechanism, while the other is non-adjustable, substantially as described. 29th. The combination, with the grain delivery throat of a grain binder, of suitable adjustable binding mechanism and continuously revolving grain feeding mechanism, consisting of a series of two or more feeders F , F^1 , mounted on the same axis, one of which is adjustable lengthways of the axis simultaneously with the binding mechanism, while the other or others are non-adjustable, and the adjustable clearer bar Z^1 , substantially as described. 30th. The combination, with the grain delivery throat of a grain binder, of suitable adjustable mechanism, and a continuously revolving grain feeding mechanism, consisting of a series of two or more feeders F , F^1 , one of which is adjustable lengthways of the axis simultaneously with the binding mechanism, while the other or others are non-adjustable, and the spring finger or fingers a^1 , located on the opposite side of the throat and opposite the non-adjustable feeder or feeders, substantially as described. 31st. The combination, with the grain delivery throat of a grain binder, of suitable adjustable binding mechanism, the grain receptacle L , the continuously revolving feeding mechanism consisting of a series of two or more feeders F , F^1 , mounted on the same axis, one of which is adjustable lengthways of the axis simultaneously with binding mechanism, while the other or others are non-adjustable, and the clearer bar or bars Z , substantially as described. 32nd. The combination, with the non-adjustable revolving grain feeder F , of the adjustable revolving feeder F^1 and drum Y , substantially as described. 33rd. The combination, with the non-adjustable revolving grain feeder F , of the adjustable revolving feeder F^1 , drum Y and tie rods z^1 , z^2 , substantially as described. 34th. The combination, of the revolving adjustable grain feeder F^1 , the non-adjustable feeder or feeders F , the drum Y and revolving butt disc P^1 , substantially as described. 35th. The combination, in the rotary feeding mechanism of a grain binder, of the revolving slotted drum constructed of the staves and the heads at the end of the drum, the toothed ring secured to the drum, the adjustable feeder arranged to slide thereon and provided with one or more radial arms passing through the slot or slots in the drum, and the central rod for adjusting the feeder, substantially as described. 36th. The combination, in the rotary feeding mechanism of a grain binder, of the revolving slotted drum constructed of the notched staves and the heads at the ends of the drum, the toothed rings provided with internal lugs fitting the notches in the staves, the adjustable feeder having one or more radial arms passing through the slot or slots in the drum, substantially as described. 37th. The

combination, in a rotary feeding mechanism of a grain binder, of the staves and heads forming the drum, the toothed rings secured to the drum, and the adjustable feeder arranged to slide thereon, substantially as described. 38th. The combination, with the overhanging swinging binder post *H*, of the binder arm *G*, shaft *t*, crank arm *l*, connection *k*, link lever *h*, *i*, and revolving crank *e*, substantially as described. 39th. The combination, with the adjustable binding mechanism provided with the travelling and vibrating binder arm *G*, arranged to carry the grain from the grain receptacle to the binding chamber, of the vibrating side compressor *Y*, and the adjustable feeder *F*¹, substantially as described. 40th. The combination, with the adjustable binding mechanism, provided with the travelling and vibrating binder arm *G*, arranged to carry the grain from the grain receptacle to the binding chamber, of the vibrating side compressor *Y*¹, the upper compressor *V*¹, and the adjustable feeder *F*¹, substantially as described. 41st. The combination, with the adjustable binder frame *m*, *n*, supporting a binding mechanism comprising the overhanging swinging binder arm post *H* carrying the binder arm *G*, adapted to carry the grain from the grain receptacle to the binding chamber, of a continuously revolving grain feeding mechanism containing one or more non-adjustable feeders and an adjustable feeder connected with the binding mechanism by the axially arranged rod *h*¹ and arm *n*, substantially as described.

No. 39,194. Grain Scalper and Grader.

(*Séparateur des grains.*)

Frank Noblq and Hiram Snyder, both of Minneapolis, Minnesota, U.S.A., 24th June, 1892; 5 years.

Claim.—1st. In a separator, the combination, with the screen and spring support on which the same is mounted, of the pivoted rock bar carrying said spring support, substantially as described. 2nd. In a separator, the combination, with the screen and spring support on which said screen is centrally mounted, of the pivoted rock bar connected to both ends of said spring support, substantially as described. 3rd. In a separator, the combination, with the screen and spring support on which said screen is centrally mounted, of the pivoted rock bar carrying said spring support, and adjustable connections between the ends of the spring support and rock bar, substantially as described. 4th. In a separator, the combination, with a screen and spring support therefor mounted on a pivoted rock bar, of a knocker, for the screen mounted on a centre coincident with the pivot of the rock bar, whereby the inclination of the screen may be changed without altering the positions of the knocker with relation thereto, substantially as described. 5th. In a separator, the combination, with the screen spring support on which said screen is centrally mounted, and pivoted rock bar connected to said spring support at both ends, of the shaft passing through the pivot of the rock bar, and the cam on said shaft for vibrating the screen, substantially as described. 6th. In a separator, the combination, with the screen, spring support on which it is mounted, and adjustable rock bar, of the carriage connected to the ends of the spring supports and adjustably mounted in the rock bar, substantially as described. 7th. In a separator, the combination, with the screen, spring supports on which it is mounted, and adjustable bars having the sockets at each end, of the carriages carrying the spring supports fitting in said sockets, and the screws for adjusting the position of the carriages within the sockets, substantially as described. 8th. In a separator, the combination, with the screen, spring supports on which it is centrally mounted, the centrally pivoted adjustable rock bars, and the adjustable carriages connecting the end of the spring support and rock bars, of the knocker pivoted on a centre coincident with the pivot of the rock bars and the wear plate on the under side of the spring support, with which the knocker co-operates, substantially as described. 9th. In a separator, the combination, with the screen, the two cross bars connected thereto, and the spring support to which said cross bars are connected, of the adjustable rock bar connected to both ends of the spring support, and the knocker engaging the spring support between the cross bars, substantially as described. 10th. In a separator, the combination, with the screen, the spring support on which it is mounted, and the rock bar connected to both ends of said spring support, of the base plate having the central stud bearing on which the rock bar is pivoted, and the projections at each side, the bolts passing through slots for holding the rock bar in adjusted position and the knocker mounted on a shaft journaled in the bearing in the base plate, substantially as described.

No. 39,195. Refrigerating Compound.

(*Composé réfrigérant.*)

The Trussell Automatic Freezing Company, assignee of Wilbert C. Trussell, all of Boston, Massachusetts, U.S.A., 24th June, 1892; 5 years.

Claim.—A refrigerating agent, composed of nitrate of ammonia, bicarbonate of soda, permanganate of potash, nitrate of potash, brine and ice, as set forth.

No. 39,196. Kite. (*Cerf-volant.*)

Thomas Ansboro, Glasgow, and John Liddle, Hillhead, both in the County of Lanark, North Britain, 24th June, 1892; 5 years.

Claim.—1st. A revolving kite, consisting essentially of a strip or support, such as *F*, and a body rotatably attached to said support,

substantially as set forth. 2nd. The combination, of the strip *F*, the belly band and kite tail attached to said strip, and a suitable kite body rotatably attached to said strip, substantially as set forth. 3rd. The combination, of the strip *F*, the kite body, the tubular spindle passing through said body, and a pivot pin or screw passing through said tubular spindle and attached to the strip *F*, for rotatably supporting the body, substantially as set forth. 4th. The combination, of the strip *F*, the kite frame or body constructed of suitable strips and a covering material, a hollow spindle passing through said strips for holding them together, and a pivot pin or screw passing through said tubular spindle and attached to the strip *F*, substantially as set forth. 5th. The combination, in a revolving kite, of the strip *F*, having the block *G*, secured thereto, the kite frame covered with any suitable material, and a suitable pivotal connection between said frame and the block *G*, as set forth. 6th. The combination, of a suitable strip or support, such as *F*, a kite frame rotatably attached to said support, a suitable covering on said frame, and semi-conical pockets formed in said covering, substantially as set forth. 7th. The combination, of a suitable strip or support, such as *F*, a kite frame formed of suitable strips rotatably attached to said support, a cord *C*, passing around the ends of said strips, a cord *C*¹, also passing around the kite frame and attached alternately to the ends and points inside the ends of the strips, semi-conical pockets supported in the triangular spaces formed between the cords *C* and *C*¹, and a suitable covering stretched over the remainder of the kite frame, substantially as set forth. 8th. A folding kite, consisting essentially of a series of crossing strips pivoted together at or near their centres, and provided with a suitable covering, said covering being divided into two parts, and said parts being applied to the opposite ends of said crossing strips, substantially as set forth. 9th. A folding kite, consisting of a series of crossing strips pivoted together at or near their centres, and a divided covering applied to said crossing strips to form two separable folding kite sections, substantially as herein set forth. 10th. A folding kite, consisting of a series of crossing strips pivoted together at or near their centres, and having two separate cords connecting their adjacent ends on separate sides of the kite frame, and a divided covering for said kite frame, substantially as set forth. 11th. A folding kite, consisting of the crossing strips *A*, *A*¹, *A*² and *A*³, pivoted together at or near their centres, a divided covering for said kite frame, and suitable caps *M*, for holding the kite in expanded position, said caps being adapted to engage the adjacent ends of the strips *A*, *A*¹, as herein set forth.

No. 39,197. Breast Collar for Horses.

(*Collier de cheval.*)

Andrew Henry Fletcher, Edwin Ezra Harris and Robert H. Climie, all of Kingsville, Ontario, Canada, 24th June, 1892; 5 years.

Claim.—A horse or breast collar constructed of a rigid U-shaped metallic frame *A*, to fit the breast and a portion of the neck of a horse, said frame enclosed by a lining *B*, and exterior leather cover *C*, the latter extending as flaps *C*¹, *C*², beyond the ends of the frame, said flaps connected by a fastening *D*, and said horse or breast collar provided with loops or straps *E* for connection of the tugs or traces, as set forth.

No. 39,198. Buckle. (*Boucle.*)

The Metal Goods Manufacturing Company, assignee of Albert Daniel Field, all of Bridgeport, Connecticut, U.S.A., 24th June, 1892; 5 years.

Claim.—1st. The combination of the buckle frame *F*, with the lever *G* pivoted thereto, the said lever forming or carrying the drawing loop *e*, and all the parts being so arranged that the pivot *d* of the lever will be on the outer side of the drawing loop *e*, when the lever is folded down upon the buckle frame, substantially as herein shown and described. 2nd. The combination of the buckle frame *F*, with the lever *G* pivoted thereto, said lever forming the foot *f* and the drawing loop *e*, said foot being behind the pivot of the lever and under the loop *e*, all arranged substantially as and for the purpose specified. 3rd. The combination of the buckle frame *F* and the lever *G* pivoted thereto, said lever carrying the drawing loop *e*, said drawing loop being between the extremities of the buckle frame when the parts are in the closed position, the portion of the lever *G* which in the closed position passes through the buckle frame being slightly wider than said buckle frame to form a snap lock, substantially as and for the purpose herein shown and described. 4th. The lever *G*, having foot *f* and loop *e*, and adapted to be pivoted to the buckle frame *F*, as described. 5th. The lever *G*, having foot *f*, projections *i* and loop *e*, and adapted to be pivoted to the buckle frame *F*, as described.

No. 39,199. Method of Manufacturing Beer.

(*Méthode de fabrication de la bière.*)

The Pfaudler Vacuum Fermentation Company, Rochester, New York, assignee of August Hummel, Chicago, Illinois, all of the U.S.A., 24th June, 1892; 5 years.

Claim.—1st. In the manufacture of beer by bottom or lower fermentation, the process of conducting the main fermentation under a partial or approximate vacuum, which consists in confining the wort pitched with yeast in a closed vessel, abstracting from above

the liquid atmospheric air and the gaseous products of fermentation as they accumulate, and maintaining the wort at the requisite low temperature during the progress of fermentation, substantially as described. 2nd. In the manufacture of beer by bottom or lower fermentation, the process of conducting the main fermentation and subsequently aging or ripening the product under a partial or approximate vacuum, which consists in confining the wort pitched with yeast in a closed vessel, abstracting from above the liquid atmospheric air and the gaseous products of fermentation as they accumulate, and maintaining the wort at the requisite low temperature during the progress of fermentation. 3rd. In the manufacture of beer by bottom or lower fermentation, the process of conducting the main fermentation and subsequently aging or ripening the product under a partial or approximate vacuum, which consists in confining the wort pitched with yeast in a closed vessel, abstracting from above the liquid atmospheric air and the gaseous products of fermentation as they accumulate, maintaining the wort at the requisite low temperature during the progress of fermentation until the main fermentation is completed, and then in the same vessel continue the abstraction of gaseous products of fermentation and atmospheric air, if any, still maintaining the requisite low temperature in the liquid for aging and ripening the beer, substantially as described. 4th. In the manufacture of beer by bottom or lower fermentation, the process of conducting the main fermentation under a partial or approximate vacuum, which consists in confining the wort pitched with yeast in a closed vessel, abstracting from above the liquid atmospheric air and the gaseous products of fermentation as they accumulate, maintaining the wort at the requisite low temperature, and introducing atmospheric air into the body of the wort during the progress of fermentation, substantially as described. 5th. In the manufacture of beer by bottom or lower fermentation, the process of conducting the fermentation under a partial or approximate vacuum, which consists in confining the beer becharged with yeast remaining from the main fermentation in a closed vessel, abstracting atmospheric air, if any, and the gaseous products of fermentation as they accumulate above the liquid, maintaining the liquid at the requisite low temperature, and introducing into the liquid, during the progress of fermentation, atmospheric air, substantially as described. 6th. In the manufacture of beer by bottom or lower fermentation, the process of conducting the main fermentation, which consists in confining the wort pitched with yeast in a closed vessel, abstracting in whole or in part the atmospheric air and gaseous products of fermentation from the upper part of the vessel, introducing atmospheric air into the lower part of the vessel and into the sedimentary matter, thereby increasing fermentation and producing a circulation of the wort under the impulse of the introduced air, substantially in the manner and for the purpose described.

No. 39,200. Cloth Measuring Machine.

(*Machine à mesurer les draps.*)

John Charles Craig, Fenelon Falls, and James McDowell Taylor, Peterborough, both in Ontario, Canada, 24th June, 1892; 5 years.

Claim.—1st. The combination, with the sides A, A, connected by a bar C, provided with a friction roller B, of the arm F, attached to one of said sides and extending upwardly and towards the opposite side, the measuring wheel H, rotating on an axle extending from said arm, or a post G secured to said arm, the one cog wheel K, rotating with said wheel H and around the axle I, the registering wheel L, having cogs or peripheral divisions engaged by the cog of said wheel K, and the gravitating pawl O, provided with a lug P, to hold said wheel intermittently, whereby the gravitating pressure of said arm F, and wheels H, L, is exerted upon or against said friction rollers, in measuring piece goods, as set forth. 2nd. The combination, with the arm F, of the measuring wheel H, the cog wheel K, having but one cog, the registering wheel L, and the pawl O, as set forth. 3rd. The rod or stick R, having journals R¹, R², and a halved portion longitudinally to receive the cloth board, and the clamp screw c, for holding said cloth board in said halved portion, as set forth. 4th. The pencil holder P, and the chalk holder G, in combination, with the measuring wheel H, for the purpose set forth.

No. 39,201. Ratchet Wrench. (*Clé à rochet.*)

Henry D. Fisk and Alonzo H. Losee, both of Davisburg, Michigan, U. S. A., 24th June, 1892; 5 years.

Claim.—1st. In a wrench, the combination of the handle, the revolvable integral head, journaled on said handle, said head having a nut receiving recess in each end and two peripheral ratchets, the teeth of which stand in opposite directions, the pawls pivoted to the handle and engaging said ratchets respectively, whereby the revolution of said head may be alternately reversed, as set forth. 2nd. In a wrench, the combination of the handle, the integral wrench head centrally journaled thereon, said head having a nut receiving recess in each end, and two peripheral ratchets, the teeth of which stand in opposite directions, the pawls adapted to engage said ratchets respectively, the thumb stops or turn buttons, by means of which said pawls may be successively disengaged from said ratchets, substantially as specified. 3rd. In a wrench, the combination of the handle, the integral head journaled thereon, said head having a

nut receiving recess and a concentric opening communicating therewith, and said head being also provided with two peripheral ratchets, the teeth of which stand in opposite directions, the pawls adapted to engage said ratchets, the turn buttons adapted to engage said pawls to successively disengage them from the ratchets. 4th. In a wrench, the combination of the handle, the integral head having a nut receiving recess in each end thereof, and a concentric opening communicating with said recesses, said head also having the circumferential groove and a peripheral ratchet on each side of said groove, the teeth of which stand in opposite directions, the looped band lying within said groove, and attached to opposite faces of the handle, the spring actuated pawls engaging said ratchets, and the turn buttons adapted to raise said pawls from said ratchets, respectively, as set forth.

No. 39,202. Car Coupler. (*Attelage de chars.*)

Joseph Carter Oakman, Sydney, assignee of John Brown, Redfern, both in New South Wales, Australia, 24th June, 1892; 5 years.

Claim.—1st. In an automatic car coupling, a combined link and coupling pin, the link portion of which is provided with internal helical or inclined surfaces, whereby when said link is applied to a drawhead it is caused to be rotated by longitudinal pressure, substantially as set forth. 2nd. In an automatic car coupling, a coupling part or link, provided at its forward end with an engaging shoulder or shoulders, and at or near its rear end with helical or inclined surfaces adapted to cause the rotation of said part or link when its forward end is forced back by longitudinal pressure, substantially as set forth. 3rd. In an automatic car coupling, the combination, with the draw bar, of a draw head hinged or pivoted thereto upon a substantially vertical line, and a coupling part or link having at its forward end an engaging shoulder or shoulders for attachment to an opposing drawhead and having at or near its rear end helical or inclined surfaces adapted to be engaged by a transverse pin or projection upon or within said first mentioned drawhead, substantially as and for the purposes set forth. 4th. In an automatic car coupling, the combination, with the draw bar, of a draw head hinged or pivoted thereto upon a substantially vertical line, means for holding said pivoted head yieldingly in a substantially central position, a coupling part or link having at its forward end an engaging shoulder or shoulders for attachment to an opposing drawhead, and having at or near its rear end helical or inclined surfaces adapted to be engaged by a transverse pin or projection upon or within said first mentioned drawhead, and means such as a weight or spring for turning said coupling part upon its longitudinal axis, substantially as set forth. 5th. In an automatic car coupling, a drawhead having a face, shaped upon an ogee or reversed curve, and a vertical slot in the concave part of said face, and a coupling part or link extending from the convex portion of said face, and having at its outer end an engaging shoulder or shoulders, the whole adapted to form an automatic coupling and buffer. 6th. In an automatic coupling, a draw bar combined with a draw head hinged thereto upon a substantially vertical axis, and having a face shaped upon an ogee or reversed curve, and a vertical slot in the concave part of said face, and a coupling part or link extending from the convex portion of said face, and having at its outer end an engaging shoulder or shoulders, the whole adapted to co-operate with a similar opposing device to form an automatic coupling and buffer, having a wide range of action. 7th. In an automatic car coupling, the coupling part or link having at its forward end an engaging shoulder or shoulders, and having at its rear end internal helical or inclined surfaces, the rearmost part of which surfaces at the point of draft is concave, substantially as set forth. 8th. In an automatic car coupling, a coupling part or link provided at its forward end with oppositely inclined or beveled engaging shoulders for equalizing the pull upon each side of said part, substantially as set forth. 9th. In an automatic car coupling, a drawhead having an aperture for the coupling part or link inclined upwards towards and open at one side of the head, combined with a coupling part or link passing through said opening and loosely connected in the rear thereof with the drawhead, whereby said part is adapted to be thrown to one side to avoid injury, and to be returned to its proper position. 10th. A combined pin and link having within its link portion helical or inclined surfaces, and having at its other end an engaging shoulder or shoulders, substantially as set forth. 11th. In a car coupling, the combination, with a vertically hinged buffer head, of a coupling link or pin, having an engaging shoulder or shoulders for connection with an opposing head, and helical or inclined surfaces, and a pin seated in said head and engaging said surfaces to hold the pin, and to cause its rotation when said pin is moved longitudinally, substantially as set forth.

No. 39,203. Sound Arrester for Smoke Preventers.

(*Appareil pour étouffer le bruit des jets de vapeur qui neutralisent la fumée.*)

The Western Smoke Preventer Company, assignees of Robert D. Smith, all of Chicago, Illinois, U.S.A., 24th June, 1892; 5 years.

Claim.—In a sound arrester for steam jet smoke preventers, the combination, of side, top and bottom end walls, partitions extending laterally across from and attached to the side walls forming chambers, holes arranged in such partitions, so that the hole through

adjacent partitions shall not be opposite each other, a hole through the outer wall of the outside chamber, and a discharge pipe extending longitudinally from the inner end of the several connecting chambers to and beyond the outer end wall of the outside chamber, and adapted to connect with the pipe surrounding a steam jet nozzle, whereby the induced current of air created by the steam jet from the nozzle is drawn through the series of chambers before extending into the fire box of the steam generator to which the device is attached, substantially as described.

No. 39,204. Egg Case. (Boîte à œufs.)

William Hackley Church and William Campbell, both of Fenelon Falls, Ontario, Canada, 24th June, 1892; 5 years.

Claim.—1st. A case or box A, containing five tiers of fillers H, each tier comprising one hundred and twenty compartments, consisting of eight compartments in a row and the rows numbering fifteen, loose floors J, intervening each tier, and said case or box provided with a cover B, for protection of the contents, whereby the said case will have fifty dozen of compartments, for packing eggs or fruit, as set forth. 2nd. A case or box A, having a central vertical transverse partition L, dividing the interior into a greater and a lesser division, both divisions containing five tiers of fillers H, the smaller division having each tier of fillers comprising eight compartments in a row, and the rows seven in number, and the larger division fillers, comprising eight compartments in a row, and the rows eight in number, floors J, intervening the tiers of fillers, and the case provided with a suitable cover B, as set forth. 3rd. A case or box divided by transverse vertical partitions K, K, into three equal divisions, each division containing five tiers of fillers H, each tier comprising eight compartments in a row, and the rows five in number, removable floors J, intervening each tier, and the case or box provided with a cover B, as set forth.

No. 39,205. Holder and Cutter for Roll Paper.

(Appareil à maintenir et à découper les rouleaux de papier.)

Duncan McLachlan and Jay W. Allen, both of Grotton, New York, U. S. A., 24th June, 1892; 5 years.

Claim.—1st. In a roll paper cutter, the combination, with the standards and the paper roll shaft journaled thereon, of a base, consisting of a stationary central portion and sections connected to the extremities thereof and adapted to be opened outwardly in linear extension of said central portion. 2nd. In a roll paper cutter, a frame consisting of a base extensible in width, standards secured thereto, and a top plate, secured together and in combination. 3rd. In a roll paper cutter, the combination, with the base and top plate, of tubular standards between them, and securing bolts through them and the standards. 4th. In a roll paper cutter, the combination, with the base, the top plate, tubular standards between them, and securing bolts through them and the standards, of the paper roll shaft journaled in said standards. 5th. In a roll paper cutter, a cutter bar comprising a rear extension, a front extension provided with a cutting edge, and a bail beneath the front extension, in combination, as set forth. 6th. In a roll paper cutter, the combination, with the standards, of a cutter bar fitting and adapted to rock thereon, and comprising a rearward extension, a front extension provided with a cutting edge, and a bail below the latter. 7th. In a roll paper cutter, the combination, with the standards, of the cutter bar fitting loosely upon them, and provided with a rear extension adapted to bear upon the roll of paper, and the front extension having a cutting edge, and a bail bearing upon the roll of paper and over which the free end of the paper passes, and by which it is supported substantially tangential to said roll. 8th. A blade for a roll paper cutter, consisting of a cutting bar adapted to travel upon the periphery of the roll, and a lifter journaled in said bar, and adapted to rest upon the periphery of the roll, as set forth. 9th. A blade for a roll paper cutter, consisting of a cutting bar adapted to travel upon the periphery of the roll, and a lifting bar journaled in the end of said blade, and means for holding the lifting blade in, as set forth. 10th. A blade for a roll paper cutter, consisting of a cutting blade adapted to travel upon the periphery of the roll, a recess in the end of the blade, a lifter having an enlarged or bent inner end, journaled in the recess and adapted to receive the inwardly extending arm of the lifter bail, as set forth. 11th. A blade for a roll paper cutter, slotted longitudinally and substantially centrally, to tear the paper downwardly, as set forth.

No. 39,206. Apparatus for Exhausting Incandescent Lamps. (Appareil d'exhaustion pour lampes incandescentes.)

Henry Sachs Kaliske, Boston, assignee of Adolph Berrenberg, Somerville, and William Emery Nickerson, Cambridge, all in Massachusetts, U.S.A., 24th June, 1892; 15 years.

Claim.—1st. In a vacuum device, an air tight tank containing a sufficiency of oil to wholly submerge two or more co-working pump cylinders, with a pump cylinder connected with the articles to be exhausted and with a co-working pump cylinder, said co-working cylinder being also connected with a space above the oil in the tank, being thereby adapted to create a vacuum on the exhaust of the first mentioned cylinder, and also within the tank, whereby de-aerating the oil within the same, all operating substantially as described

and for the purpose set forth. 2nd. An air tight tank containing a sufficiency of oil to wholly submerge enclosed pump cylinders, with a pump cylinder, the interior of which is connected to the articles to be exhausted, and also to an air space in the tank and above the oil, whereby the action of the pump will exhaust the air from the articles to be exhausted, and also from the tank and from the oil enclosed within the tank, being adapted to use above the piston a small portion of oil for the purpose of expelling all the air from the cylinder at each upward stroke of the piston, a piston the length of which exceeds the length of its stroke, whereby the port for the admission of air is open only while the piston is at the outer end of its stroke, and a valved outlet port at the top of the cylinder, substantially as and for the purpose set forth. 3rd. In a vacuum device, the combination, of one or more vacuum pumps and an enclosing tank, said tank being exhausted of air and containing sufficient oil to wholly submerge the said pumps, with a return box H, located at the top of said tank having a valved connection therewith, and adapted to receive and return to the tank the surplus of air expelling oil forced from the pump at each upward stroke of the piston, substantially as and for the purpose set forth. 4th. In an apparatus for exhausting incandescent lamps, a mechanism by which the jacketing and expelling oil is de-aerated, substantially as and for the purpose set forth. 5th. In an apparatus for exhausting incandescent lamps, the combination, of a system of vacuum pipes with jacketing pipes, the space between the two being filled with de-aerated oil, substantially as and for the purpose set forth. 6th. In an apparatus for exhausting incandescent lamps, the combination, of a cylinder, a piston adapted to operate in said cylinder, a valve chamber and valve adapted to operate with said piston and cylinder, and a device by which said cylinder is supplied with de-aerated expelling oil, substantially as and for the purpose set forth. 7th. In an apparatus for exhausting incandescent lamps, the combination, of a cylinder, having an inlet side port, with a piston adapted to operate in said cylinder and to close the said side port at the commencement of its expelling stroke, and said piston being long enough to maintain the said inlet side port closed when the said piston is at the inner end of its expelling stroke, substantially as and for the purpose set forth. 8th. In the pipe system of a vacuum device, the combination, of the thimble piece K⁴, adapted to receive a key or the socket end of a lamp fork, and interiorly connected with the vacuum pipe P³, with the jacketing piece K, connected interiorly with the jacketing pipe N², substantially as described and for the purpose set forth.

No. 39,207. Spring Motor. (Moteur à ressort.)

Columbus Alonzo Moore, Belton, Missouri, U.S.A., 25th June, 1892; 5 years.

Claim.—The spring motor described, comprising the frame, the spring drum carried by a shaft mounted in said frame, the lever A¹, on the shaft of the drum and carrying oppositely arranged spring pawls, a ratchet wheel on said shaft engaged by the pawls, the supplementary ratchet wheel d on said shaft, the pawl c, the shaft to be operated, a train of gearing between said shaft and the drum, the pulley on the shaft of a part of said train, the brake band encircling the said pulley, the screw rod on which the ends of the brake band are held, and the brake lever with its inner end held on said screw rod, all substantially as shown and described.

No. 39,208. Injector. (Injecteur.)

Louis Schutte, Philadelphia, Pennsylvania, U.S.A., 25th June, 1892; 5 years.

Claim.—1st. In a double tube injector, and in combination with the steam nozzle of the lifting tube, the controlling valve provided with a cone or spindle projecting into the steam nozzle, means for opening and closing said valve, and an adjustable device to limit the opening action, whereby the maximum area of the steam passage may be varied and fixed at will without affecting the remainder of the apparatus. 2nd. In a double tube injector, and in combination with the steam nozzle of the lifting tube, the valve having a cone to enter the nozzle, means for opening and closing the valve, and an adjustable stop device to limit the distance through which the valve moves. 3rd. In a double tube injector, and in combination with the steam nozzle of the lifting tube, an operating valve having a conical projection to enter the nozzle, means for moving the valve, and an adjustable stop screw applied to the valve, substantially as shown. 4th. In a double tube injector, and in combination with the steam nozzle of the lifting tube, a valve provided with a cone to enter the nozzle, an operating lever C, the intermediate adjustable screw plug F, and means for operating said plug from the outside of the apparatus. 5th. In combination, with the steam controlling valve, an injector, means for moving the same, the screw plug, the spindle to adjust the plug from the exterior, its operating handle H, and locking devices for said handle.

No. 39,209. Gear for Vehicles. (Train de voiture.)

Clarence E. Holley, Fort Fairfield, Maine, U.S.A., 25th June, 1892; 5 years.

Claim.—1st. In a vehicle, the combination of the front axle having its ends bent vertically and shouldered and provided with integral vertical spindles rising from the shoulders, and the horizontal wheel spindles having integral vertical tubular portions fitting on the ver-

tical spindles and having their lower ends bearing on the shoulders of the axle, substantially as described. 2nd. In a vehicle, the combination of the platform, the front axle 3 supporting the same, and having integral vertical spindles 4, the horizontal wheel spindles, having integral vertical tubular portions fitting on the axle spindles, the tongue, the cross bar connected intermediate of its ends to the tongue, and the bars 12, clipped to the tubular portions of the wheel spindles, and bent downward and arranged in a plane below the platform and pivotally connected to the ends of the cross bar, substantially as described. 3rd. In a vehicle, the combination of the platform 1, the rear axle supporting the rear end of the platform, the axle 3 supporting the front end of the same, and provided at its ends with vertical spindles, the wheel spindles having the continuous tubular portions depending from their ends and arranged upon the spindle of the axle 3, the angular bars 12, having their upper ends clipped to the said tubular portions and their lower ends bifurcated, the cross bar pivoted in the bifurcation of the angular bars, and the tongue pivoted to the axle and connected to the cross bar, substantially as described. 4th. In a vehicle, the combination of the platform 1, the rear axle, the axle 3 supporting the front of the platform and provided at its ends with vertical spindles, the wheel spindles having the continuous tubular portions depending from their inner ends and arranged on the spindles of the axle 3, the angular bars clipped to the said tubular portions, the cross bars connecting the angular bars, the tongue socket consisting of the metal box provided with the parallel rearwardly extending plates pivoted on opposite faces of the axle, said socket having the vertical threaded stem secured to the cross bar, and the tongue pivoted in the tongue socket, substantially as described. 5th. In a vehicle, the combination of the rear axle, the hounds secured to the axle, the lower plates connecting the front end of the hounds and provided with depending ears, the upper plate, the reach section secured in the hounds of the axle, the extension reach provided on its lower face with a metal wear plate, and the cam roller journaled in said ears and provided with a handle, and arranged to engage directly the extension reach, substantially as described. 6th. In a vehicle, the combination of the front axle, the front hound, the plates secured to the upper and lower faces of the hounds, and provided with longitudinal ribs arranged on the inner faces of the plates and having curved grooves forming a socket, the reach and the coupling pin swiveled in the said socket, and provided with an annular groove and having formed integral with it a recessed plate secured to the reach, and a bolt passing through openings of the plates and engaging the groove of the bolt, substantially as described.

No. 39,210. Folding Chair. (*Fauteuil pliant.*)

Joseph Coulter, Toronto, Ontario, Canada, 25th June, 1892; 5 years.

Claim.—The combination, of roller B, having tenon on each end with circular hole A, and slot D, substantially as and for the purpose hereinbefore set forth.

No. 39,211. Sponging Iron. (*Fers à éponger.*)

Lewis H. Tarrant, St. Thomas, Ontario, Canada, 25th June, 1892; 5 years.

Claim.—1st. The combination of a non-conducting handle A, an adjustable detachable frame B, and a revolving cylinder D, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of an adjustable or detachable frame, a non-conducting handle, and a revolving cylinder having grooves or corrugations on its circumference, substantially as and for the purpose hereinbefore set forth.

39,212. Pick. (*Pic.*)

Joseph Mitchell, Sheffield, and William Kirkley, Birkenshaw, Derby, both in England, 25th June, 1892; 5 years.

Claim.—1st. In a pick head, the combination, with a socket or head, such as D, carrying the blades of a strap, such as B, into which the blades E project, substantially as described and illustrated in the accompanying drawing. 2nd. In a pick head, a strap, such as B, having tapered grooves, such as C, into which the ends of the blades project, substantially as described and illustrated in the accompanying drawing. 3rd. In a pick head, the employment of inclined faces, as C², for the purpose of driving out the blades. 4th. In a pick head, the method of driving out or expelling the blades by means of fixed inclined faces, substantially as described. 5th. In a pick, a socket or head, such as D, having an eye, such as D³, into which the inner ends of the blades project, substantially as described and illustrated in the accompanying drawing. 6th. In a pick, a strap, such as B, having faces inclined in opposite directions, those in one direction serving to retain the pick head upon the shaft, and those in the other direction serving to extract or expel the blades, substantially as described.

No. 39,213. Heating Apparatus. (*Appareil de chauffage.*)

John Newton Gates, Holyoke, and Eugene Napoleon Gates, Fitchburg, both in Massachusetts, U.S.A., 25th June, 1892; 5 years.

Claim.—1st. In a hot water or steam heating apparatus, the combination with a fire box, of a series of heating sections overhanging the fire box and having their heat absorbing surfaces inclined, so that the upper portions of said surfaces overhang the lower portions and

are exposed to the direct action of heat radiated from the fire, as set forth. 2nd. In a hot water or steam heating apparatus, the combination with a fire box, of a series of heating sections having inclined heat absorbing surfaces overhanging the fire box and separated by tapering flues which are centrally vertical, each flue gradually decreasing in width from its lower to its upper end, said flues being formed by the inclined heat absorbing surfaces of the sections, as set forth. 3rd. In a hot water or steam heating apparatus, the combination with a fire box, of a series of heating sections overhanging the fire box and comprising heads, such as 18, collectively forming a substantially horizontal partition or septum above the fire box, tapering receptacles depending from said heads and having inclined heat-absorbing surfaces separated by tapering flues which gradually decrease in width from their lower to their upper ends, said heads having recesses, such as 19, which, when the sections are assembled, form contracted outlets from the tapering flues through the said partition or septum, as set forth. 4th. In a hot water or steam heating apparatus, the combination with a fire box, of a series of heating sections, each comprising a side portion, such as 12, a top portion, such as 13, and a wing, including a head 18 extending inwardly from said side portion, and tapering receptacles depending from the head, the said side and top portions forming the sides and top of the heater, while the heads form a substantially horizontal partition below the top, said heads being provided with outlet openings connecting said space with the tapering flues between the tapering receptacles, as set forth. 5th. A hot water or steam heater, comprising two rows of sections, each row constituting one-half of the fire box enclosing structure, each section comprising a side portion, such as 12, a top portion, such as 13, and a wing portion having a head projecting inwardly from the side portion and tapering receptacles depending from said head, the side and top portions of each row forming one side and a part of the top of the structure, while the wings of each row meet the wings of the other row over the centre of the fire box, the heads of the two rows forming a horizontal partition below the top of the structure, said partition having outlet openings for the flues between the tapering receptacles, as set forth. 6th. A hot water or steam heater, comprising two rows of sections, each row constituting one-half of the fire box enclosing structure, each section comprising a side portion, such as 12, a top portion, such as 13, recessed at its end, and a wing portion projecting inwardly from the side portion, the recess in the end of each top portion receiving the corresponding end of the opposite top portion, combined with a header or receptacle located over the meeting ends of the top portions and connected with said portions by tubes, said header being connected with the distributing pipes, as set forth. 7th. In a hot water or steam heating apparatus, the base or ash pit section having hollow walls, the outer sides of which are recessed to offset the upper edges of said walls, combined with heating sections supported by said walls, and connected with the latter by short pipes located in the recesses of the walls, as set forth.

No. 39,214. Plow. (*Charrue.*)

Asa M. Fitch, Seymour, Indiana, U.S.A., 25th June, 1892; 5 years.

Claim.—1st. In a plow, the combination, with a beam 1, and a two wheeled truck 5, of a single clip band 8, formed with a vertical series of openings 10 in its sides and secured upon said beam, two vertical arms 11 pivoted to said truck at their lower ends and formed with a series of openings 12, which register with those in said clip band, an upper nutted screw bolt 13, passing through said beam, and adjustably connecting said arms 11 and clip band 8, and a lower nutted screw bolt 15, passing through said registering openings 12, and resting against the under side of said beam 1, substantially as and for the purpose described. 2nd. In a plow, the combination, with a beam 1, and a two wheeled truck 5, of a single clip band 8 secured upon said beam 1, and provided with the vertical dovetailed grooves 9 in its sides, and with the series of openings 10 in its walls, two vertical arms 11 pivoted at their lower ends to said truck 5, and formed with a series of openings 12, which register with those in said clip band 8, and a nutted screw bolt 13 for adjustably connecting said arms 11 and clip band 8 to said beam 1, substantially as described. 3rd. In a plow, the combination, with a beam 1, a plow 2, a plow standard 4, a furrow wheel 20, a furrow wheel standard 18, of two adjustably connected fish plates 24 and 28 between the upper end of said furrow wheel standard 18 and said beam 1, which are attached to said beam 1 and standard 18, and which are arranged in rear of said plow standard 4, and means for securing them to beams of varying sizes, substantially as described. 4th. In a plow, the combination, with a beam 1, a plow 2, a plow standard 4, a furrow wheel 20, and a furrow wheel standard 18, of two adjustably connected fish plates 24 and 28 between the upper end of said furrow wheel standard 18 and said beam 1, which are attached to said beam 1 and standard 18, and which are arranged in rear of said plow standard 4, and two clips 29, provided with nuts 31 for securing said fish plates 24 and 28 to beams of varying sizes, substantially as described. 5th. In a plow, the combination, with a beam 1, a plow 2, a plow standard 4, a furrow wheel 20, and a furrow wheel standard 18, of the lower and upper fish-plates 24 and 28 between the upper end of said furrow wheel standard 18 and said beam 1, which are arranged in rear of said plow standard 4, said lower fish plate 24 being formed with the slot 26, and said upper fish plate 28 being formed with the recess 28¹ in its under surface and with the open-

ings 30 in its sides, and provided with the central nutted screw bolt 27 and the clips 29 and nuts 31, substantially as and for the purpose described. 6th. In a plow, the combination, with a beam 1, a pivoted two wheeled truck 5, a single clip band 8, secured upon said beam 1, and means for vertically adjusting said truck 5, of a plow proper 2, a plow standard 4, a furrow wheel 20, a two part furrow wheel standard 18, connected to said beam 1 just in rear of said plow standard 4, and devices for vertically adjusting said furrow wheel 20 and the lower part of its standard 18, substantially as and for the purpose described. 7th. In a plow, the combination, with a beam 1, a pivoted two wheeled truck 5, a single clip band 8 secured upon said beam 1, and means for vertically adjusting said beam 5, of a plow proper 2, a plow standard 4, a furrow wheel 20, a two part furrow wheel standard 18 connected to said beam 1 just in rear of said plow standard 4, and devices for vertically adjusting said furrow wheel 20 and the lower part of its standard 18, said devices consisting of annularly arranged teeth or cogs 33 on the sides of the upper and lower ends 17 and 19 of said two part standard 18, and a screw bolt 34, and nut 35 for holding them in their intermeshed adjusted positions, substantially as and for the purpose described. 8th. In a plow, the combination, with a beam 1, of a furrow wheel 20, and a standard 18 therefor, which consists of an upper and a lower arm 17 and 19, provided on the sides of their lower and upper ends with annularly arranged teeth or cogs 33, means for holding them in variable intermeshed positions, adjustably connected fish plates 24 and 28, and a single clip for securing the upper arm of said standard 18 to said beam 1, substantially as described. 9th. In a plow, the combination, of the beam 1, the frame piece 39 pivotally suspended upon the sides of the latter by their upwardly extending rear ends, and having upwardly extending and transversely perforated front ends, by means of which they are adjustably connected with said beam 1, by a transverse pin or bolt 40, a pair of yokes 43, pivotally supported between the frame pieces 39, and provided with wheels or rollers 44, journaled near and between their ends, substantially as and for the purpose set forth.

No. 39,215. Sifter for Ashes. (Crible à cendre.)

George Colegate, St. Catharines, Ontario, Canada, 25th June, 1892; 5 years.

Claim.—An ash sifter, consisting of a frame or posts A, covered or enclosed, as described; lid B, receiver C, wire screen separator D, coal outlet door C, sheet iron bottom G, and ash outlet F, all arranged, combined and constructed as and for the purpose hereinbefore set forth.

No. 39,216. Washing Boiler. (Chaudière de buanderie.)

Susan Arabella Mackie, 27 Chancery Lane, Middlesex, England; 25th June, 1892; 5 years.

Claim.—1st. The adaptation of an internal pot or vessel C, to an outer one B, by either a fixed or a loose joint thus forming a double boiler, with an interspace between the outer and inner shells so that the hot water under the pressure of the steam generated, being in a measure directed by rings or circular prominences formed in the inner shell or attached thereto will be forced up the interspace H, H, and will jet through orifices at the upper portion of the inner shell and fall back through a funnel or open mouth at the bottom thereof, whereby through the pressure of the steam, or vapour retained by the steam ring, a constant circulation of the water is effected, so that clothes, linen, and other articles, materials and goods may be washed and cleaned and other operations performed, substantially as herein specified. 2nd. The special combination of steam trap and funnel hereinbefore described, as and for the purpose herein specified. 3rd. The combination, and arrangement of the parts of the apparatus herein particularly described and illustrated, in and by the accompanying drawing, substantially as and for the purposes herein specified.

No. 39,217. Filter and Purifier for Feed Water.

(*Filtre et épurateur d'eau d'alimentation.*)

James Brown Edmiston, Highfield Road, Walton, Lancaster, England, 25th June, 1892; 5 years.

Claim.—1st. The combination of a series of two or more filters C, with stop cocks B and N, and a pipe O, having stop cock P, whereby each filter in succession can be put into use, and, when all the filters are out of order, the apparatus can go on in its ordinary course without filtering. 2nd. The combination of the pipe A, a series of stop cocks B, and filtering chambers C, with plates and frames I and J, having layers S of porous material, as described. 3rd. The combination of the filtering chamber C and filter layer S, suitably supported with the air vessel D, safety valve E and pressure gauge G, whereby excessive pressure is prevented and indication given whenever a filter gets too foul. 4th. The combination of the filtering chamber C, with the perforated plates I, cloths S and frames J, substantially as and for the purpose described. 5th. The combination of the chamber C, with the plates and frames I and J, and the screws K, whereby the plates I can be held tight up against an abutment while their cloths are free to pulsate. 6th. The combination of the chamber C, clothed plates I and frames J, steam cock Q, and an escape, such as F, with passage T and valve W, substantially as and for the purpose described. 7th. The combination of

the frames J and plates I, passage T, with orifice U opening into it, with the valve W and screw Y for regulating it from the outside. 8th. The combination of a filter chamber Q, with zinc plates L suspended therein, substantially as and for the purpose described. 9th. In a filtering apparatus for filtering feed water and the like, a series of flannel cloths forming diaphragms across the passage way of the water. 10th. The combination of the chamber C, cock Q¹, and cup Y, substantially as and for the purpose described. 11th. The combination of the chamber C, plates I, frames J, filter layers S, cock Q¹, cup Y, steam cock Q², and blow-off cock F, substantially as and for the purposes described. 12th. The combination of the chamber C, clothed plates I, frames J, delivery pipe M leading to feed pump, feed pipe A leading from hot well, and vacuum gauge G¹ on chamber C, between plates J and pipe M, substantially as described. 13th. The combination of the exhaust steam pipe X¹, condenser X, hot well *x*, feed pipe A leading from hot well, chamber C, clothed plates I, frames J, delivery pipe M, trap X² connected with steam pipe X¹, and having diaphragm X³, as described, and pipe X⁴ leading from trap X² to the chamber C, on the feed side of the plates I, substantially as described. 14th. The combination, with the chamber C, having filter layers S and supporting frames I, located as described, of the supply pipe A, exhaust steam pipe X¹, condenser X connected therewith, and delivery pipe M leading from the delivery end of chamber C to the condenser at a point above the level of the condensed water therein, substantially as described. 15th. In combination with the filter chamber C, having transverse filtering diaphragms, as described, the exhaust steam pipe X¹, trap X², pipes X³ and A, connecting said trap to feed end of chamber C, condenser X connected with pipe X¹, and delivery pipe M leading into condenser above the level of water therein, substantially as described.

No. 39,218. Governor for Steam Engines.

(*Gouverneur de machine à vapeur.*)

Frank E. Leonard and Charles W. Leonard, both of London, Ontario, Canada, assignees of Frank H. Ball, Elizabeth, New Jersey, U. S. A., 27th June, 1892; 5 years.

Claim.—1st. In an automatic cut-off valve gear for steam engines, the combination, substantially as set forth, on a plate or disc bearing the crank pin or other means for imparting reciprocating action to the valve, which is supported so as to move rotatively with the main shaft, is pivoted so as to turn on its own centre which is eccentric to the shaft, and has within its periphery the centre line of the shaft the centre of said crank pin, or its equivalent, and its own pivoted centre, and fly balls so connected with said plate or disc by links as to move the same pivotally as they move radially. 2nd. In an automatic cut-off valve gear for steam engines, the combination, substantially as set forth, of the disc G, secured eccentrically on the shaft H, the yoke D, and plate E, concentrically journaled on said disc G, the crank pin F, or equivalent means for reciprocating the valve, secured on said plate eccentrically thereto and to the shaft H, and fly balls B, connected with said yoke and plate by links C. 3rd. In an automatic cut-off valve gear for steam engines, the combination, substantially as set forth, of the disc G, secured eccentrically on the shaft H, the adjustable yoke D, and plate E, journaled on said disc, stop lugs D¹, D², on said yoke and a stop pin G¹, on said disc, a crank pin F, or its equivalent, on said plate in a position eccentric to said plate and to the shaft H, and fly balls connected with said plate or yoke by links C. 4th. In an automatic cut off valve gear for steam engines, the combination, substantially as set forth, of the disc G, secured eccentrically on the shaft H, the yoke D, and face plate E, concentrically journaled on said disc, the face plate having a shaft opening H², sufficiently larger than the shaft to allow of the rotative movement of the said plate concentrically upon the eccentrically supported disc, the eccentric F¹, attached to said plate E, and surrounding said shaft opening H², and the fly balls or weights B, connected with said yoke D, by links C.

No. 39,219. Resilient Frame for Mats and Rugs.

(*Cadre élastique pour nattes et tapis.*)

Arthur John Worrall and Thomas Ball, both of Jersey City, New Jersey, U. S. A., 27th June, 1892; 5 years.

Claim.—1st. The mat or rug having a continuous resilient frame, of spring material applied to the under side and extending along all the edges thereof, substantially as specified. 2nd. The mat or rug having a resilient frame consisting of a wire coiled or convoluted and arranged in a zigzag line around the edges of the mat, substantially as specified. 3rd. The mat or rug having a resilient frame applied thereto, and consisting of a spring wire bent in zigzag form, substantially as specified.

No. 39,220. Exercising Machine.

(*Appareil gymnastique.*)

Daniel L. Dowd, New York, State of New York, U.S.A., 28th June, 1892; 5 years.

Claim.—1st. An exercising machine, consisting essentially of a cylindrical case mounted loosely upon a shaft and having a horizontal slot in its face, a suitable suspending frame in which the ends of the shaft may rest and by which the machine may be supported, a pulley mounted loosely upon said shaft and connected thereto by

a coil spring, one end of the spring being fastened to the shaft and the other end to the pulley, a suitable cord or strap attached to said pulley and adapted to be wound thereon, one end of said strap projecting through the slot in the case, and having suitable handles attached thereto, and a worm wheel attachment, substantially as shown, whereby the shaft may be turned and the pulley spring tightened, substantially as described. 2nd. The combination, with a cylindrical case having a horizontal slot in its face, a shaft upon which said case is loosely mounted, and a suspending frame supporting the ends of said shaft, of a fusee pulley mounted upon said shaft within said case, a cord or strap attached to said pulley and adapted to be wound thereon, said strap projecting through the slot in the case and having suitable handles attached thereto, and worm wheel attachment, substantially as shown, connected with the end of said shaft, and adapted to turn the shaft and change the resistance of the fusee spring, substantially as described. 3rd. The combination, with a cylindrical case, having a horizontal slot in its face, a shaft upon which said case is loosely mounted, and a suspending frame supporting the ends of said shaft, of a double fusee pulley mounted upon said shaft within said case, a cord or strap attached to said pulley and adapted to be wound thereon, said strap projecting through the slot in the case where it is provided with suitable handles, and a worm wheel attachment, substantially as shown, connected with the end of said shaft, and adapted to turn the shaft and change the resistance of the fusee spring, substantially as described. 4th. The combination, with a cylindrical case, having a horizontal slot in its face, a shaft upon which said case is loosely mounted, and a suspending frame supporting the ends of said shaft, of a double fusee pulley mounted loosely upon said shaft, said pulley tapering from the ends to the center and having its face provided with a spiral groove, a cord or strap attached to said pulley, adapted to be wound thereon, said strap projecting through the slot in the case and having suitable handles attached thereto, and a worm wheel attachment, substantially as shown, connected with the end of said shaft, and adapted to turn the shaft and change the resistance of the fusee spring, substantially as described. 5th. The combination, with the suspending frame, and shaft B, having a spring pulley mounted thereon as shown, of the toothed wheel *f*, fixed to the end of said shaft, and the worm *g*, attached to said frame so as to mesh with the wheel *f*, whereby said shaft may be turned and the spring thereon tightened or loosened, substantially as described. 6th. The combination, with the suspending frame, having an indicator as *L* affixed thereto, and the shaft B, having a spring actuated pulley thereon as shown, of the toothed wheel *f*, fixed to the end of said shaft, the worm *g* attached to the frame, so as to mesh with the wheel *f*, the tooth *f*¹, fixed to the shaft B, and the wheel *m*, having pointer *n*, pivoted to the frame, so as to mesh with the tooth *f*¹, whereby the shaft B may be turned, the spring thereon tightened or loosened, and the change shown upon the indicator, substantially as described.

No. 39,221. Support for Bicycles.

(Support pour bicycles.)

Frederick H. Kinder, Strathroy, Ontario, Canada, 28th June, 1892; 5 years.

Claim.—1st. A locking plate M, formed with a hooked or curved portion *m*, and means for securing it to the handle K, or other suitable support, in combination, with the lever T, and brake T¹¹, and means for connecting said lever with said brake, substantially as shown and described and for the purpose specified. 2nd. A pivotal locking plate M, formed with a hooked or curved portion *m*, and a recess O, a clasp J, provided with projection *n*, and the stud pin L, and coil spring P, in combination, with the handle K, lever T, and brake T¹¹, and means for connecting said lever with said brake, substantially as shown and described and for the purpose specified. 3rd. The clasp G, formed of the two parts *g* and *g*¹¹, secured together at one end, by the hooked portion *h* of one part engaging with the cross bar *h*¹¹ of the other part, and secured together at the other end and to an object by the thumb screw bolt H, substantially as shown and described and for the purpose specified. 4th. The clip I, in combination, with the clasp G, substantially as shown and described and for the purpose specified. 5th. The stay A, B, in combination, with the clasp G¹¹, substantially as shown and described and for the purpose specified. 6th. The tubular bar A, formed with the plug *a*, shoulder *a*¹¹, and slot *f*, in combination, with the bar B, formed with the shoulder *b*, and recess *c*, the spring dog F, and means for securing the tubular bar A, to the handle bar or other suitable support on the bicycle, substantially as shown and described and for the purpose specified. 7th. The tubular bar A, formed with the plug *a*, shoulder *a*¹¹, and slot *f*, and the bar B, formed with the shoulder *b*, and recess *c*, the knob C, and spring dog F, in combination, with the springs *b*¹¹, and D, substantially as shown and described and for the purpose specified. 8th. The extensible stay A, B, and means for attaching it to the handle bar S, or other suitable support on the bicycle, in combination, with the brake lever T, and brake T¹¹, and means for connecting them together, and the brake lock M, and means for securing it to the handle bar, substantially as shown and described and for the purpose specified. 9th. The extensible stay A, B, in combination, with the clip I, and means for attaching them to the handle bar S, or other suitable support on the bicycle, substantially as shown and described and for the purpose specified.

No. 39,222. Testing and Test-Recording Machine for Flour and Dough. (Appareil à faire l'épreuve et à enregistrer pour la farine et la pâte.)

James Hogarth, West Mills, Kirkcaldy, Fifeshire, Scotland, 28th June, 1892; 5 years.

Claim. 1st. The mode of and means or arrangement and combination of appliances or machine, consisting of a dynamometer D, and kneading machine A, with their motive and driven shafts C, C¹, and gearing and reacting spring E, and diagram cylinder F, and water cylinder B or G, for mechanically testing and sampling different qualities of flour, and graphically indicating and recording the various characteristics or properties of the different flours or doughs, substantially as herein described. 2nd. In apparatus for testing and recording the characteristics or properties of flour and doughs, the combination and use of a dynamometer D placed between the motive shaft C, and driven shaft C¹, for measuring the power or strain required to drive the kneading machine A, or to be overcome in kneading a given sample of flour and liquid, and also show the consistency of the dough in a kneading machine A, substantially as herein described. 3rd. In apparatus for testing and recording the characteristics or properties of flour and dough, the construction and use of a dynamometer D, with spur wheel driving gearing *d* to *d*², substantially as herein described. 4th. In apparatus for testing and recording the characteristics or properties of flour and dough, the combination and use of a parallel cylinder and piston or plunger B, B¹, or G, G¹, moved at a slow regular rate proportionate to the speed of the apparatus, for feeding the water to the kneading machine A, at a regular or differential rate during the taking of the diagram, substantially as herein described. 5th. In apparatus for testing and recording the characteristics or properties of flour and dough, the combination and use of a spiral or other spring E, or an accumulative weight, so constructed as to give an equal travel lineally in diagram X, for each increment of power required, substantially as herein described. 6th. In apparatus for testing and recording the characteristics or properties of flour and dough, the combination and use of a divided diagram X, mounted on a revolving barrel or drum F, and marked by a pencil, pointer, or other marker *c*, for indicating or recording mechanically and graphically the power required and quantity of water used in testing a sample of flour in the kneading machine A, to distinguish its characteristics, substantially as herein described.

No. 39,223. Electric Belt. (Ceinture électrique.)

Christian H. Dorenwend, Toronto, Ontario, Canada, 28th June, 1892; 5 years.

Claim.—1st. In an electric belt, the combination, with an electrode provided upon its outer side, at diametrically opposite points, with eyes, of a chamois covering for said electrode, provided with slits or openings for the reception of said eyes, a tightening string passing through suitable slits therefor in said cover, and a clasp having a central coil and hooked ends engaging the eyes of the electrode, substantially as set forth. 2nd. In an electric belt, the combination, with an electrode, of a clasp having its upper ends bent down inwardly to form obtuse angles, said ends being connected to the electrode, its lower end formed with a loop unconnected with the electrode, and provided intermediate said ends with inwardly extending meeting bends to form a means for attachment of the conducting cords, substantially as set forth.

No. 39,224. Roofing. (Toiture.)

John Joseph Gieger and Lyman Knapp, both of Clyde, Ohio, U.S.A., 28th June, 1892; 5 years.

Claim.—In a metallic roofing, the combination, of the double T-pieces, the roofing plates having their outer edges made U-shaped, so as to fit in the sides of the double T's, and the caps which secure the double T's, and the roofing plates together, substantially as shown.

No. 39,225. Hanging and Fastener for Gates.

(Fermure et attache pour barrières.)

James Horace Coleman, Brantford, Ontario, Canada, 28th June, 1892; 5 years.

Claim.—1st. The combination, of the post B, rod C, hole and pin *p*, and nut C¹¹, and the eye bolts in base and centre of post B, with the hinges D, D, on gate A, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, of the bar F, retaining strap *f*, and spring *g*, with the gate A, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, of the pin P, on gate A, and the self adjusting pawls M, M, on the post H, substantially as and for the purpose hereinbefore set forth. 4th. The combination, of the post B, rod C, hole and pin *p*, and nut C¹¹, and the eye bolts in base and centre of post B, the hinges D, D, on gate A, with the pin P, and the self adjusting pawls M, M, on post H, substantially as and for the purpose hereinbefore set forth.

No. 39,226. Combined Table, Prie-Dieu and Confessional. (*Table prie-dieu et confessional combinés.*)

Hector Lavigne, New York, State of New York, U. S. A., 28th June, 1892; 5 years.

Claim.—1st. A table having a slotted base, a standard, a table top having a hinged connection with said standard, a plate beneath the base, and bolts passed through the slots in the base, and securing the standards rigidly to the plate, substantially as shown and described. 2nd. A table having a slotted base, a standard, a table top having a hinged connection with said standard, a slotted plate beneath said base, bolts passed through the slots in said plate into the under side of said base, and bolts passed through the slots in the base and securing the standards to said plate, substantially as shown and described. 3rd. The combination, with a top, of a leaf hinged to the under side of the top, and a second leaf hinged to the first and having a sliding connection with the top, and a supporting standard secured rigidly to said second leaf, substantially as shown and described. 4th. The combination of a standard, a top having a hinged connection with said standard, a screen formed of reticulated material supported by a frame and sliding in ways in said top, and latched to hold said screen in elevated position, substantially as shown and described. 5th. The combination of a standard, a base to which said standard is adjustably secured, a top, a leaf hinged to the under side of said top, and a second leaf hinged to the first, and having a sliding connection with the top, said standard being rigidly secured to said second leaf, substantially as shown and described. 6th. The combination of a standard, a slotted base, bolts fixed to the standard, and adapted to move in the slots of said base, a top having a hinged connection with said standard, and a screen sliding in ways in said top, substantially as shown and described.

No. 39,227. Car Coupler. (*Attelage de chars.*)

Milton W. Trexler, East Greenville, Pennsylvania, U. S. A., 28th June, 1892; 5 years.

Claim.—1st. The combination, with the draw head, having a link pivotally connected with its forward end, of a link pivoted at its rear end to said draw head, also pivoted to the draw head, as set forth. 2nd. The combination, with the draw head having pivoted link, of the lifting link, pivoted to the draw head and having side arms, and the means engaging the lifting link, as set forth. 3rd. The combination, with the hooked draw head and the pivoted link, of the lifting link and the means engaging the same, substantially as and for the purpose specified. 4th. The combination, with the draw head and its hook and pivoted link, or the pivoted lifting link, and the means engaging the same, and adapted to be operated from either the side or top of the car, as set forth. 5th. The combination, with the draw head and the pivoted link, of the pivoted lifting link having lateral arms without turned ends and the lifting means engaging said lifting link, substantially as specified. 6th. The combination, with the draw head having hook and cut away as described, of the pivoted lifting link having side arms, the vertically movable rod having horizontal portion engaging the lifting link and adapted to be operated from either side or top of the car, as set forth.

No. 39,328. Brake for Railway Cars.

(*Frein pour chars de chemin de fer.*)

Howard Hinckley, Trenton, New Jersey, U. S. A., 28th June, 1892; 5 years.

Claim.—1st. In a car brake system, the combination, of a connecting rod, a turnbuckle or sleeve connected therewith, a pivoted arm or lever connected with the turnbuckle, and a fixed cam guide acting on the arm to cause it to oscillate back and forth in a plane transversely to the rod so as to screw up the buckle or sleeve and shorten the rod as the latter moves, substantially as described. 2nd. In a brake system, the combination, of a connecting rod, a turnbuckle connected therewith, a pivoted operating arm for the turnbuckle, a cam acting on the arm to move it in one direction, and a spring to move the arm in the opposite direction, substantially as described. 3rd. In a brake system, the combination, of a connecting rod, a turnbuckle connected therewith, and a pivoted operating arm connected with the turnbuckle so that it may be operated to turn the latter in either direction at will, substantially as described. 4th. In a brake system, the combination, of a connecting rod, a turnbuckle connected therewith, a pivoted operating arm for the turnbuckle, a cam acting on the arm to move it in one direction, a spring to move it in the opposite direction, and a ratchet or clutch connection between the arm and the turnbuckle, whereby when the arm is in operative position with relation to the cam its action will be to screw the turnbuckle in one direction, but when released from the cam it may be actuated to reverse the turnbuckle, substantially as described. 5th. In a brake system, the combination, of the two part rod having reversely threaded ends, the connecting sleeve with correspondingly threaded portions, and a pivoted arm adapted to operate the sleeve in either direction, substantially as described. 6th. In a brake system, the combination, of the two part rod having reversely threaded ends, the connecting sleeve with correspondingly threaded portions, the reversely set ratchets fixed on the sleeve, and the pivoted operating arm carrying oppositely disposed pawls, sub-

stantially as described. 7th. In a brake system, the combination, of the two part rod having reversely threaded ends, the connecting sleeve with correspondingly threaded portions, the reversely set ratchets fixed on the sleeve, and the pivoted operating arm carrying oppositely disposed pawls, the pawls being weighted so that only one ratchet is engaged at a time, substantially as described. 8th. In a brake system, the combination, of the two part rod having reversely threaded ends, the connecting sleeve with correspondingly threaded portions, the reversely set ratchets fixed on the sleeve, the pivoted operating arm carrying oppositely disposed pawls, and a cam acting on the arm, the pawls being weighted as described, so that when the arm is in operative position with relation to the cam the ratchet acting to screw up the sleeve shall be engaged, the reversing pawl being meanwhile normally out of engagement, as and for the purpose set forth. 9th. The combination, of the two part rod having reversely threaded ends, the connecting sleeve with correspondingly threaded portions and reversely set ratchets, the pivoted operating arm carrying oppositely disposed pawls, the cam, and the spring for releasably holding the arm up to the cam, substantially as described. 10th. The combination, of the connecting sleeve, having reversely threaded ends, the screw threaded rods working therein, the protecting collars on the ends of the sleeve, the centrally perforated caps on the collars, and the washers, the latter being held in place by the collars or caps and fitting the rods, substantially as described.

No. 39,229. Tank and Case for Liquid Blacking.

(*Boîte à cirage.*)

Arlington Ingalls Farnam, Dunham, Quebec, Canada, 28th June, 1892; 5 years.

Claim.—The box or case A, having a hinged cover B, combined with the refilling tank C, having the screw cap E and outlet G, and the enclosing keeper D, substantially as set forth.

No. 39,230. Indicator and Recorder for Cash.

(*Régistre et indicateur de monnaie.*)

Lloyd M. Mills, Grand Rapids, Michigan, U. S. A., 28th June, 1892; 5 years.

Claim.—1st. In a cash recorder and indicator, the combination, with a series of radially arranged type bars mounted to slide, of a tape adapted to be printed on by the said type bars, and an indicator actuated by the said type bars so as to display the amount printed on the said tape, substantially as shown and described. 2nd. In a cash recorder, the combination, with a casing and a drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide in the said casing, and a tape adapted to be printed on by the said type bars, and set in proper place to receive the printing by the movement of the said drawer, substantially as shown and described. 3rd. In a cash recorder, the combination, with a casing and a drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide in the said casing, a tape adapted to be printed on by the said type bars, and set in proper place to receive the printing by the movement of the said drawer, and an indicator actuated by the said type bars and the said drawer, substantially as shown and described. 4th. In a cash register and indicator, the combination, with type bars and a tape adapted to be printed on by the said bars, of a series of racks, numeral slides connected to the racks, a gear wheel adapted to mesh with the racks, means for throwing the gear wheel in and out of gear with the racks, and mechanism for operating the gear wheel from the type bars, substantially as described. 5th. In a cash recorder and indicator, the combination, with indicator slides and means for operating the said slides, of a drawer and mechanism between the drawer and slides to release the slides from their operating mechanism and allow them to return to their normal position, substantially as described. 6th. In a cash recorder and indicator, the combination, with a printing mechanism, numeral slides, and means for operating the slides from the printing mechanism, of tape carrying pulleys, a drawer, and mechanism for operating the pulleys from the drawer and for releasing the numeral slides to allow them to return to their normal positions, substantially as herein shown and described. 7th. In a cash recorder and indicator, the combination, with a series of numeral slides, type bars and mechanism for operating the numeral slides from the type bars, of a carriage mounted to slide, tape carrying pulleys supported on the said carriage, a drawer, and mechanism for actuating the said carriage and moving it from the said drawer, substantially as shown and described. 8th. In a cash recorder and indicator, the combination, with a series of numeral slides, of two slides, a pivoted bar connecting the said slides, a gear wheel carried by one of the slides for operating the numeral slides, tape pulleys, one mounted on each of the said slides, a drawer, and means for operating the said slides from the drawer, substantially as described. 9th. In a cash recorder, the combination, with a series of racks and numeral slides connected to the racks, of a slide, standards secured to the slide, a gear wheel mounted in the standards and adapted to mesh with the said racks, and a drawer adapted to engage the slide, substantially as herein shown and described. 10th. In a cash recorder and indicator, the combination, with a series of rack bars having teeth on their rear sides and numeral slides connected to the racks, of a slide, standards secured to the slide, a gear wheel mounted in the standards and

adapted to engage the racks, a pawl for engaging the teeth on the rear of the racks, a pivoted bar adapted to engage the pawl, and a drawer with which the free end of the pivoted bar engages, substantially as described. 11th. In a cash recorder and indicator, the combination, with a casing having an opening in its front and rear, of a series of racks, two sets of numeral slides connected to the racks, a gear wheel adapted to mesh with the racks, a printing mechanism, and mechanism for operating the gear wheel from the printing mechanism, substantially as and for the purpose set forth. 12th. In a cash recorder and indicator, the combination, with type bars, of levers connected with the said type bars, pawls held on the said levers, a ratchet wheel adapted to be engaged by the said pawls, a gear wheel turning with the said ratchet wheel, and rack bars adapted to be engaged by the said gear wheel, substantially as shown and described. 13th. In a cash recorder and indicator, the combination, with type bars, of levers connected with the said type bars, pawls held on the said levers, a ratchet wheel adapted to be engaged by the said pawls, a gear wheel turning with the said ratchet wheel, rack bars adapted to be engaged by the said gear wheel, and numeral slides rigidly connected with the said rack bars, substantially as shown and described. 14th. In a cash recorder and indicator, the combination, with type bars, of levers connected with the said type bars, pawls held on the said levers, a ratchet wheel adapted to be engaged by the said pawls, a gear wheel turning with the said ratchet wheel, rack bars adapted to be engaged by the said gear wheel, numeral slides rigidly connected with the said rack bars, and a frame provided with guide ways for the said rack bars and slides, substantially as shown and described. 15th. In a cash recorder and indicator, the combination, with type bars, of levers connected with the said type bars, pawls held on the said levers, a ratchet wheel adapted to be engaged by the said pawls, a gear wheel turning with the said ratchet wheel, rack bars adapted to be engaged by the said gear wheel, numeral slides rigidly connected with the said rack bars, and a frame provided with guide ways for the said rack bars and slides, and pawls for locking the said rack bars in place, and also adapted to move the said guide frame, substantially as shown and described. 16th. In a cash recorder and indicator, the combination, with type bars, of levers connected with the said type bars, pawls held on the said levers, a ratchet wheel adapted to be engaged by the said pawls, a gear wheel turning with the said ratchet wheel, rack bars adapted to be engaged by the said gear wheel, numeral slides rigidly connected with the said rack bars, a frame provided with guide ways for the said rack bars and slides, pawls for locking the said rack bars in place and also adapted to move the said guide frame, and means, substantially as described, for operating the said pawls, as set forth. 17th. In a cash recorder, the combination, with a series of type bars mounted to slide, of two tapes located one above the other and adapted to be printed on simultaneously by the said type bars, substantially as shown and described. 18th. In a cash recorder, the combination, with a series of radially arranged type bars mounted to slide, of two tapes arranged one above the other but below the said type bars, and an endless inking ribbon extending between the said tapes, substantially as shown and described. 19th. In a cash recorder, the combination, with a series of radially extending type bars mounted to slide, of two tapes arranged one above the other and adapted to be printed on simultaneously by the said type bars, one of the said tapes extending through the casing to the outside, and the other being arranged to re-wind within the casing, substantially as shown and described. 20th. A cash recorder, provided with two tapes arranged one above the other, and inking ribbons between and above the same, substantially as shown and described. 21st. In a cash recorder, the combination, with a casing and a drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide in the said casing, and two tapes arranged one above the other and adapted to be printed on simultaneously by the said type bars, and set in a proper place to receive the printing by the movement of the said drawer, substantially as shown and described. 22nd. In a cash recorder, the combination, with a casing and a drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide in the said casing, two tapes located one above the other and adapted to be printed on simultaneously by the said type bars, and a paper carriage mounted to slide transversely and carrying the said tapes, the said carriage being shifted to bring the said tapes into proper place to receive the printing, substantially as shown and described. 23rd. In a cash recorder, the combination, with a casing and drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide in the said casing, two tapes located one above the other and adapted to be printed on simultaneously by the said type bars, a paper carriage supporting the said tapes and adapted to be shifted laterally, and intermediate mechanism for imparting a transverse motion to the said paper carriage from the said bars, substantially as shown and described. 24th. In a cash recorder, the combination, with radially arranged type bars mounted to slide, of two tapes located one above the other and adapted to be printed on simultaneously by the said type bars, and a set of levers for shifting the said tapes according to the amount to be printed thereon, substantially as shown and described. 25th. In a cash recorder, the combination, with a series of radially arranged type bars mounted to slide, of two tapes located one above the other and adapted to be printed on simultaneously by the said type bars, inking ribbons for the said tapes, a paper carriage carrying the said tapes and mounted to slide transversely, and a set of

levers for shifting the said frame transversely according to the amount to be printed on the tapes, substantially as shown and described. 26th. In a cash recorder, the combination, with a casing, and a drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide, two tapes located one above the other and adapted to be printed on simultaneously by the said type bars and shifted forwardly to present a blank space under the said type bars previous to depressing the latter, the said shifting being accomplished by the movement of the said drawer, substantially as shown and described. 27th. In a cash recorder, the combination, with a casing, and a drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide, two tapes located one above the other and adapted to be printed on simultaneously by the said type bars and shifted forwardly to present a blank space under the said type bars previous to depressing the latter, the said shifting being accomplished by the movement of the said drawer, and an intermediate mechanism for connecting the said drawer with the said tapes to impart a simultaneous shifting to the latter, substantially as shown and described. 28th. In a cash recorder, the combination, with a paper carriage mounted to slide transversely, of a lever connected with the said carriage for shifting the latter, and a series of levers fulcrumed on the said first named lever, and each provided with a plate extending over the next following levers, substantially as shown and described. 29th. In a cash recorder, the combination, with a paper carriage mounted to slide transversely, of a lever connected with the said carriage for shifting the latter, a series of levers fulcrumed on the said first named lever, and each provided with a plate extending over the next following lever, and a spring connected with the first named lever for returning the same to its normal position, substantially as shown and described. 30th. In a cash recorder, the combination, with a drawer, of a locking bolt adapted to engage a notch in said drawer, and a spring pressed lever pivotally connected with the said bolt to disengage the latter from the notch in the said drawer, substantially as shown and described. 31st. In a cash recorder, the combination, with a drawer, of a locking bolt adapted to engage a notch in the said drawer, a spring pressed lever pivotally connected with the said bolt to disengage the latter from the notch in the said drawer, and a series of levers pivoted on the said first named lever, and each provided with a plate extending over the next adjacent lever to and over the said first named lever, so that when either lever is pressed the said bolt is withdrawn, substantially as shown and described. 32nd. In a cash recorder, the combination, with a casing, and a drawer mounted to slide therein, of a series of radially arranged type bars mounted to slide in the said casing, two tapes located one above the other and adapted to be printed on simultaneously by the said type bars, and a paper carriage mounted to slide transversely and carrying the said tapes, the said carriage being shifted to a normal position on the inner or return movement of the said drawer, substantially as shown and described. 33rd. In a cash recorder, the combination, with a drawer mounted to slide, of a locking bolt for holding the said drawer in place, a lever carrying the said locking bolt, and means, substantially as described, for connecting the said lever with the said drawer to open the latter by the movement of the said lever after the said bolt is withdrawn, substantially as shown and described.

No. 39,231. Car Coupler. (*Attelage de chars.*)

William Henry Starkey and James Thomas Starkey, both of Moncton, New Brunswick, Canada, 28th June, 1892; 5 years.

Claim.—1st. The combination, in car couplers, of draw head A, made in three parts *a*, *b* and *c*, a pin tripper D, with oblique base *c*, having a slotted opening *d*, a steel pin *f*, a coupling pin *h*, shackle *j*, attached to coupling pin *h*, slotted opening *K*, in lever K, draw head A, with shank B, made in horizontal sections *m*, *n* and *o*, and pivot pin C, substantially as hereinbefore described and shown, and for the purposes therein set forth. 2nd. The combination, of a pin tripper D, having an oblique base *c*, with a vertical slotted hole *d*, a pin *f*, an inclined plane *g*, and the pin tripper D, holding the coupling pin in position, substantially as shown and described and for the purposes set forth. 3rd. The pin tripper D, having an oblique base and slotted opening *d*, and a steel pin *f*, passing through it, as shown and described and for the purposes set forth. 4th. The combination, of a lever K, having in its extremity a slotted opening *K*, in which a shackle *j*, works, as hereinbefore shown and set forth and for the purposes named. 5th. A shank B, made of suitable metal in three longitudinal sections *m*, *n* and *o*, as shown and described and for the purposes set forth.

No. 39,232. Means of Securing Pulleys to Shafts.

(*Manière d'assujétir les poulies aux axes.*)

The Reeves Pulley Company, assignees of Milton O. Reeves, all of Columbus, Indiana, U.S.A., 28th June, 1892; 5 years.

Claim.—The combination, of the shaft, the segmental bushing adapted to fit thereon, the pair of metallic clamps adapted to embrace the exterior of the bushing between them, the bolts arranged to draw said clamps together, and the pulley sections, each having a central opening adapted to embrace the exterior of the bushing, and an interior recess adapted to receive the clamp, and means for clamping the pulley sections together, all arranged to co-operate, substantially as set forth.

No. 39,233. Pipe Coupler and Check Valve.*(Joint de tuyau et soupape d'arrêt.)*

Frank Langdon Messinger, Worcester, assignee of William Thompson Messinger, Boston, both of Massachusetts, U.S.A., 28th June, 1892; 5 years.

Claim.—1st. The combination of a pair of coupling pieces and a co-operating coupling nut, with a removable cylinder contained within said coupling nut and between said coupling pieces, a guide and seat piece having a valve seat and valve guide integrally formed therein, and a valve co-operating with said valve guide and seat piece, which latter is detachably connected with the said removable cylinder, substantially as and for the purpose described. 2nd. The combination of a pair of coupling pieces and co-operating coupling nut, with a removable hollow cylinder contained between said coupling pieces and within said coupling nut, a valve seat and guide piece separable from but engaged with said cylinder and comprising an annular seat portion, inclined guide arms, and a guide piece having a guide passage, and a cup-shaped valve having a stem working in said guide passage, substantially as described. 3rd. The combination of a pair of coupling pieces, one provided with an internal cross bar, with a coupling nut and a removable cylinder contained between said coupling pieces and within said coupling nut, the valve guide and seat piece detachable from but supported in said cylinder, and a valve co-operating therewith, as described, the said cross bar of the said coupling piece constituting a stop to limit the movement of the valve from its seat, substantially as set forth.

No. 39,234. Secondary Battery. (Pile secondaire.)

George A. Mosher and William Sleicher, both of Troy, assignees of Charles F. Winkler, also of Troy, New York, U.S.A., 28th June, 1892; 5 years.

Claim.—1st. A secondary battery electrode consisting of a series of troughs made of insulating material, in combination with electrical conductors and active material located in said troughs. 2nd. A secondary battery electrode consisting of a series of troughs made of insulating material, in combination with active material contained in said troughs and conductors of electricity buried in said active material. 3rd. A secondary battery electrode consisting of a series of troughs made of insulating material, in combination with active material contained in said troughs, and conductors of electricity buried in said active material, all of said conductors being connected together to form a connecting lug of the electrode. 4th. A secondary battery electrode consisting of a rectangular frame supporting a series of troughs, said frame and troughs being made of insulating material, in combination with a series of rods of conducting material extending through the side of said frame and lying in the respective troughs, the ends of the rods being connected together by a single rod of conducting material, and active material also located in said troughs, substantially as described. 5th. In a secondary battery, a horizontal supporting plate made of insulating material, and provided with a central trough and a series of branch troughs therefrom, in combination with an electrical conductor having a central wire or backbone and branches therefrom, the backbone being located in the central trough, and the branch conductors in the branch troughs of the plate, and active material deposited in the troughs and surrounding the conductor, substantially as described. 6th. In the manufacture of storage batteries, the process herein described of making the electrodes, which consists in electro-depositing upon a support of insulating material a quantity of lead, and finally forming in the usual manner. 7th. In a secondary battery, the combination, with plates containing active material and an acid solution in the form of a jelly serving to hold the active material in place, of a non-oxidizable sulphate, such as the sulphate of ammonia, contained in the solution, for the purpose set forth. 8th. The herein described method of applying the active material to secondary battery electrodes, consisting in first mixing the active material with a liquid in such proportion that the mixture will be in a liquid state, then dipping the plates into the liquid, and thereby filling the pockets or chambers in the plates, then allowing the plates to stand until the active material settles in the pockets, then pouring off the free liquid, and repeating this operation until the pockets are full.

No. 39,235. Method of and Means for Preparing Butter. (Méthode et moyen de préparer le beurre.)

Aktiebolaget Radiator, Stockholm, assignee of Erik Gustaf N. Salenius, Lofholmen, Liljeholmen, both of Sweden, 28th June, 1892; 5 years.

Claim.—1st. The method of making butter, consisting in exposing the surface of the mass of cream contained in a revolving centrifugal drum to the working of a jet or jets, or of a row or series of jets, which jet or jets may consist of liquid or of air or gas. 2nd. The method of making butter, consisting in exposing the surface of the mass of cream contained in a revolving centrifugal drum to the working of either a jet or a series of jets, which jet or jets may consist of either the milk which is to be separated in the centrifugal drum, or of some other liquid or of air or gas, whether the cream is separated from unskimmed milk fed into the centrifugal drum or the cream is led directly into the latter. 3rd. The herein described apparatus for the manufacture of butter according to the method indicated in claims 1 and 2, consisting of a pipe directed against the mass of cream

contained in a revolving drum, a pipe perforated longitudinally, or a pipe the end of which is pressed together to form a slot, or which is provided with a longitudinal slot, through which pipe liquid or air is forced in the form of fine jets against the mass of cream. 4th. The herein described apparatus for the manufacture of butter according to the method indicated in claims 1 and 2, consisting of a centrifugal drum into which the unskimmed milk is fed in for being separated, and which drum is within or outside provided with a compartment into which the skimmed milk is fed in proportion as the separation proceeds, and of a skimming pipe, which from the last named compartment draws up the skimmed milk and projects it in the form of a jet or jets against the surface of the cream contained in the centrifugal drum, while the outlet for the skimmed milk from the drum is performed in any well known manner. 5th. In the apparatus indicated in claim 4, the arrangement of two skimming pipes one of which has for its object to project the liquid against the surface of the cream, the object of the other pipe being to lead off the skimmed milk and thus to determine the level of the liquid contained in the centrifugal drum, with the object of determining the thickness of the layer of the butter by adjusting this pipe. 6th. The herein described apparatus for the manufacture of butter according to the method indicated in claims 1 or 2, consisting of a centrifugal drum into which a branch pipe is connected, one branch of which is arranged as described in claim 3, while the other enters into a central cylinder or compartment fixed in the centrifugal drum, from which cylinder an outlet pipe extends to the drum, the said pipe being at the point of division provided with a three way cock, so that by adjusting the said cock the milk may pass into either one or the other branch, and churning or separating may be effected in the drum. 7th. The above described apparatus for the manufacture of butter according to the method indicated in claims 1 or 2, consisting of a common centrifugal drum containing an inner drum with perforated walls, which drum is either fixed at the outer drum or is driven independently on its own shaft, with the object that the unskimmed milk, or eventually another liquid led into the inner drum, may be thrown out against the mass of cream revolving with the outer drum. 8th. The arrangement of the perforated pipe indicated in claim 3, in which is arranged another pipe corresponding to the plug of a cock provided with a longitudinal slot and with an opening, which slot and opening may alternately be brought in front of the row of holes, or a side hole in the outer pipe, with the object of effecting either the churning or the separating in the revolving drum. 9th. In a centrifugal drum with a vertical shaft, the arrangement for supporting the shaft consisting of two pulleys or discs inclined one towards the other and revolving freely, on the edges of which pulleys rests the lower end of the shaft. 10th. An apparatus for the continuous manufacture of butter according to the method indicated in claims 1 or 2, consisting of a revolving drum divided vertically into two compartments, one serving for separating and the other for churning, pipes extending from the former compartment into the latter through which the skimmed milk produced in the operation is projected against the cream collected in the latter compartment out of the former, so that butter is produced from the cream in proportion as the separating proceeds. 11th. A non-continuously working churn, consisting of a revolving drum, by means of which the mass of cream which is to be churned is put into rotary motion, and of a skimming pipe inserted into the drum by means of which a jet or series of jets is directed against the mass of cream. 12th. In the churn indicated in claim 11, the arrangement of stationary or movable obstacles in the skimming pipe.

No. 39,236. Dish Washing Machine. (Lave-assiettes.)

William Clark Nelson, Santa Rosa, California, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. In a dish washing machine, the combination, with the receptacle or casing, and the yielding, adjustably supported, perforated, false, brush carrying bottom therein, of the cover working within said receptacle, and having end arms or extensions, having an adjustably pivoted connection with the casing, and the brush cylinder carried thereby, substantially as specified. 2nd. The combination, with the casing or receptacle, having the movable cover pivoted therein, the brush cylinder carried thereby, and the brush carrying false bottom, of the apron or receiver detachably supported upon said casing, substantially as specified. 3rd. The combination, with the receptacle or casing, having the cover pivoted or working therein, and the brush cylinder carried by arms of said cover, of the removable, adjustably supported, concave, yielding, perforated, false bottom, having the brushes secured thereto, substantially as specified. 4th. In a dish washer, the combination, with the casing or receptacle, having the brush carrying false bottom, and the movable cover therein, of the brush carrying cylinder supported in arms of said casing by means of a gudgeon on one end extended through a circular slot in one end of said casing and provided with a crank, and by a pivot stud carried by one of said arms engaging a bearing in the opposite end of said cylinder, substantially as specified. 5th. In a dish washer, the combination, with the casing, having the reinforced curved slot in one end thereof, and the angular heating surface, of the perforated, yielding, brush-carrying, false bottom, the cover having the end extensions pivotally hung therein, the reinforcing strip therefor, the pivoted rotary brush cylinder and the detachable apron or receiver, substantially as specified. 6th. In a dish washing machine, the rotary brush cylinder, having the rods

passed therethrough, and extending beyond the surface thereof at both sides, said rods having near each end the brush securing coils, and terminating each in an angular bend, substantially as and for the purpose specified.

No. 39,237. Truck for Lumber Kilns.

(*Camion pour four a sécher le bois.*)

Albert T. Bemis, Louisville, Kentucky, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. In a lumber truck for drying kilns, the combination, with the body of the truck, of an inclined standard secured at its lower end to the body of the truck, and adapted to serve as a support for lumber piled upon the truck, substantially as described. 2nd. The combination, with the truck, the inclined standard, the brace for said standard, the planking E, notched as described, and the standards D, at the opposite end of the truck, substantially as shown and described and for the purpose specified. 3rd. In a lumber drying truck for dry kilns, the combination, with the truck, the inclined standards thereon, and the curtain H, extending from the upper end of the standard to the upper face of the lumber piled upon the next adjacent trucks in the train, substantially as shown and described and for the purpose specified.

No. 39,238. Musical Instrument.

(*Instrument de musique.*)

Charles Alexander Gregory, Montreal, Quebec, Canada, 30th June, 1892; 5 years.

Claim.—1st. A musical instrument, comprising a guitar body and neck piece bearing the scale, head and strings, an auxiliary strengthening post extending upward from said body and connected to the head, and a tail piece secured to said body by holdfasts passing through the belly piece as set forth. 2nd. A musical instrument, comprising an enlarged guitar body, a neck piece bearing the scale of ordinary dimensions, head piece and strings, a strengthening post extending upward from said body and connected to the head, and a tail piece secured to said body by bolting through the belly piece, as set forth. 3rd. A musical instrument, comprising an enlarged guitar body and two neck pieces carrying scales and strings of differing gradations, for the purpose set forth. 4th. A guitar body having an opening at its base, and provided with a pedalswell or shutter for regulating the emission of sound through such opening. 5th. A tail piece for stringed musical instruments, held in place by holdfasts passing through the belly piece of the instrument, as set forth. 6th. A tail piece for stringed musical instruments, having a crown bar or ridge containing horizontal tapered apertures, for the purpose set forth. 7th. A tail piece for stringed musical instruments, having a crown bar or ridge provided with horizontal tapered apertures to receive the knotted ends of the strings, and slits communicating with such apertures, for the purpose set forth. 8th. A tail piece for stringed musical instruments, composed of a flat plate with raised crown bar or ridge containing apertures for the string ends and projecting posts adapted to be passed through the belly piece of the instrument and be locked on the inside, as set forth. 9th. A tail piece for stringed musical instruments, having a crown bar containing horizontal apertures and a tension bar carried in front of such crown bar, for the purposes set forth. 10th. A band or rim for the bodies of guitars and like musical instruments formed of a series of layers of veneered arranged horizontally one upon the other and with the grain of each layer running in a different direction to that of the contiguous layers. 11th. A band or rim for the bodies of guitars and like musical instruments formed without a vertical joint. 12th. In a guitar and like musical instruments, an integral neck piece and body band or rim. 13th. In combination, with a guitar or musical instrument, a key or stop adapted to make contact with the belly piece of the instrument on the inside immediately beneath the bridge for the purpose set forth.

No. 39,239. Wrench. (Clé à écrou.)

Thomas Sherk, St. Louis, Missouri, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. The combination of the handle bar having a fixed head at its outer end and formed of a series of threads extending around part of its circumference, the sliding jaw *d* having the ring *D*², and the nut fitting within said ring and formed with the interior series of the thread extending around a part only of its inner face, substantially as set forth. 2nd. The combination of the handle bar having the fixed head B, and formed with the series of threads C, extending around one-third ($\frac{1}{3}$) of its circumference, the sliding jaw D, having the ring *D*² formed with the shoulders *d*¹, and the adjusting ring E having the reduced upper end and stop pin *e*¹, and the lugs *c*, and formed within the inner series of threads extending around two-thirds of its inner face, substantially as set forth.

No. 39,240. Method of Treating Minerals.

(*Méthode de traiter le minéral.*)

Jean de Coppet, Paris, France, 30th June, 1892; 5 years.

Claim.—1st. The method of treating minerals, matts, speiss and other substances containing nickel, consisting in separating the cobalt from the nickel and copper in sulphuric or hydrochloric

liquors by cementation, at the ordinary temperature of the surrounding atmosphere of the copper, by means of metallic cobalt obtained by preliminary reduction at a low temperature of the oxide of cobalt. 2nd. In separating nickel from copper in the same liquors, the process of hot cementation of the copper by means of metallic nickel obtained by preliminary reduction at a low temperature of oxide or nickel, either pure or mixed with oxide of copper. 3rd. In separating nickel and cobalt from copper in the same liquors, the process of hot cementation of the copper, by means of a mixture of metallic nickel, cobalt and iron, obtained by preliminary reduction at a low temperature of oxides of these three metals, all substantially described in the present specification.

No. 39,241. Machine for Manufacturing Wire Fence Strands. (Machine pour la fabrication du fil de fer pour clôtures.)

Edgar Fay Hathaway, Hornellsville, New York, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. In a machine for the manufacture of wire fence strands, the combination, of a holder or head for the passage of longitudinal wires, reels for carrying such wires, twister arms receiving the wires from the reels and operating to twist pairs of the wires together, a spool or reel carrying the transverse or filling wire and through which the pairs of spirally twisted wires pass lengthwise, a rotating wire carrier for laying the filling wire round the pairs of spirally twisted wires, and means for moving the latter lengthwise through the spool or reel which carries the filling wire, substantially as described. 2nd. The combination, with mechanism for spirally twisting the wires, of a sleeve or tubular piece through which the pairs of twisted wires move lengthwise, a detachable spool or reel mounted on the sleeve or tubular piece, and adapted to carry the transverse or filling wire, and means for laying the filling wire round the pairs of twisted wires, substantially as described. 3rd. The combination, with mechanism for spirally twisting the wires, of a spool or reel adapted for the passage of the spirally twisted wires lengthwise therethrough, and serving to carry the transverse or filling wire, and a rotating device for laying the filling wire round the spirally twisted wires in a zig-zag pathway, substantially as described. 4th. The combination, with mechanism for spirally twisting the wires, of a sleeve or tubular piece through which the spirally twisted wires move lengthwise, a spool or reel carrying the transverse or filling wire, and adapted to be removed from and replaced on the sleeve or tubular piece, a rotating device for laying the filling wire round the spirally twisted wires, and means for moving the spirally twisted wires lengthwise through the sleeve or tubular piece, substantially as described. 5th. The combination, of a head or holder through which the horizontal wires pass, a core piece for holding the wires separated, a spool or reel carrying the filling wire surrounding the horizontal wires and removable from and replaceable without cutting or disturbing such wires, and a rotating wire carrier for laying the filling wire round the horizontal wires at the point where the latter are held separated by the cross piece, substantially as described. 6th. The combination, of a head or holder through which the horizontal wires pass, a rotating sleeve receiving the wires from the head or holder, a spool or reel carrying the filling wire, journalled on the sleeve and removable from and replaceable on such sleeve, a rotating wire carrier for laying the filling wire round the horizontal wires, and means for moving the latter lengthwise through the head or holder and the rotating sleeve, substantially as described. 7th. The combination, with a head or holder through which horizontal wires pass, a rotating sleeve or tubular piece, interchangeable spools or reels journalled on the sleeve or tubular piece and one of which is rotated by the latter, a rotating wire for laying the filling wire carried by the other spool or reel, and a wire guide moving back and forth in a rectilinear path for laying the supply of filling wire upon the spool or reel which is rotated by the sleeve or tubular piece, substantially as described. 8th. The combination, with a head or holder through which the horizontal wires pass, a spool or reel carrying the filling wire, a rotating wire carrier for laying the filling wire round the horizontal wires, a pair of rolls which gather and compress the filling wire and draw the horizontal wires lengthwise, and a take up mechanism for reeling the completed article, substantially as described. 9th. The combination, of a rotating sleeve or tubular piece, through which the horizontal wires pass, a detachable spool or reel journalled on the sleeve or tubular piece and serving to carry the filling wire, a rotating wire carrier operated by the sleeve for laying the filling wire round the horizontal wires, and compressing rollers which act to compress the filling wire and draw the horizontal wires lengthwise through the sleeve or tubular piece, substantially as described. 10th. The combination, with a main drive shaft, of a head or holder through which the horizontal wires pass, a rotating sleeve geared to the main drive shaft, a spool or reel journalled on the sleeve or tubular piece and serving to carry the filling wire, a rotating wire carrier operated by the sleeve or tubular piece and serving to lay the filling wire round the horizontal wires, and compressing and wire pulling or drawing rolls, driven by a gear connection with the main drive shaft, substantially as described. 11th. The combination, with a main drive shaft, of a head or holder through which pass the horizontal wires, a rotating sleeve geared to the main drive shaft, a spool or reel journalled on the sleeve or tubular piece and serving to carry the filling wire, a rotating wire carrier operated by the sleeve or tubular piece and serving

to lay the filling wire round the horizontal wires, compressing and wire pulling or drawing rolls driven by gear connection with the main drive shaft, and a rotating and lengthwise moving reel for taking up the completed fence strand, substantially as described. 12th. The combination, of a head or holder through which the horizontal wires pass, a rotating sleeve or tubular piece receiving the wires from the head or holder, a main drive shaft in gear with the sleeve or tubular piece, a spool or reel detachably journaled on the sleeve or tubular piece and serving to carry the filling wire, a rotating wire carrier operated by the sleeve or tubular piece for laying the filling wire round the horizontal wires, compressing rolls operating to compress the filling wire and move the horizontal wires through the sleeve or tubular piece, a suitable gear connection between the main drive shaft and the shaft of one of the compressing rolls, and a rotating and lengthwise movable reel shaft carrying a take-up reel and geared to a compressing roll shaft, substantially as described. 13th. In a machine for making wire fence strands, the combination of a sleeve or tubular piece through which the wires are moved lengthwise, a wire carrying spool or reel journaled upon and constructed, substantially as described, to be removed from and replaced on the sleeve or tubular piece without cutting or disturbing the wires moving through the latter, and means for laying the wire from the spool or reel round the wires passing through the sleeve or tubular piece. 14th. The combination of a pair of arbors or shafts, each provided with a rotating sleeve having radial twister arms, a pair of wire reels journaled on the sleeve, a head or holder through which the wires are moved lengthwise while such wires are twisted by the twister arms, and a rotating wire carrier for laying a filling wire round the spirally twisted wires as the latter move lengthwise, substantially as described. 15th. The combination of a pair of arbors or shafts, each provided with a rotating sleeve having radial twister arms, a pair of wire reels journaled on the sleeve, a head or holder through which the wires are moved lengthwise while such wires are twisted by the twister arms, a rotating wire carrier for laying a filling wire round the twisted wires, and a take-up mechanism for reeling the completed fence strand, substantially as described. 16th. The combination of a pair of arbors or shafts, each carrying a rotary sleeve having radial twister arms, wire reels journaled on the sleeve, a head or holder through which the wires from the reels are moved lengthwise, a spool or reel for carrying a filling wire, a rotating wire carrier for laying the filling wire round the wires which move lengthwise through the head or holder, and compressing and wire pulling rolls, substantially as described. 17th. The combination of a pair of arbors or shafts, each carrying a rotary sleeve having radial twister arms, wire reels journaled on the sleeve, a head or holder through which the wires from the reels are moved lengthwise, a spool or reel for carrying a filling wire, a rotating wire carrier for laying the filling wire round the wires which move lengthwise through the head or holder, and a take-up reel shaft carrying a reel, substantially as described. 18th. The combination, of a head or holder through which the wires move lengthwise, a sleeve or tubular piece receiving the wires from the head or holder, a spool or reel journaled on the sleeve or tubular piece and serving to carry a filling wire, a rotating wire carrier for laying the filling wire round the wires which move through the sleeve or tubular piece, compressing and wire pulling rolls, a reel shaft carrying a reel, and a gear connection between one of the compressing roll shafts and the reel shaft, substantially as described. 19th. The combination, of a sleeve or tubular piece through which the wires move lengthwise, a spool or reel journaled on the sleeve or tubular piece and serving to carry a filling wire, a rotating wire carrier for laying the filling wires round the wires which move lengthwise through the sleeve or tubular piece, compressing rolls which serve to draw or pull the wires through the sleeve or tubular piece, a reel shaft carrying a reel and provided with a sprocket wheel, a friction connection between the sprocket wheel and the reel shaft, and a chain connection between the sprocket wheel and one of the compressing roll shafts, substantially as described.

No. 39,242. Truck. (Camion.)

John Francis Lemaitre and Jean Charles Warren, both of Toronto, Ontario, Canada, 30th June, 1892; 5 years.

Claim.—1st. The combination, with a truck, of a handle having an eye piece F, with an elongated hole in it to fit onto the pin H, on one side of the pin I, substantially as and for the purpose specified. 2nd. The combination, with a truck, of a tail board J, pivoted on one end of it, substantially as and for the purpose specified. 3rd. A handle E, pivoted on the end of the truck frame, as described, in combination, with a tail board pivoted on the end of the truck frame opposite to the handle, substantially as and for the purpose specified.

No. 39,243. Method of Finishing Wood Surfaces.

(Méthode de finir les surfaces de bois.)

Victor Victorson, Boston, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. The method of finishing articles of wood which consists in varnishing the wood, then baking the varnish thereon, then again varnishing the baked surface and again baking the same for one or more coats, thus baking and shrinking one on the other the several coats of varnish, substantially as described.

No. 39,244. Needle for Sewing Machines.

(Aiguille pour machines à coudre.)

William Pigott, Toronto, Ontario, Canada, 30th June, 1892; 5 years.

Claim.—1st. A sewing machine needle, provided with a channel entering from the outer surface of the bar into the eye, substantially as described. 2nd. A sewing machine needle, provided with a channel entering from the outer surface of the bar into the eye, the sides of this channel converging from their outer to their inner ends, substantially as described. 3rd. A sewing machine needle, provided with a channel entering from the outer surface of the bar to the eye, a guard in said eye covering the inner end of said channel, said guard so arranged as to readily admit the thread into the eye, and to prevent the exit of the thread from the eye through said channel, substantially as described. 4th. In a sewing machine needle, a channel entering from the outer surface to the eye, the sides of said channel converging from the outer to the inner end, a guard within the eye covering the inner end of said channel, and so arranged as to readily admit the thread to the eye and prevent its exit from said eye by means of said channel, substantially as described.

No. 39,245. Ball Bearing. (Coussinet à boule.)

George Frederick Simonds, Fitchburg, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—In a ball bearing, the combination, with an axle or shaft, and the boxing of said axle or shaft, of spherical rollers or balls adapted to revolve freely in all directions, and arranged to take the radial pressure or weight of the axle or shaft, a cage for retaining said balls and in which they are removable in a body, and spherical rollers or balls supported at the end of the axle or shaft to take the end thrust thereof, substantially as described.

No. 39,246. Ball Bearing. (Coussinet à boule.)

George Frederick Simonds, Fitchburg, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. A ball bearing consisting of a cage composed of superimposed plates provided with centrally open or perforated concavo convex pockets, containing spherical rollers or balls, said cage and balls being removable in a body, substantially as described. 2nd. In a ball bearing, the combination, of two hardened plane surfaces, an interposed cage, and spherical rollers or balls retained in said cage and adapted to revolve on said plane surfaces, the said cage and hardened plane surfaces being held together and all removable in a body, substantially as described. 3rd. A ball bearing consisting of two hardened plane surfaces, and an interposed eccentrically placed cage containing spherical rollers or balls, substantially as described.

No. 39,247. Ball Bearing. (Coussinet à boule.)

George Frederick Simonds, Fitchburg, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. In a ball bearing, the combination of a series of balls surrounding a shaft or axle and confined in a removable cage, and adapted to resist end pressure or thrust, and other balls confined in a removable cage and adapted to resist radial pressure, said balls for resisting end pressure being arranged on different diameters and in different planes from the balls for resisting radial pressure, and said cages being independent of the bearing surfaces against which the respective balls for resisting end thrust and radial pressure act, substantially as described. 2nd. In a ball bearing, the combination of a series of balls surrounding a shaft or axle and adapted to resist end pressure or thrust thereof, parallel and vertical plane bearing surfaces for said balls, a series of balls confined in a removable cage and adapted to resist radial pressure, and concentric bearing surfaces for said last named balls, said cage being independent of the concentric bearing surfaces against which the balls for resisting radial pressure act, and the balls for resisting end pressure being arranged on different diameters and in different planes from the balls for resisting radial pressure, substantially as described. 3rd. In a ball bearing, the combination of a series of balls surrounding a shaft or axle and confined in a removable cage in position to resist end pressure or thrust, parallel and vertical plane bearing surfaces for said balls, said cage being independent of the parallel and vertical plane bearing surfaces against which the balls for resisting end pressure act, and another series of balls arranged between concentric bearing surfaces to resist radial pressure, said balls for resisting radial pressure being arranged on a different diameter and in different planes from the balls for resisting end thrust, substantially as described.

No. 39,248. Ball Bearing. (Coussinet à boule.)

George Frederick Simonds, Fitchburg, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. An annular ball retaining cage consisting of a tubular body having a central opening to receive a central support, and provided with flanges having lateral openings that surround the central opening, in combination with spherical rollers or balls that are held in said cage and project through said lateral openings to resist end

pressure or thrust, said balls being arranged to revolve freely in all directions and removable in a body with the cage, substantially as described. 2nd. An annular ball retaining cage consisting of a central tubular body having end flanges provided with lateral openings, in combination with spherical rollers or balls that are held between said flanges and project through the lateral openings to resist end pressure or thrust, substantially as described. 3rd. In a ball bearing, the combination, with a central support, of a removable annular cage consisting of a tubular flanged body provided on opposite sides with lateral openings, and a series of spherical rollers or balls confined in said cage in such a manner as to revolve freely in all directions and projecting therefrom in position to resist end pressure or thrust, said cage and balls being removable in a body, substantially as described.

No. 39,249. Ball Bearing. (*Coussinet à boule.*)

George Frederick Simonds, Fitchburg, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. The combination, with spherical rollers or balls, of a ball bearing cage comprising wires arranged to provide compartments containing spherical rollers or balls for sustaining pressure or weight and diminishing friction, substantially as described. 2nd. A cage for holding the spherical rollers or balls of a ball bearing, said cage comprising double sets of connected wires or rods, between which the balls are retained in operative position, substantially as described. 3rd. An annular cage consisting of two end rings and inner and outer rods connecting said rings and forming therewith chambers to receive and retain the spherical rollers or balls of a ball bearing, substantially as described. 4th. An annular cage consisting of two end rings, an intermediate ring dividing the cage into compartments, and inner and outer rods connecting said rings and forming therewith chambers to receive and retain the spherical rollers or balls of a ball bearing, substantially as described. 5th. The combination, with spherical rollers or balls, of an annular cage consisting of rings and inner and outer wire rods, and in which the outer wire rods are capable of being sprung apart to allow the insertion and removal of the said spherical rollers or balls, substantially as described. 6th. The combination, with spherical rollers or balls, of a cage having wire rods that retain each of said balls at four points, substantially as described. 7th. The combination, with spherical rollers or balls, of a cage having double sets of wire rods between which the balls are retained in operative position with free lateral play, said wires being capable of springing apart to permit the insertion and removal of the balls, substantially as described.

No. 39,250. Ball Bearing. (*Coussinet à boule.*)

George Frederic Simonds, Fitchburg, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. The combination, with spherical rollers or balls for taking end thrust, of a removable cage composed of separable partly annular sections having lateral openings and adapted for holding and retaining said balls in position to revolve freely in all directions and protrude laterally from said cage to resist thrust or end pressure, substantially as described. 2nd. The combination, with spherical rollers or balls for taking end thrust, of a cage for holding and retaining balls for a thrust ball bearing composed of separable partly annular sections detachably connected at the outer portion of the cage, said sections having lateral openings adapted for holding and retaining said balls in position to revolve freely in all directions, and protrude laterally from said cage to resist thrust or end pressure, substantially as described. 3rd. The combination, with spherical rollers or balls for taking end thrust, of a cage for holding and retaining balls for a thrust ball bearing, composed of separable partly annular sections detachably connected together, said sections having lateral openings adapted for holding and retaining said balls in position to revolve freely in all directions, and protrude laterally from said cage to resist thrust or end pressure, substantially as described. 4th. The combination, with spherical rollers or balls for taking end thrust, of a cage for holding and retaining balls for a thrust ball bearing, composed of segments of a circle fastened together by detachable connecting links, said sections having lateral openings adapted for holding and retaining said balls in position to protrude laterally from said cage to resist thrust or end pressure, substantially as described.

No. 39,251. Ball Bearing. (*Coussinet à boule.*)

George Frederick Simonds, Fitchburg, U. S. A., 30th June, 1892; 5 years.

Claim.—1st. In a ball bearing, the combination, with spherical rollers or balls, of a removably annular cage in which the balls are retained in a body, and in which they have free lateral play and are capable of revolving in all directions, said cage being independent of the bearing surface, against which the balls act, and between which said cage is adapted to move, whereby the said balls are free to move in varying lines, so that all parts of the bearing surfaces will be subject to the rolling contact of said balls and the wear and friction distributed, substantially as described. 2nd. In a ball bearing, the combination of spherical rollers or balls for sustaining or resisting radial pressure, a removable annular cage in which said balls are retained in a body and in which they are capable of revolving in all directions in contact with concentric bearing surfaces, spheri-

cal rollers or balls for resisting end thrust, and a removable annular cage in which said last named balls are retained in a body, and in which they are capable of revolving in all directions in contact with parallel plane bearing surfaces, said cages being independent of the bearing surfaces against which the balls act, substantially as described.

No. 39,252. Manufacture of Bricks.

(*Fabrication de la brique.*)

Edward Cammiss, West Hartlepool, Durham, England, 30th June, 1892; 5 years.

Claim.—1st. In the manufacture of bricks from impure clay, the treatment of the clay by which the said impurities are reduced to a finely divided state in the wet condition, substantially as and for the purpose as hereinbefore described. 2nd. The reduction of clay to a state of pulp, to be delivered by pumps, gravity, or other equivalent means, direct to the floor of the drying shed, substantially as described.

No. 39,253. Time Register. (*Régistre horaire.*)

Charles James Garnett and Alfred Moore, both of Keighley, York, England, 30th June, 1892; 5 years.

Claim.—1st. In time checking or recording mechanism, the combination of a rotary disc, carrying suitably formed receptacles, and having its peripheral edge formed, so that it may display figures indicative of its position relatively with that of the clock or time piece, with means for rotating this disc, substantially as specified. 2nd. In time checking or recording mechanism, the combination of a rotary disc carrying suitably formed receptacles, means for rotating same, electro magnets with hinged armatures operating in connection with projections formed on said rotary disc for governing or controlling its said rotary motions, and a time piece or clock for completing the circuit of said electro magnets at prearranged times, substantially as specified.

No. 39,254. Holder for Tools, etc. (*Porte-outil, etc.*)

Antoine Fleurant, Macon, France, 30th June, 1892; 5 years.

Claim.—1st. In a chuck or holder for tools or the like, the combination, of a tube, cylindrical externally spring catches adapted to project into the interior of the tube, and a sleeve adapted to rotate upon the tube, and provided with eccentric or spiral ribs or projections, substantially as and for the purpose specified. 2nd. In a chuck or holder for tools or the like, the combination, with the tube A, and spring catches B, C, of the rotatable sleeve D, substantially as and for the purpose specified.

No. 39,255. Rotary Plow. (*Charrue rotative.*)

John A. Baker, Henry L. Biscoe and John S. Miller, all of Washington, District of Columbia, and John H. Gassaway, Germantown, Maryland, assignees of Milton Taylor Hancock, Shreveport, Louisiana, all of the U.S.A., 30th June, 1892; 5 years.

Claim.—1st. In a sulky plow, the combination, with a rotary plow or cutting wheel and its supporting frame, of an axle having a land wheel at one end and a staggered dished guide wheel mounted at the other end of said axle, and having a solid and unbroken convex surface in proximity to said plow to receive the soil thrown on to it by the plow and discharge it at the rear, substantially as described. 2nd. The combination, with a diagonally arranged rotary plow or cutting wheel and its supporting frame, of an axle on which said frame is laterally adjustable, a land wheel at one end of said axle, and a staggered and dished guide wheel mounted at the other end of the axle in proximity to the rotary plow, and having a solid and unbroken convex surface presented toward said plow, substantially as described. 3rd. The combination, with an adjustable diagonally arranged rotary plow or cutting wheel, and an adjustable frame on which said plow is mounted, of a solid and dished guide wheel mounted in a staggered position adjacent to and outside the plow slightly in advance thereof, and having a solid convex surface presented toward the plow to receive the soil and discharge it at the rear, substantially as described. 4th. The combination, of an axle having a land wheel at one end and a staggered solid and dished guide wheel at its other end, a frame laterally and longitudinally adjustable on said axle, and an adjustable and diagonally arranged rotary plow mounted on said frame in rear of the axle, substantially as described. 5th. The combination, of an axle having a land wheel at one end, a vertical bracket or plate secured to the other end of said axle, and provided with a segmental rack, a plate or casting having guides engaged with said bracket and provided with a downward inclined spindle, a solid dished and staggered guide wheel mounted on said spindle, a lifting lever and its pawl pivoted to its bracket and connected by a link to the guide wheel plate, a frame mounted on the axle, and a diagonally arranged rotary plow mounted at the rear end of said frame, substantially as described. 6th. The combination, of an axle having a land wheel at one end, a vertically adjustable bracket secured to the other end of said axle, a guide plate in which said bracket is supported and provided with a downward inclined spindle, a solid dished and staggered guide wheel mounted on said spindle, a frame laterally adjustable on the machine axle, and a diagonally arranged rotary plow adjustably mounted at the rear end of said frame, substantially as described. 7th. The

combination, of an axle having at one end a land wheel and at the other end a solid dished and staggered guide wheel, means for raising and lowering the last named end of the axle with relation to the said guide wheel, a frame adjustably mounted on the machine axle, and a diagonally arranged rotary plow mounted in adjustable obliquely arranged boxes at the rear end of said frame, substantially as described.

No. 39,256. Plaster. (Plâtre.)

The Adamant Manufacturing Company, Syracuse, New York, assignee of Arthur Law Grant, Toronto, Ontario, Canada, 30th June, 1892; 5 years.

Claim.—The herein described composition of matter suitable for plastering compositions, mortars, cements and concretes, which consists of oleats or palmitate of sodium or potassium united with lime, substantially in the proportions specified, as set forth.

No. 39,257. Manufacture of Beer.

(Fabrication de la bière.)

The Pfandler Vacuum Fermentation Company, Rochester, New York, assignee of August Julius Metzler, Philadelphia, Pennsylvania, both in the U.S.A., 30th June, 1892; 5 years.

Claim.—1st. The process of treating beer after fermentation, for the purpose of clarifying it and saturating it with the requisite quantity of carbonic acid gas to fit it for the market, which consists in passing it through a filtering medium to remove the yeast and suspended impurities, and injecting into it free carbonic acid gas under pressure, substantially as described. 2nd. The process of treating beer after the completion of fermentation, for the purpose of clarifying it and charging it with the requisite quantity of carbonic acid gas, which consists in filtering the beverage after its removal from the fermenting vessel, and thereupon charging it with carbonic acid gas in quantity sufficient to give to the finished beverage the requisite inherent pressure, substantially as described. 3rd. The process of treating beer after fermenting for the purpose of clarifying and charging it with the requisite quantity of carbonic acid gas, which consists in abstracting from the fermenting vessels gaseous products of fermentation, passing the beer after it leaves the fermenting vessels through a filtering medium and charging the beer after it leaves the filtering medium with carbonic acid gas by introducing into it the gaseous products of fermentation obtained from the fermenting vat, substantially as described. 4th. The process of treating beer after fermenting for the purpose of clarifying it and charging it with the requisite quantity of carbonic acid gas, which consists in abstracting from the fermenting vat gaseous products of fermentation, passing the beer after it leaves the fermenting vat through a filtering medium and introducing into the beer the gaseous products of fermentation obtained in the manner described, substantially as set forth. 5th. The process of treating beer after fermenting for the purpose of charging it with the requisite quantity of carbonic acid gas, which consists in introducing into the beer while in transit and moving from the fermenting vessels to the ultimate receptacle, carbonic acid gas under pressure, substantially as described. 6th. The process of treating beer after fermenting for the purpose of clarifying it and charging it with the requisite quantity of carbonic acid gas, which consists in passing the beer while in transit from the fermenting vessels through a filtering medium and thereupon while in motion and before reaching the ultimate receptacle, introducing therein carbonic acid gas under pressure, substantially as described. 7th. The process of treating beer after fermenting, for the purpose of charging it with the requisite quantity of carbonic acid gas, which consists in confining the beverage in a suitable receptacle, introducing into said receptacle and into the beer contained therein carbonic acid gas under high pressure, and thereupon relieving the pressure to permit the same to fall to the desired inherent pressure in the finished product, substantially as described. 8th. The process of treating beer after fermenting, for the purpose of charging it with the requisite quantity of carbonic acid gas, which consists in confining the beer while in transit from the fermenting vessels in a suitable receptacle, introducing carbonic acid gas into said receptacle and into the beer contained therein, and causing a circulation of the beer by the action of the introduced gas, thereby more thoroughly saturating the beer with gas, substantially as described. 9th. The process of treating beer after fermenting, for the purpose of clarifying it and charging it with the requisite quantity of carbonic acid gas, which consists in passing the beer through a filtering machine, collecting and storing the gaseous products of fermentation, conveying the beer to a receptacle, introducing into said receptacle and into the beer contained therein the stored gaseous products of fermentation under high pressure, and thereupon relieving the pressure to reduce the same to the desired inherent pressure in the finished product, substantially as described.

No. 39,258. Medicinal Compound.

(Composition médicinale.)

William Picken Duncliffe, Morden, Manitoba, Canada, 30th June, 1892; 5 years.

Claim.—A specific for liver complaint, composed of radix ipecacuanha, finetis carni, radix leptandria, radix podophylli, cassia acutifolia, radix serpentaria virginia, saccerum, alcohol, glycerine and water, in the proportions, and for the purpose set forth.

No. 39,259. Curling Tool. (Fer à friser.)

Bertha Westervelt, Newark, New Jersey, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. A curling tool comprising therein a hollow handle, a tubular sleeve arranged to slide within said handle, and curling combs adapted to slide within said sleeve and adapted to be projected from either end thereof, substantially as and for the purposes set forth. 2nd. A curling tool comprising therein a hollow handle portion, and two curling combs adapted to slide within said hollow handle and made to project from the opposite ends of said handle portion when in use, the teeth on one comb being of greater length than the teeth of the second comb, for the purposes set forth. 3rd. A curling tool comprising therein a hollow handle portion, a tubular sleeve in said handle portion, and two curling combs adapted to slide within said sleeve and made to project from one or both ends of said sleeve, for the purposes set forth. 4th. A curling tool comprising therein a hollow handle portion, a tubular sleeve sliding within said hollow handle portion, two curling combs adapted to slide within said sleeve, and pins secured in rods connected with said curling combs and sliding in slots or openings in said sleeve, as and for the purposes set forth. 5th. A curling tool consisting of a tubular handle portion, provided with slots a^2 , a tubular sleeve adapted to slide within said handle portion, provided with slots b^1 , b^2 , and b^3 and b^4 , rods c and c^1 in said sleeve provided with teeth e^2 and e^4 , respectively, and pins in said rods extending into said slots b^1 and b^2 , in the sleeve, as and for the purposes set forth. 6th. A curling tool consisting of a tubular handle portion, provided with slots a^2 , a tubular sleeve adapted to slide within said handle portion provided with slots b^1 , b^2 , b^3 and b^4 , rods c and c^1 in said sleeves, provided with teeth e^2 and e^4 , respectively, saw cuts e^3 and e^5 in each end of said rods extending into said slots b^1 and b^2 of the sleeve, as and for the purposes set forth. 7th. A curling tool comprising therein a tubular handle portion and curling combs adapted to slide within said handle and made to project therefrom, provided with rods c and c^3 of varying diameters, and teeth e^2 and e^4 of varying lengths, for the purposes set forth. 8th. A curling tool comprising therein a tubular handle portion, a tubular sleeve in said handle portion, and curling combs adapted to slide within said sleeves, and made to project therefrom, provided with rods c and c^3 of varying diameters, and teeth e^2 and e^4 of varying lengths, for the purposes set forth.

No. 39,260. Gas Engine. (Machine à gaz.)

Mora M. Barrett and John F. Daly, both of San Francisco, California, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. In a gas or gasoline engine, the combination of a cylinder and cylinder head having a hood formed of parallel plates projecting from it, and the fixed contact point on one side of the cylinder, and the gas inlet on the opposite side both covered by the hood, as set forth. 2nd. In an electric spark producer for gas and gasoline engines, a fixed contact point or electrode located within the cylinder space above the piston and connected through the cylinder with the battery outside, a contact point or electrode fixed on the piston and adapted by the movement of that part to be pressed against the fixed contact point, a contact spring on the engine electrically insulated from all the parts of the engine and its frame, and having electrical connection with the battery, and the operating cam on the engine shaft, having movement as described, by which the electric current is interrupted at every alternate stroke of the piston, and is established at the beginning of every other stroke. 3rd. The combination, with the valve J, to be operated at every alternate revolution of the piston actuating shaft, the operating cam K on the shaft, the swiveled switch piece L, the grooves k^3 , k^4 , in the cam, and the valve stem adapted to be operated by said cam, and the coil spring, substantially as described. 4th. In a gas or gasoline engine, the electric spark producer consisting of the fixed tongue inside the cylinder formed of the spring y^5 , the contact piece y , and the interposed non-conducting layer of asbestos or like heat resisting material and constituting one terminal of the circuit from a suitable battery, and the contact point x on the piston, and in electrical connection with the battery through the piston rod and adjacent part, substantially as described. 5th. The herein described engine for working with gas or gasoline, consisting of the upright cylinder A, the frame A³, having bearings for the crank shaft, the single acting piston B, crank shaft, and piston rod, gas inlet E, inlet valve H, exhaust F, exhaust valve I, the hood W, suitable valve operating mechanism actuated by or from the crank shaft at every alternate revolution thereof to open the exhaust, the spring p as means of closing said valve, and the automatic spark producer adapted to explode the charge of gas at the downward movement of the piston when the exhaust is closed, composed of the fixed contact point y , conductor x , moving contact point x , on the piston, the conductor t , and a circuit breaker located between the contact point x , and the conductor t outside and actuated by the revolutions of the crank shaft to break the circuit at every alternate contact of the two points x , y , in that period of the movements of the piston when the exhaust valve is open, all combined for operation, as set forth. 6th. In an electric ignitor for gas engines, the combination, of the elastic tongues, which are terminals of an open circuit inside the cylinder, and the finger or projection on the piston head, insulated from the surrounding metal or otherwise made a non-conductor of the current when brought against one of the

tongues in order to complete the electrical circuit, as and for the purpose set forth and described. 7th. In an electrical gas engine, the combination, of the flexible electrode located inside the engine cylinder within the path of the reciprocating piston, and adapted to be operated thereby in order to make and break the electrical circuit, as and for the purpose set forth. 8th. In an electric ignitor for gas engines, the combination, with the electrodes or tongues which are terminals of an open circuit inside the cylinder, adapted to make and break the electrical circuit and produce a firing spark by being pressed together and then released, of a current interruptor in the conductor between the electrode or tongue and the battery, and mechanism operated from the engine shaft to operate said interrupter at every alternate revolution of the crank, as and for the purpose set forth. 9th. In a gas engine, the combination, with the exhaust valve, of the pivoted rock lever, and of the operating cam, provided with intersecting grooves, adapted to operate the valve rod through the medium of the rock lever, for opening and closing the exhaust valve, as for the purpose set forth.

No. 39,261. Machine for making Egg Cases.

(*Machine à faire les boîtes aux œufs.*)

James Henry Batchelder, Chicago, Illinois, U. S. A., 30th June, 1892; 5 years.

Claim.—1st. In a machine of the character hereinbefore described, the combination of the main frame, the stationary die member, the movable die member, the sleeves secured to said movable die, the guide standards upon which said sleeves are mounted, the driving shaft, the eccentrics mounted on said shaft, and the connecting rods, forming a connection between said eccentrics and the movable die, whereby an up and down movement is imparted to the said die, substantially as set forth. 2nd. In a machine of the character hereinbefore described, the combination of the companion feed rollers, the gear wheels, mounted on the ends thereof and engaging with each other, the ratchet wheel, mounted on the shaft of the lower feed roller, the crank wheel mounted on the main shaft, the connecting rod *F*¹, the lever arm *a*², and the spring pressed dog *a*³, whereby an intermittent movement is transmitted from the driving shaft to the feed rollers, substantially as set forth. 3rd. In a machine of the character hereinbefore described, the combination of the die members, the intermittently moving feed rollers and the slotted guides, substantially as set forth. 4th. In a machine of a character hereinbefore described, the combination of the feed rollers, the guide rollers located in the rear of and in line therewith, the ratchet wheel *b*⁷, mounted on the shaft of the lower guide roller, the lever arm *b*⁸, also mounted on said shaft, the ratchet wheel and its feed dog, the connecting rod *H*, and the crank wheel mounted on the driving shaft, whereby a corresponding intermittent motion with reference to the feed rollers, is transmitted to the guide rollers, substantially as set forth.

No. 39,262. Gate and Hinge. (*Barrière et penture.*)

John B. Erwin, Malone, New York, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. As an improvement in gates, the combination, of the hinge post, the swinging frame composed of pairs of vertical end bars, and rails connecting said bars, the swinging frame adapted to support the gate and permit the same to slide thereon, and the rollers mounted in the swinging frame, as set forth. 2nd. The adjustable hinge herein described and shown, in combination, the sections *S*, *T*, the former having the retaining lug *s*¹, and the screw threaded end *s*, the latter provided with the flattened end *U*, and the projecting points *V*, and the shield *X*, provided with the central aperture adapted to fit over the section *T*, and the lateral apertures arranged to receive the points *V*, all substantially as described and for the purpose named.

No. 39,263. Art of and Mechanism for Channeling Boot and Shoe Soles. (*Art de et mécanisme pour échancre les semelles des chaussures.*)

Albert Edward Johnson and Cyrus Hebert Porter, both of Brockton, Massachusetts, U.S.A., 30th June, 1892; 5 years.

Claim.—1st. That improvement in the art of channeling boot and shoe soles and other leather stock, which consists in cutting a short section of the channel and turning upward and backward the portion of stock so cut under just in advance of the sewing, and at the same time that the sewing is being done. 2nd. In combination, with the stitch forming and work feeding mechanisms of a sewing machine, a channel forming tool, provided with a knife edge adapted to cut an incision beneath a portion of the stock of the sole, and a share or inclined surface on the shank of said tool in suitable proximity to said cutting edge to raise and turn back the flap of stock so cut under, said tool being constructed and arranged to operate upon the sole or other article being sewed, just in advance of the needle and awl, and cut and turn up a short section of the channel flap during the formation of each stitch of a line of sewing. 3rd. The combination, with the stitch forming and work feeding mechanisms, of a sewing machine, of the tool *l*, provided with the cutting knife *o*, and the flap turning share *o*¹, formed upon the shank of said tool in suitable proximity to the cutting edge of said knife to raise and hold up the flap of material cut under by said knife, the lever *J*, provided with a cam surface, and the roll *m*, constructed and arranged to act upon said cam surface to vibrate said lever during the formation of each stitch of a line of sewing. 4th. The combination, with the stitch forming and work feeding mechanisms of a sewing machine, of the lever *J*, provided with a cam surface and pivoted to and movable with the presser foot bar, the channeling tool *l*, adjustably mounted upon said lever and provided with a cutting knife edge to cut under the flap, and a share to raise and turn back said flap, and a roll mounted upon a vibrating arm and arranged to act upon the cam surface of said lever *J*, to vibrate said lever and channeling tool.

CERTIFICATES OF THE PAYMENT OF FEES FOR FURTHER TERMS HAVE BEEN ATTACHED TO THE FOLLOWING PATENTS.

2621. THOMAS TURNBULL, 2nd five years of No. 26,803, from the 1st day of June, 1892. Improved Self-Acting Car Coupler, 1st June, 1892.
2622. HUGH JOHNSTON, 2nd five years of No. 26,922, from the 11th day of June, 1892. Improvements in Land Ploughs, 1st June, 1892.
2623. EBENEZER NORTH, 2nd five years of No. 26,990, from the 20th day of June, 1892. Improvements on Concrete Tile Moulding Machines, 2nd June, 1892.
2624. CONSTANTINE FAHLBERG, 2nd and 3rd five years of No. 38,918, from the 11th day of May, 1897. Improvements in the Production of Pure Saccharine, 2nd June, 1892.
2625. FRANK EVES, 2nd five years of No. 26,836, from the 3rd day of June, 1892. Improvements in Threshing Machines, 2nd June, 1892.
2626. JAMES WHITE PROVAN, 2nd five years of No. 26,980, from the 17th day of June, 1892. Improvements in Hay Forks, 4th June, 1892.
2627. JOSEPH BUTTERFIELD STETSON and ALBION DAVIS WILSON, 3rd five years of No. 14,920, from the 6th day of June, 1892. Improvements on Lanterns, 4th June, 1892.
2628. GEORGE T. GLOVER, 2nd five years of No. 26,910, from the 8th day of June, 1892. Improvements in Traction Engines, 6th June, 1892.
2629. WILLIAM DENT PRIESTMAN and SAMUEL PRIESTMAN, 2nd five years of No. 31,599, from the 17th day of June, 1894. Improvements in Motor Engines Operated by the Combustion of Hydro-Carbon Vapor, 6th June, 1892.
2630. CHARLES PLAXTON and JOHN PLAXTON, 2nd five years of No. 26,959, from the 15th day of June, 1892. Improvements in Hot Water Sectional Boilers, 6th June, 1892.
2631. REUBEN HOPKINS PLASS, 2nd five years of No. 26,909, from the 8th day of June, 1892. Improvements in Apparatus for Lighting and Heating Railway Cars, etc., 7th June, 1892.
2632. HENRY IWAN and LOUIS IWAN, 2nd five years of No. 26,915, from the 10th day of June, 1892. Improvements in Earth Augurs, 9th June, 1892.
2633. SARAH J. DALTON, 2nd five years of No. 26,949, from the 14th day of June, 1892. Improvements in Hydraulic Presses for Coating Wire and Cables with Lead, 10th June, 1892.
2634. GEORGE WILSON KIRKPATRICK, 2nd five years of No. 26,932, from the 13th day of June, 1892. Improvements in Grain and Grass Seeders, 11th June, 1892.
2635. THE INTERNATIONAL POSTAL SUPPLY COMPANY, 2nd five years of No. 27,044, from the 24th day of June, 1892. Improvements in Marking and Stamping Apparatus, 13th June, 1892.
2636. JAMES MURDOCK, 2nd five years of No. 26,935, from the 13th day of June, 1892. Improvements in Washing Machines, 13th June, 1892.
2637. RICHARD MOTT WANZER, 2nd five years of No. 26,948, from the 14th day of June, 1892. Nursery Cooking Attachment Frame for Mechanical Lamps, 14th June, 1892.
2638. WILLIAM CALVERT BRAMWELL, 3rd five years of No. 15,247, from the 7th day of August, 1892. Improvements on Feeding Mechanism for Carding Engines, 15th June, 1892.
2639. PERLEY AINSWORTH, 2nd five years of No. 26,981, from the 18th day of June, 1892. Improvements on Engines, 16th June, 1892.
2640. THE TORONTO REAPER AND MOWER COMPANY, 3rd five years of No. 15,012, from the 22nd day of June, 1892. Improvements on Grain Packers for Binding Machines, 16th June, 1892.
2641. JAMES E. BOYLE, 3rd five years of No. 15,015, from the 24th day of June, 1892. Improvements in Water Closets, 20th June, 1892.
2642. FRANK BENONA HOWARD, 2nd five years of No. 27,006, from the 20th day of June, 1892. Improvements in Articles Manufactured from Pulp, 20th June, 1892.
2643. ABNER W. BISHOP, 2nd and 3rd five years of No. 27,094, from the 2nd day of July, 1892. Improvements in Animal Pokes, 22nd June, 1892.
2644. OTTIS CONVERSE WHITE, 3rd five years of No. 15,056, from the 5th day of July, 1892. Improvements in Ball and Socket Joints, 22nd June, 1892.
2645. THE DREHER MANUFACTURING COMPANY, 2nd five years of No. 27,144, from the 11th day of July, 1892. Improvements in Lubricating Compositions, 24th June, 1892.
2646. THE NATIONAL HOLLOW BRAKE BEAM COMPANY, 2nd five years of No. 27,045, from the 24th day of June, 1892. Improvements in Brake Beams for Railway Cars, 24th June, 1892.
2647. THE McLAUGHLIN CARRIAGE COMPANY, 2nd five years of No. 27,099, from the 2nd day of July, 1892. Improvements in Running Gear for Vehicles, 25th June, 1892.
2648. JAY SPENCER CORBIN, 2nd five years of No. 27,321, from the 2nd day of August, 1892. Improvements in Combined Land Rollers and Seeders, 27th June, 1892.
2649. RICHARD SMITH, 2nd and 3rd five years of No. 27,492, from the 24th day of August, 1892. Improvements in Doctors for Paper Calender Rolls, 28th June, 1892.
2650. RICHARD SMITH, 2nd and 3rd five years of No. 27,612, from the 10th day of September, 1892. Improvements in Automatic Doctors for Calender Rolls, 28th June, 1892.

TRADE MARKS

Registered during the month of June, 1892, at the Department of Agriculture—
Copyright and Trade Mark Branch.

4339. JOHN TAYLOR, of Toronto, Ont. Cigars, 1st June, 1892.
4340. THE BARBER & ELLIS CO., of Toronto, Ont. Paper, 2nd June, 1892.
4341. CASSIE H. DIER, of St. Thomas, Ont. Medicine for the cure of Asiatic Cholera, Cholera Morbus, Diarrhoea, Diphtheria, Quinsy, Bronchitis, and all diseases of the throat, 2nd June, 1892.
4342. CHARLES LOUTITT, of Campbellford, Ont. Loutitt's Catarrh Cure, 3rd June, 1892.
4343. THE BELL TELEPHONE COMPANY OF CANADA, of Montreal, Que. Telephonic Apparatus, 6th June, 1892.
4344. DAY & MARTIN, of Borough Road, Southwark, London, England. Cream, being a polish for all descriptions of leather, 7th June, 1892.
4345. ENTERPRISE MANUFACTURING COMPANY OF PENNSYLVANIA, of Philadelphia, Pennsylvania, U.S.A. General Trade Mark, 7th June, 1892.
4346. B. GOLDSTEIN & CO. (AMERICAN CIGARETTE CO.), of Montreal, Que. Cigars, Cigarettes and Tobaccos, 8th June, 1892.
4347. THOMAS JEFFERSON FORD, of Toronto, Ont. Pills, 8th June, 1892.
4348. D. RITCHIE & CO., of Montreal, Que. Cigars, Cigarettes and Tobacco, 13th June, 1892.
4349. PATRICK BUTLER MACNAMARA, of Brockville, Ont. Medicinal Pills, 13th June, 1892.
4350. WARRING KENNEDY, of Toronto, Ont., trading as Samson, Kennedy & Co. Shirts, Collars and Cuffs, 14th June, 1892.
4351. OTTENHEIMER BROTHERS, of New York, N.Y., U.S.A. Corsets, 17th June, 1892.
4352. JOHN ARNOLD MCKEE, of Toronto, Ont. Pills, 22nd June, 1892.
4353. CHARLES J. OSMAN, of Hillsborough, County of Albert, N.B. Calcined Plaster, 23rd June, 1892.
4354. KENNETH CAMPBELL & CO., of Montreal, Que. Cough Emulsion, 24th June, 1892.
4355. MILLER & CO., of Trenton, Ont. Canned Fruits and Vegetables, 28th June, 1892.
4356. THOURET, FITZGIBBON & CO., Montreal, Que. Gloves, 30th June, 1892.

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6474. AUTUMN LEAVES. Waltz Song. Words and Music by J. B. Spurr. W. H. Billing, Toronto, Ont., 1st June, 1892.
6475. A COLLECTION OF ORANGE MUSIC. Arranged for Piano or Organ, by Chas. Bohner. Whaley, Royce & Co., Toronto, Ont., 1st June, 1892.
6476. MURRAY'S ILLUSTRATED GUIDE AND POCKET BUSINESS DIRECTORY TO MONTREAL AND VICINITY FOR 1892. Norman Murray, Montreal, Que., 1st June, 1892.
6477. AN ENGRAVING FOR LETTERHEAD AND BILLHEAD. Frank Lawson and Henry James Jones, London, Ont., 4th June, 1892.
6478. WIE MEIN AHNL ZWANZIG JAHR (When my Sire was Twenty Year.) Nightingale Song, from the Operetta "Der Vogelhändler," by Carl Zeller. Bosworth & Co., Leipsic, Germany, 6th June, 1892.
6479. A FEW PLAIN FACTS ABOUT THE EDMONTON DISTRICT OF NORTHERN ALBERTA, NORTH WEST TERRITORIES OF CANADA, AS A FIELD FOR SETTLEMENT (pamphlet.) Acton Burrows, Winnipeg, Man., 6th June, 1892.
6480. SPORTING ADVENTURES ON THE SHORES OF LAKE HURON WITH SKETCHES OF NATURAL HISTORY; AND THE REPTILES OF CANADA. Serial Articles which are now being preliminarily published in separate articles in "The Land We Live In," of Sherbrooke, Que. (Temporary Copyright.) John H. Garnier, Lucknow, Ont., 6th June, 1892.
6481. ALL THE CONSERVATIVE MEMBERS OF THE HOUSE OF COMMONS OF CANADA, 1892 (photographic group.) S. J. Jarvis, Ottawa, Ont., 6th June, 1892.
6482. THE CANADIAN SENATOR; or, A ROMANCE OF LOVE AND POLITICS, by Christopher Oakes. The National Publishing Co., Toronto, Ont., 7th June, 1892.
6483. COUPON BOOK used in connection with HOME KNOWLEDGE AND SUPPLY ASSOCIATION. R. B. Belden, Toronto, Ont., 8th June, 1892.
6484. THE BELL TELEPHONE COMPANY OF CANADA, LIMITED, MONTREAL EXCHANGE, SUPPLEMENTARY SUBSCRIBERS' DIRECTORY, MAY, 1892. The Bell Telephone Company of Canada, Ltd., Montreal, Que., 8th June, 1892.
6485. GRIP, June 4th, 1892 (newspaper.) The Grip Printing and Publishing Co., Toronto, Ont., 11th June, 1892.
6486. GRIP, June 11th, 1892 (newspaper.) The Grip Printing and Publishing Co., Toronto, Ont., 11th June, 1892.
6487. THE LIFE AND LABOURS OF THE DEVIL, by Rev. T. T. Johnson. Imrie & Graham, Toronto, Ont., 11th June, 1892.
6488. MONTREAL AFTER 250 YEARS (1642-1892), by W. D. Lighthall, M.A. F. E. Grafton & Sons, Montreal, Que., 11th June, 1892.
6489. PROSPECTUS OF THE YORK COUNTY LOAN AND SAVINGS COMPANY (pamphlet.) Edward Joseph Lomnitz, Toronto, Ont., 13th June, 1892.
6490. THE ONTARIO DIGEST, 1880-1890. The Law Society of Upper Canada, Toronto, Ont., 14th June, 1892.
6491. LEGISLATURE DE QUÉBEC, 1891 (Photo.) Albertine Tremblay, faisant affaires sous la raison sociale de M. A. Montminy & Cie., Québec, Qué., 17 Juin, 1892.
6492. A WHOLE BUSINESS COLLEGE COURSE FOR FARMERS AND CITIZENS. Justus C. McCallum, Mt. Brydges, Ont., 18th June, 1892.
6493. THE LAND WE LIVE IN DIRECTORY, which is now being preliminarily published in separate articles as a supplement to "The Land We Live In," of Sherbrooke, Que. (Temporary Copyright.) Daniel Thomas, Sherbrooke, Que., 18th June, 1892.
6494. RANDOM SHOTS; or, THE WISDOM OF HOLY WRIT, by David Lionel Palmer, Montreal, Que., 20th June, 1892.

6495. PRIZE LIST AND PROGRAMME OF ATTRACTIONS OF THE WINNIPEG INDUSTRIAL EXHIBITION, July 25th to 29th, at Winnipeg, Manitoba. The Winnipeg Industrial Exhibition Association, Winnipeg, Man., 20th June, 1892.
6496. HOCHZEITS BOUQUET WALTZ, by Wm. Plotzker. A. & S. Nordheimer, Toronto, Ont., 21st June, 1892.
6497. THE BRITISH COLUMBIA MERCANTILE AGENCY REFERENCE BOOK, VICTORIA, B.C., 1892-93. George Giles, Victoria, B.C., 22nd June, 1892.
6498. OUTLINES OF PSYCHOLOGY, LOGIC AND THE HISTORY OF EDUCATION, by J. B. Hall, Ph. D. Wm. Briggs (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 22nd June, 1892.
6499. A BACHELOR IN SEARCH OF A WIFE, and JOHN MARCHAM'S WARD, by Annie S. Swan. Wm. Briggs (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 22nd June, 1892.
6500. THE BILLS OF EXCHANGE ACT, 1890, CANADA, AND THE AMENDING ACT OF 1891, WITH NOTES AND ILLUSTRATIONS, by J. J. Maclaren, Q.C., D.C.L., LL.D. The Carswell Co., Ltd., Toronto, Ont., 24th June, 1892.
6501. CAMERON'S DIRECTORY AND RAILWAY AND STEAMBOAT GUIDE TO TORONTO, No. 1, June, 1892. John Cameron, Toronto, Ont., 24th June, 1892.
6502. GRIP, June 25th, 1892 (newspaper.) The Grip Printing and Publishing Co., Toronto, Ont., 25th June, 1892.
6503. YOUTHFUL THOUGHTS SCHOTTISCHE. For the Piano, by Master Ernest Williams. H. Williams, Toronto, Ont., 25th June, 1892.
6504. THE MACKINAW WALTZ. For Piano, by Carrie Jardine, Collingwood, Ont., 27th June, 1892.
6505. A TREATISE ON POWER OF SALE UNDER MORTGAGES OF REALTY, WITH APPENDIX OF STATUTES AND FORMS, by Alfred Taylour Hunter, LL.B. The Carswell Co., Ltd., Toronto, Ont., 28th June, 1892.
6506. MEMBRES DE LA COUR LAVAL No. 116 DE L'ORDRE DES FORESTIERS CATHOLIQUES (tableau photographique.) Joseph Beaudry, Québec, Qué., 28 Juin, 1892.
6507. THE INSURANCE CORPORATIONS ACT, 1892, WITH PRACTICAL NOTES AND APPENDICES, by William Howard Hunter, B.A. The Carswell Co., Ltd., Toronto, Ont., 30th June, 1892.

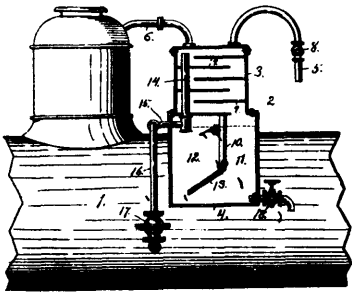
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ILLUSTRATIONS.

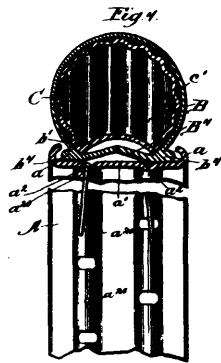
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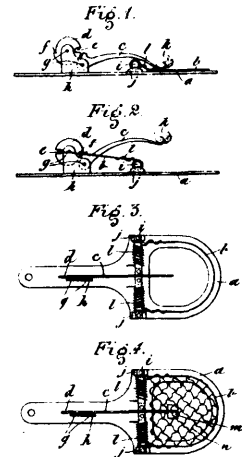
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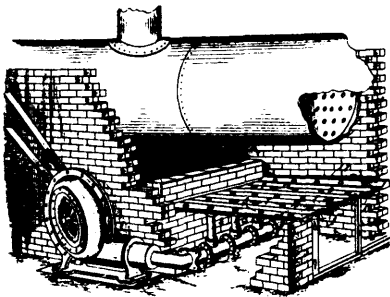
39034 Learmonth's Feed Water Heater and Purifier.



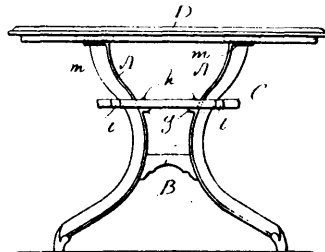
39035 Jeffery's Pneumatic Tire.



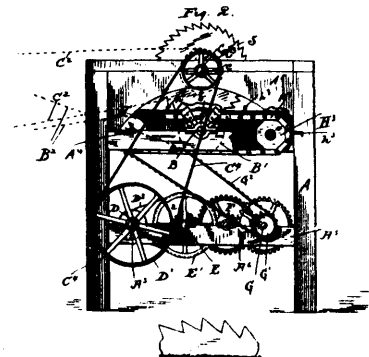
39036 Andrews' Trap for Animals and Birds.



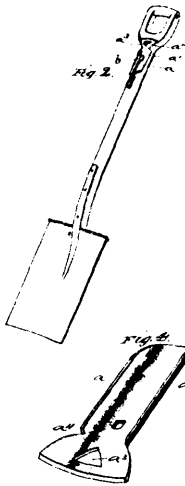
39037 Gordon's Grate.



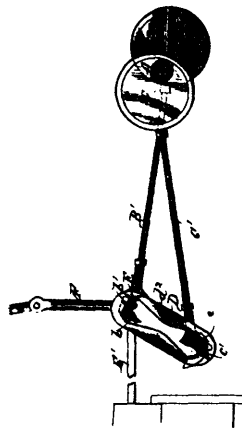
39038 Hinkel, Woller and Clausen's Table.



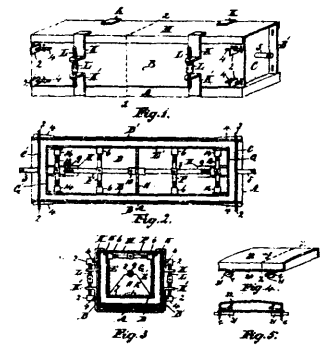
39039 Birkenfeld's Ginning and Sewing Machine.



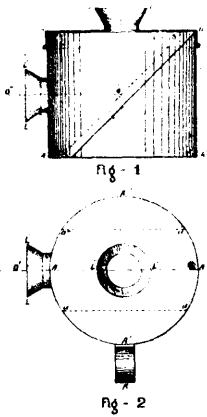
39040 Edwards' Scraping Tool for Soil-working Implements.



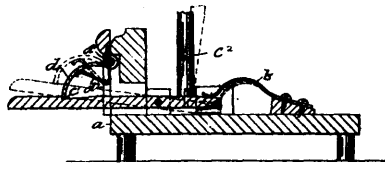
39041 Lunn's Link Motion.



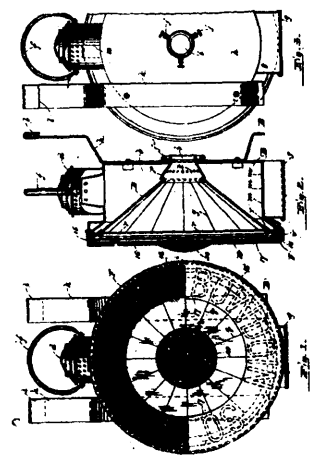
39042 Anthistle's Coffin Shell Mold.



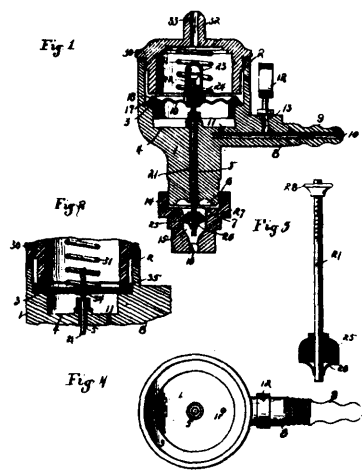
39043 Webb's Machine for Testing Eggs.



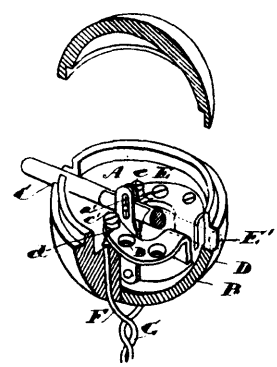
39044 Seeley's Piano Pedal.



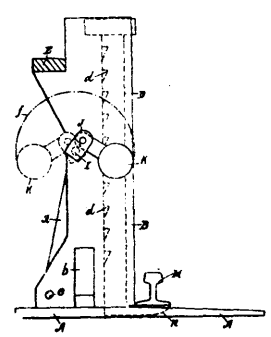
39046 Pattison and Desmond's Electric Head Light.



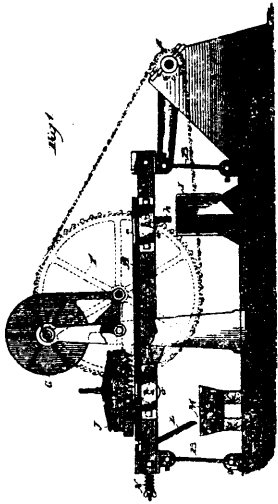
39047 Glessner's Pressure Valve.



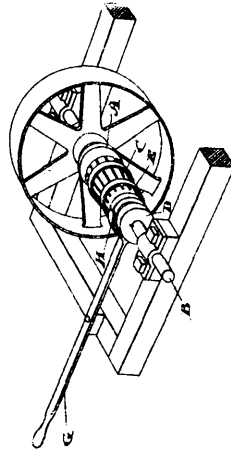
39048 Davey's Electric Switch.



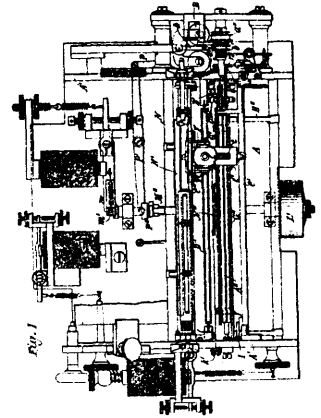
39049 Harding's Lever Track Jack.



39050 Gates' Ore Concentrator.



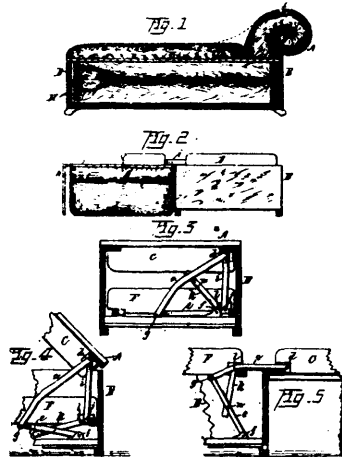
39051 Bunker's Clutch Connection for Machinery.



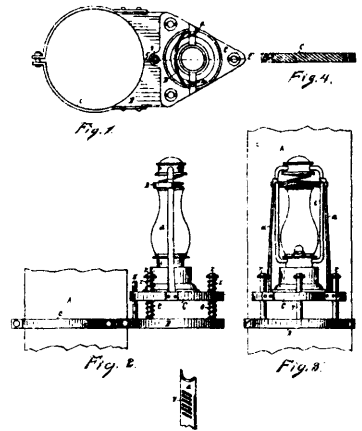
39052 Wright's Printing Telegraph Receiving Instrument.



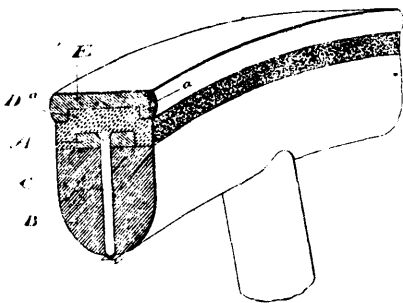
39053 Greene's Window.



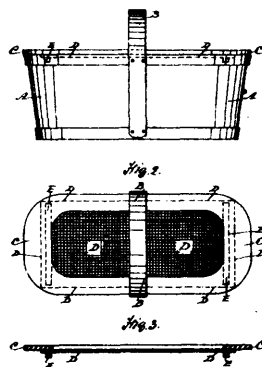
39055 Herbold's Folding Bed Couch.



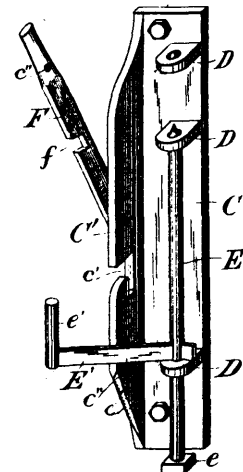
39056 Wilson's Head Light for Steam Threshers.



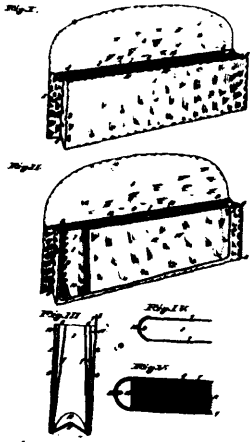
39057 Langmuir's Cushion Tire.



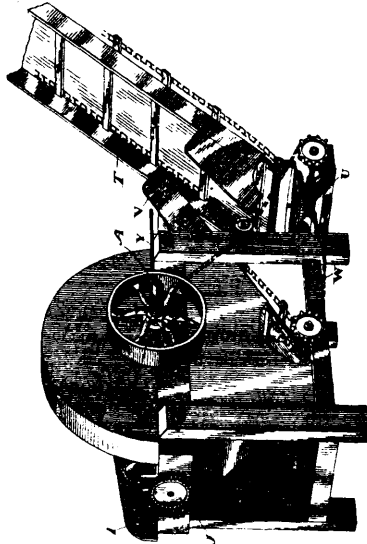
39059 Carpenter's Fruit Basket and Cover.



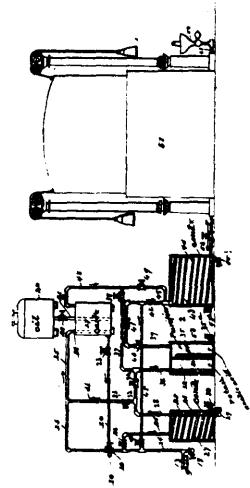
39060 Halligan's Fastener for Car Doors.



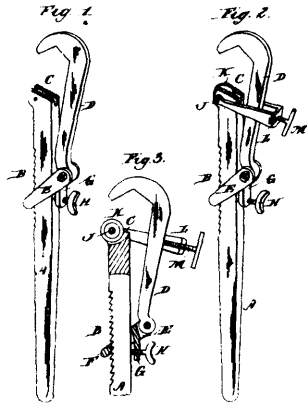
39061 Dozier and Hawley's Portfolio for Collars and Cuffs.



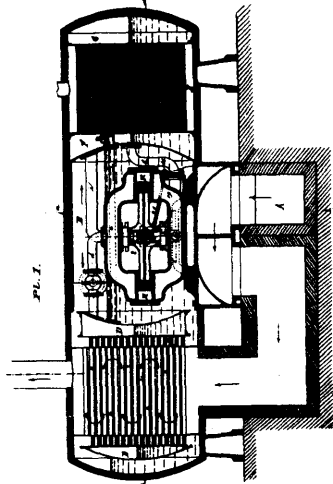
39062 Fleury's Ensilage Cutter.



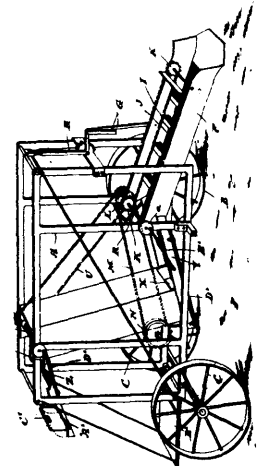
39063 Lamarre's Apparatus for the Manufacture of Illuminating Gas.



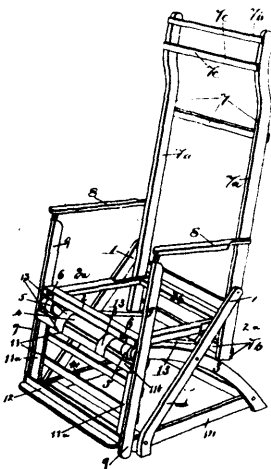
39064 Gorsuch's Pipe Wrench and Cutter.



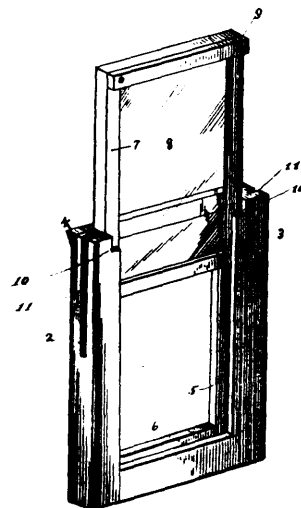
39065 Susini's Motor



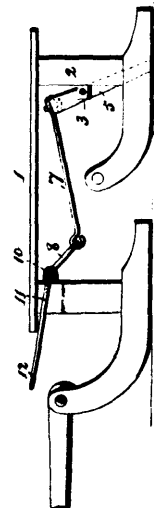
39066 Irwin's Potato Digger and Picker.



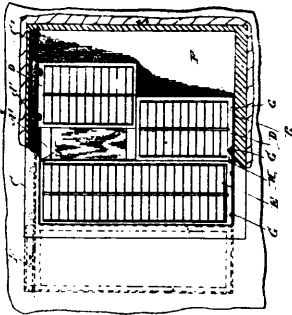
39067 Mitchell's Reclining Chair.



39068 Young's Window Sash.



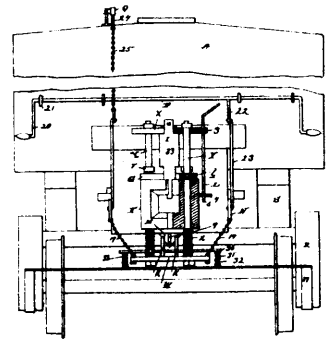
39069 Crosby's Sled Brake.



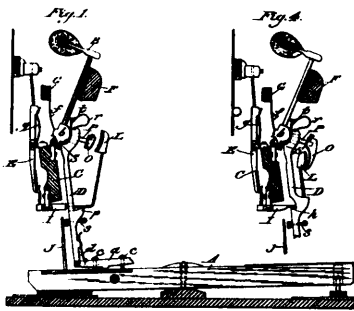
39070 Raith's Window Shutter.



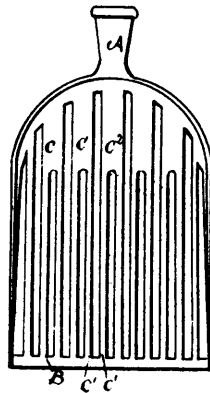
39071 Raymond's Bed Bottom.



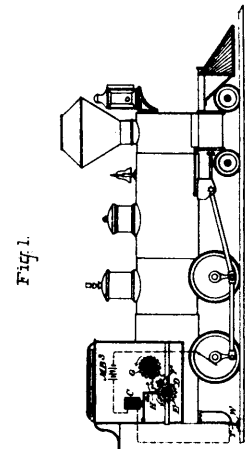
39072 Latta's Car Coupler.



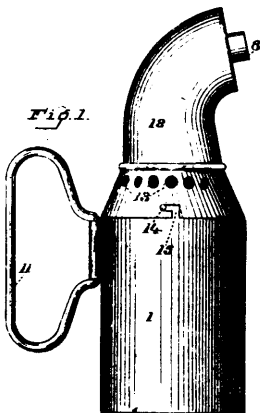
39073 DeFoe Dimick's Piano Action.



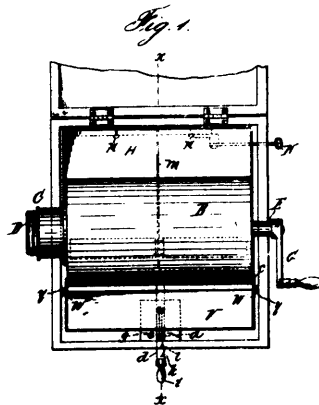
39074 Wells' Scoop.



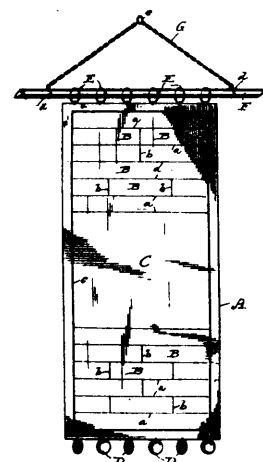
39076 Kinaman's Electric Controller for Railway Trains.



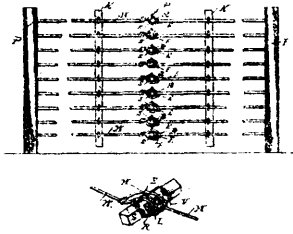
39076 Keralake's Vapour Lamp.



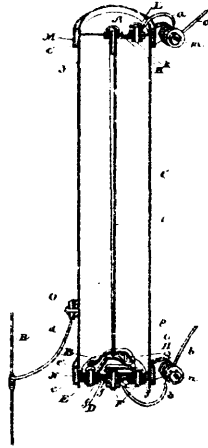
39077 Bellamy's Freezer for Ice Cream.



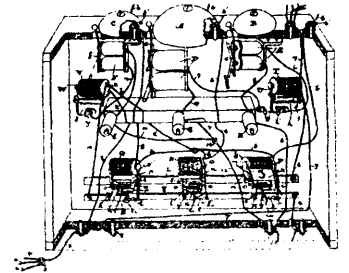
39078 Higby's Hotel Room Card.



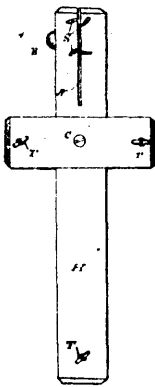
39079 Andre's Fence Tightener.



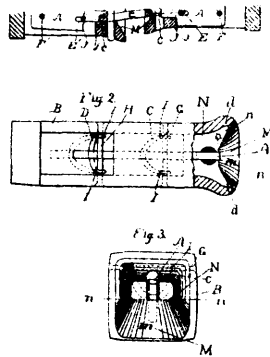
39080 Brintnell's Thermostat.



39081 Brintnell's Annunciator.



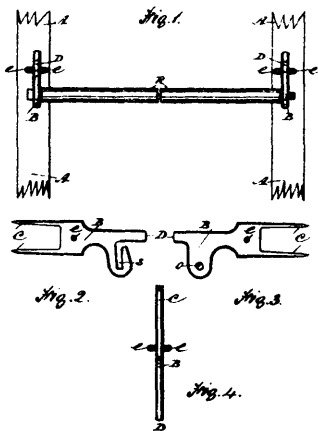
39082 Ferguson's Tool for Dressing Saws.



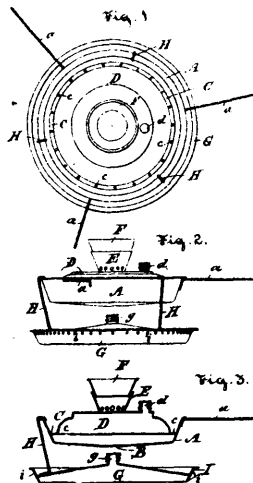
39083 Weir, Maguire and O'Bannon's Car Coupler.



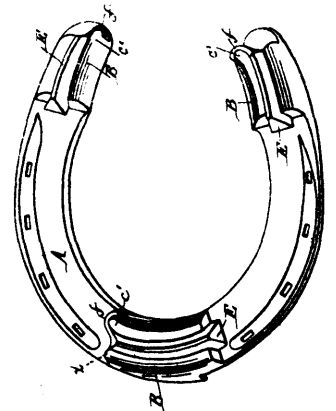
39084 Bremner's Pavement, &c.



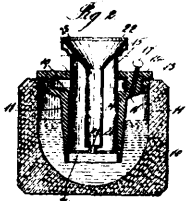
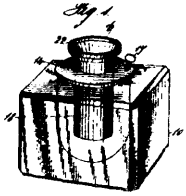
39085 Traill's Bracket for Window Shades.



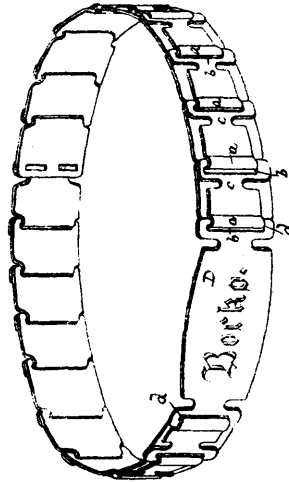
39086 Thibault's Milk Aerator.



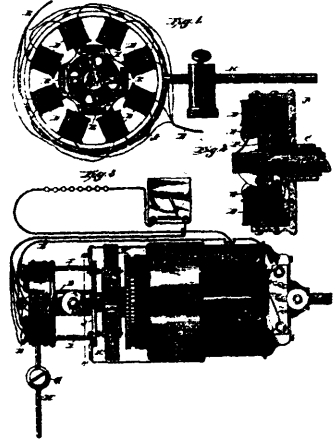
39087 Hammelmann's Horseshoe.



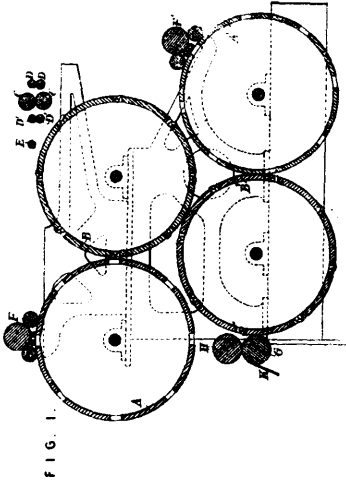
39088 Davis' Inkstand.



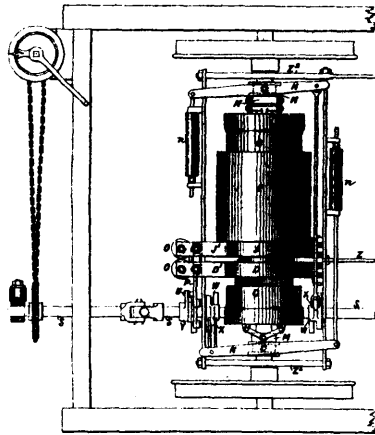
39089 Kolley's Chain.



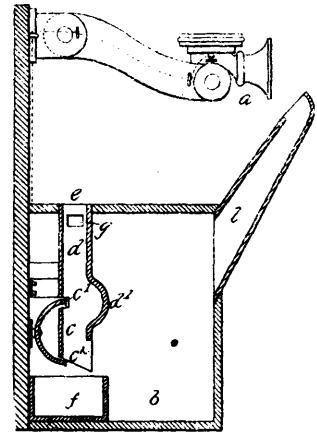
39090 Conly's Governor for Dynamos.



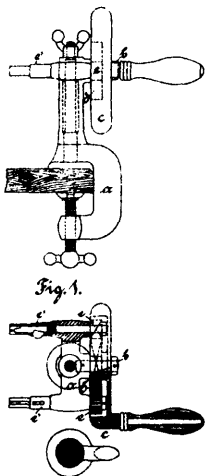
39091 Gibson's Printing and Bookbinding Machine.



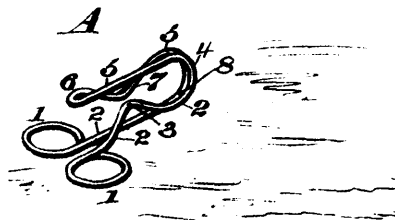
39092 Hooker's Power Storing Apparatus for Controlling Cars.



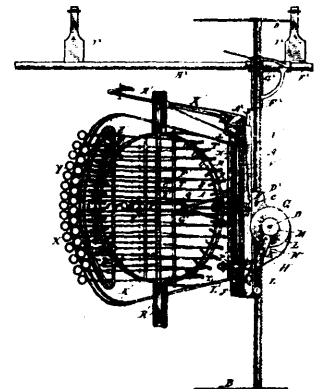
39093 Gray's Signal Device for Telephone Pay Stations.



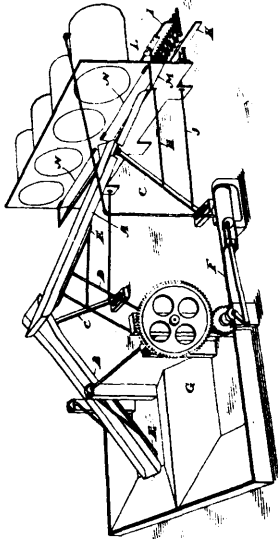
39094 Liedbeck's Medicinal Apparatus.



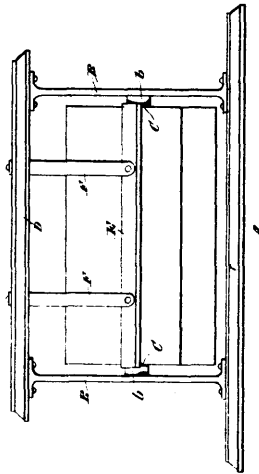
39095 Guilbert's Garment Hook.



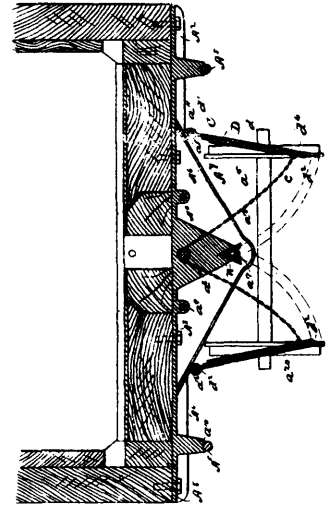
39096 Lowe's Typewriting Machine.



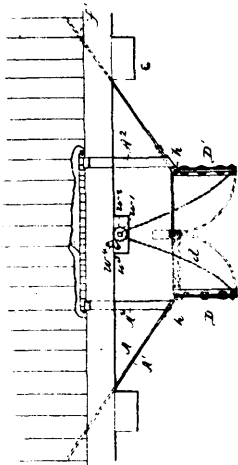
39097 Keenan's Conveyor for Coal, &c.



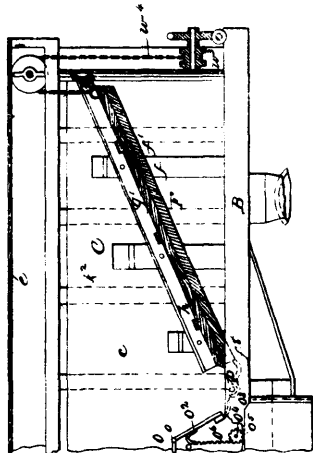
39098 Young's Apparatus for Cutting Paper from Rolls.



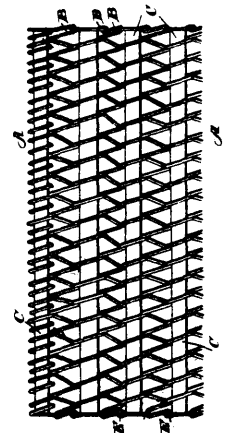
39100 Souder's Dumping Car for Railways.



39101 Souder's Dumping Car.

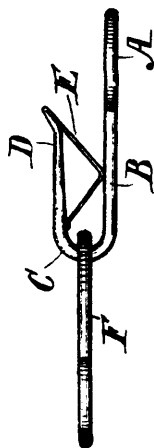


39102 Souder's Dumping Merchandise Car.

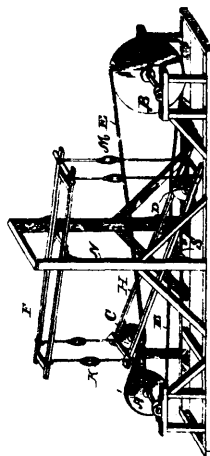


39103 McPherson's Flexible Wire Mat.

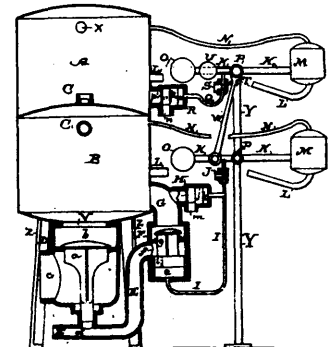
Fig. 2.



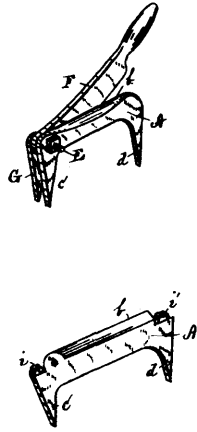
39104 Dedorick's Hook.



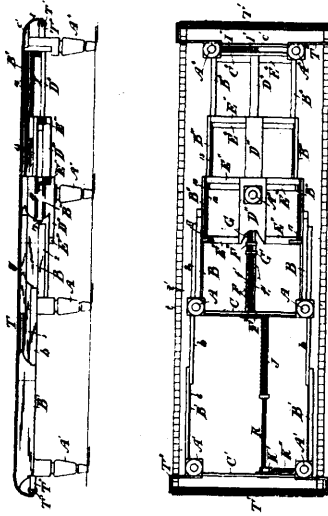
39105 Jernander's Belt Tightener.



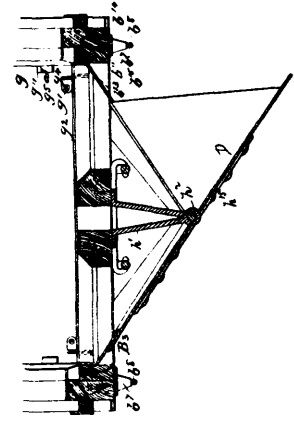
39106 Phillips' Hydraulic Air Compressor.



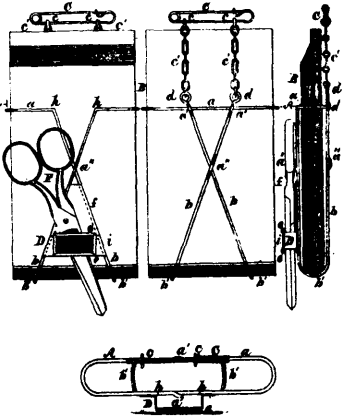
39107 Cleveland's Shears for Cutting Hot Metal.



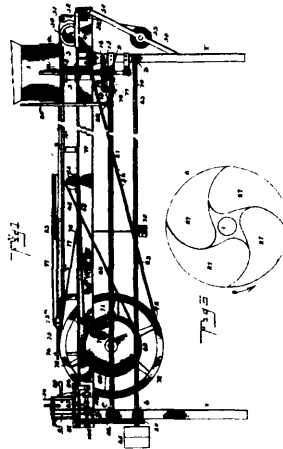
39108 Couch's Extension Table.



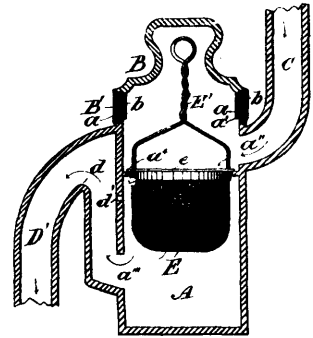
39109 Souder's Dumping Car.



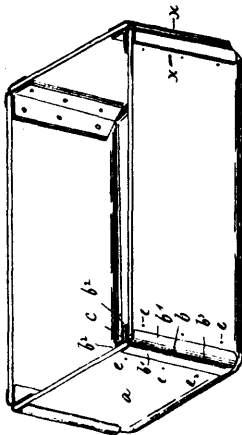
39110 McGervey's Check-book Holder.



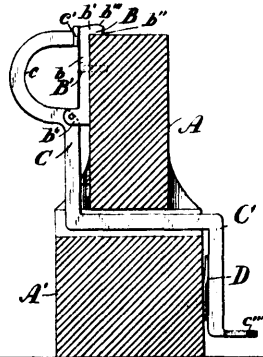
39111 Underwood's Cigarette-making Machine.



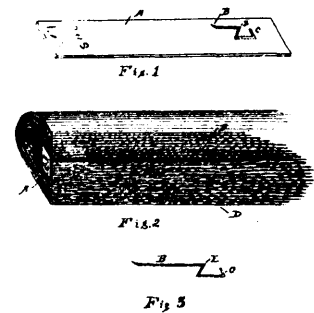
39112 Perkins' Sink Trap.



39118 Rosmer's Corner Piece for Travelling Boxes, &c.



39114 Harris' Anvil Vice.



39115 Macklin's Price Ticket.

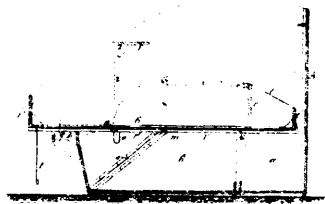


Figure 1

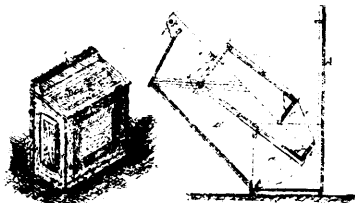


Figure 3

Figure 4

39117 Langlois' Mantel Bed.



Fig 7



Fig 2



Fig 4

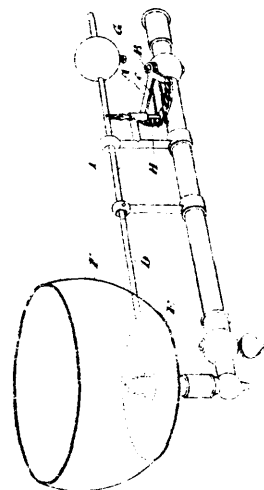


Fig 5



Fig 3

39118 White's Hose Coupling.



39119 Denne's Cut-off for Gas Burners.

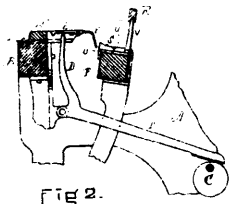
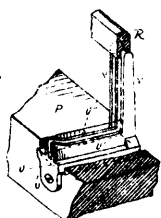


Fig 2.



39120 O'Brien's Attachment for the Filling Motion of Looms.

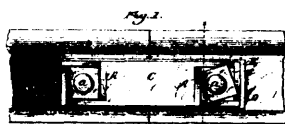


Fig 1.



Fig 2.



Fig 3.

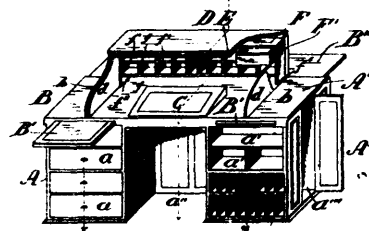


Fig 4.

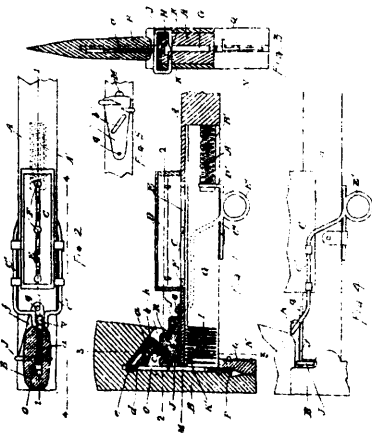


Fig 5.

39121 Terry's Nut Lock.



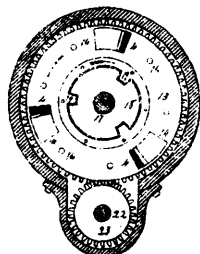
39122 Hawken's Desk.



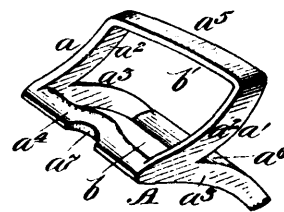
39123 Jacoby's Hammer.

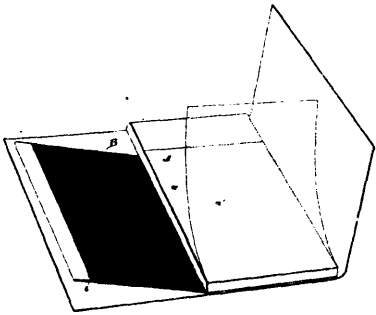


39124 Fitch's Cut-off Valve and Gear.

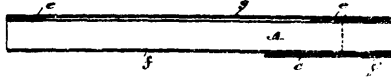


39125 Nelson and Gelabert's Twin Loops for Harness Straps.

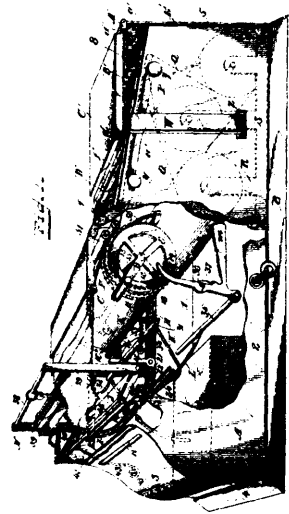




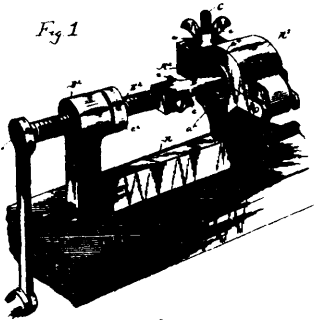
39126 Oldfield's Duplicating Check-book.



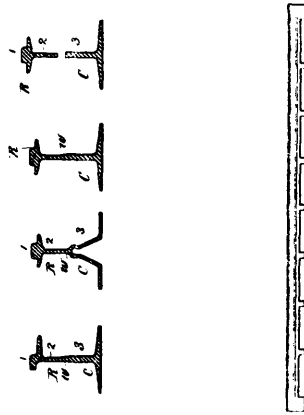
39127 Oldfield's Duplicating Check-book.



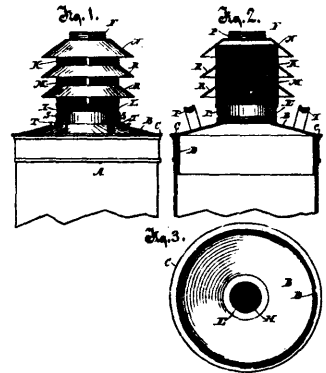
39128 Kirby and Thies' Autographic Register.



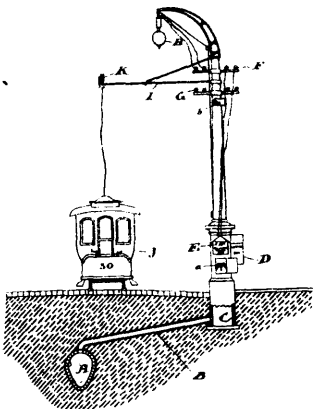
39129 Smith and McPherson's Reamer.



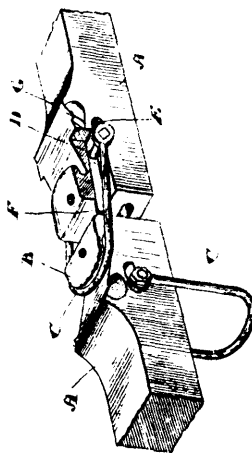
39130 Supper's Railroad Rail.



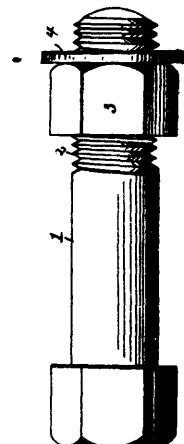
39132 Terens' Milk Can Cover and Cooler.



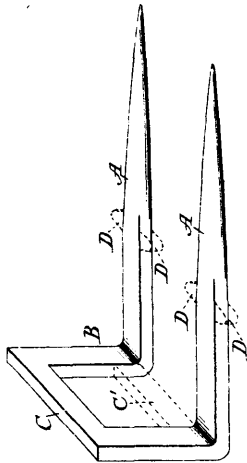
39133 Jolliffe and Moses' Sewer Ventilating Shaft and Support for Electric Lights.



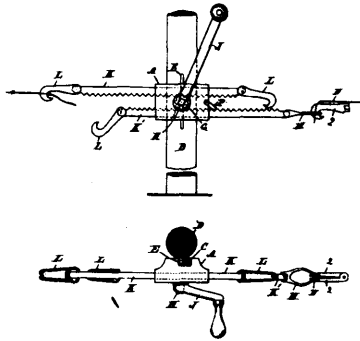
39134 Robinson's Car Coupler.



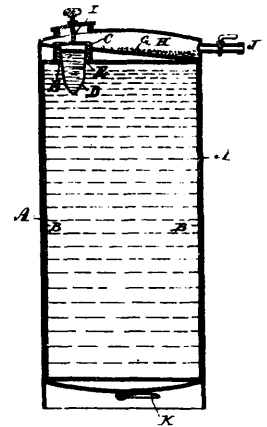
39135 Sherman's Nut Lock.



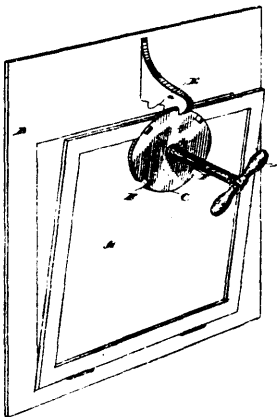
39136 Streater's Foot Support for Telegraph Poles.



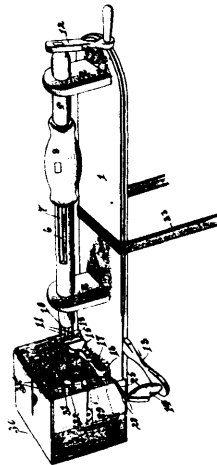
39137 Beaupre's Wire Stretcher.



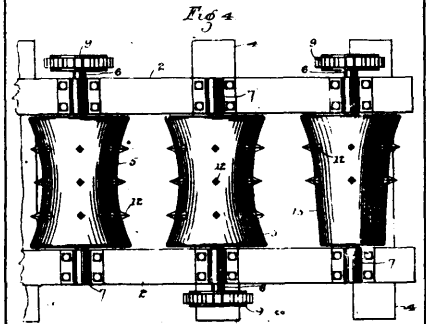
39138 Carr's Chemical Fire Extinguisher.



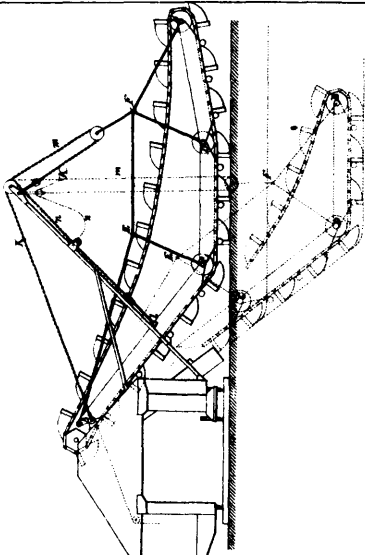
39139 Thompson's Fastener for Oven Doors.



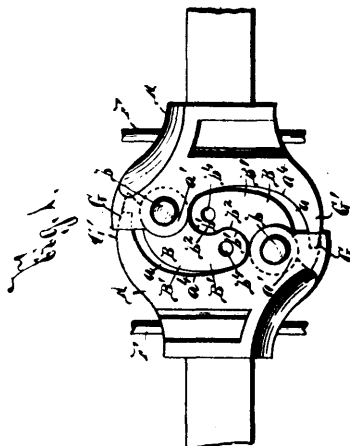
39140 Elliott's Apple Parer, Corer and Cutter.



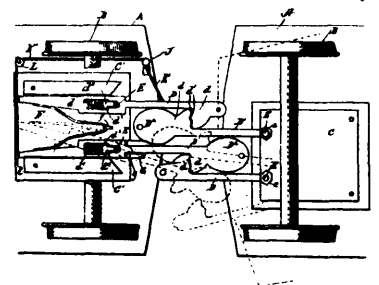
39141 Stombs' Portable Log Carrier.



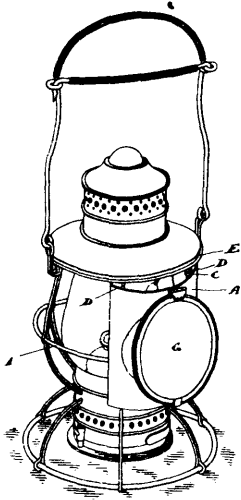
39142 Vollhering and Bernhardt's Excavating Machine.



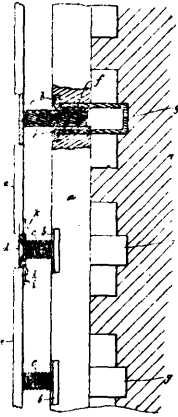
39143 Olds' Car Coupler.



39144 Dee's Car Coupler.



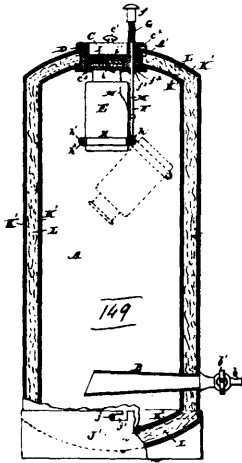
39145 Brady's Signal Lamp.



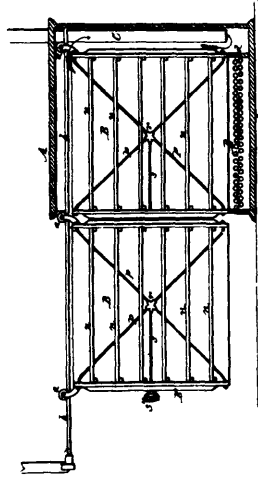
39146 Hough's Railway Track.



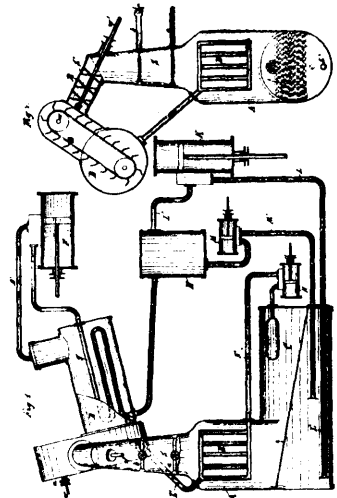
39147 Daniels' Nut Lock.



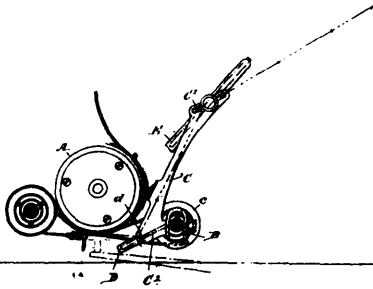
39149 Hogen's Fire Extinguisher.



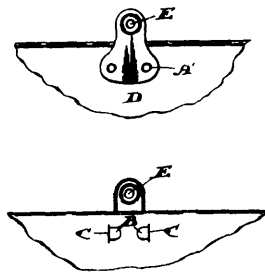
39150 Sprague's Laundry Dryer.



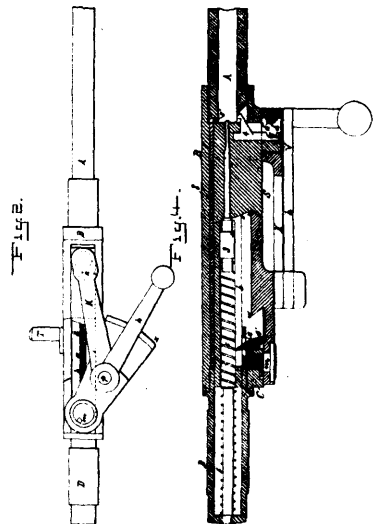
39151 Mehner Method of Transforming Heat into Mechanical Energy.



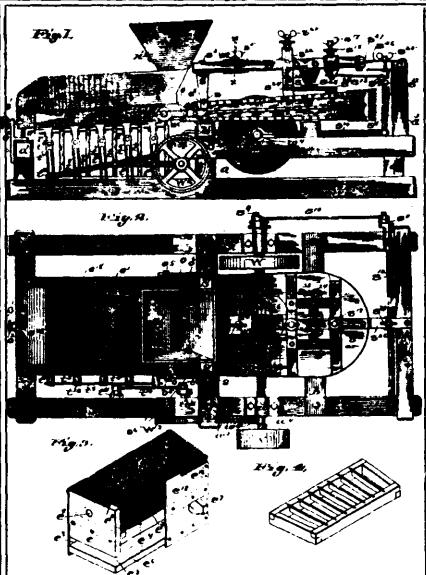
39152 Granville Typewriter.



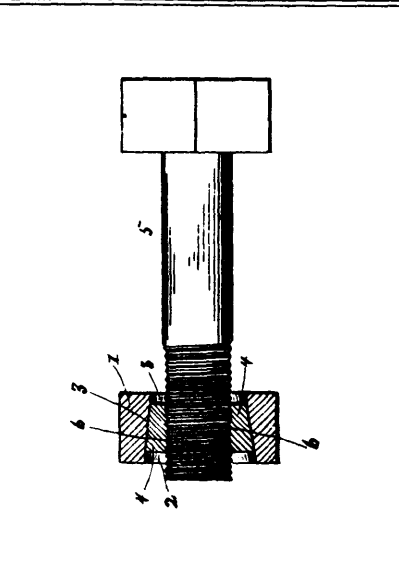
39153 Schneider's Ear for Vessels.



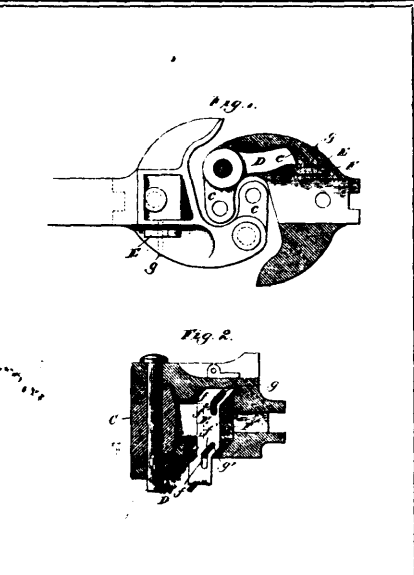
39154 Forbes' Fire-Arms.



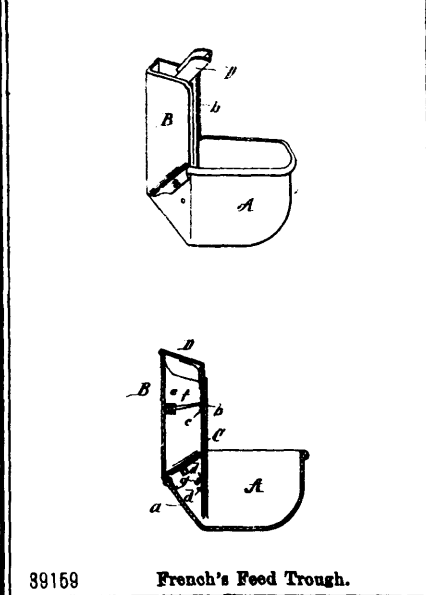
39156 Card's Concentrator.



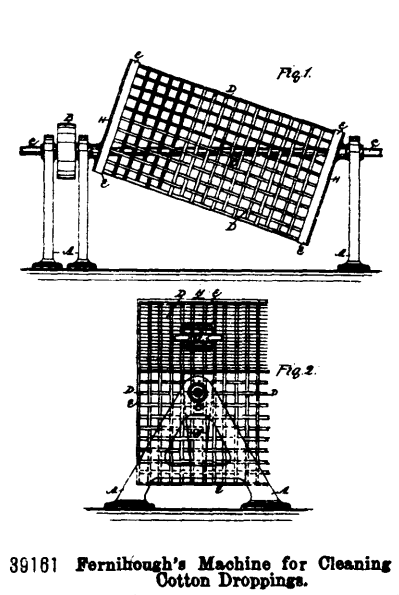
39157 Rhodes' Nut Lock.



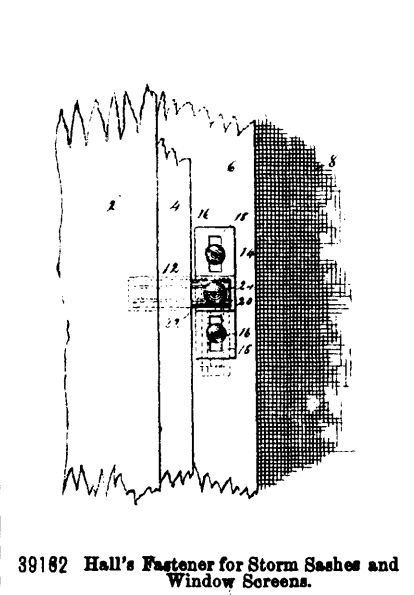
39158 Wells' Car Coupler.



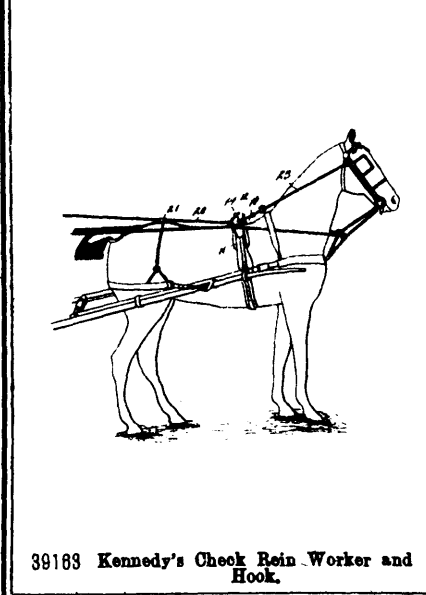
39159 French's Feed Trough.



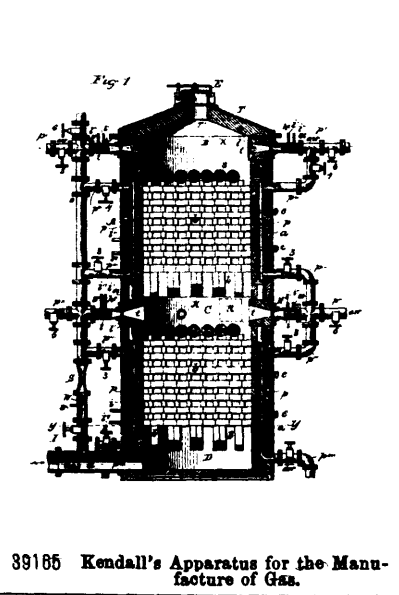
39161 Fernihough's Machine for Cleaning Cotton Droppings.



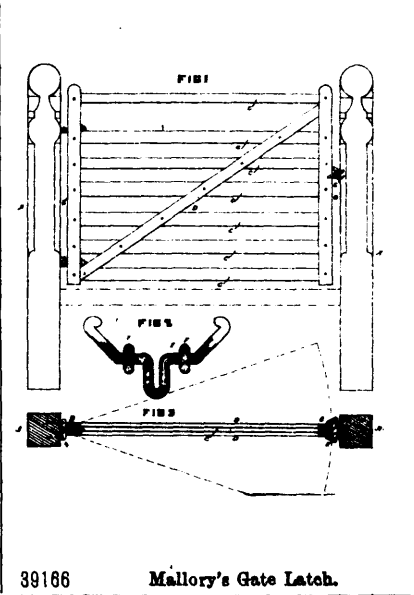
39162 Hall's Fastener for Storm Sashes and Window Screens.



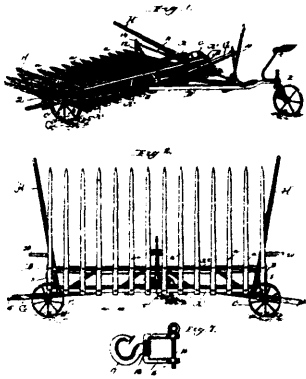
39163 Kennedy's Check Rein Worker and Hook.



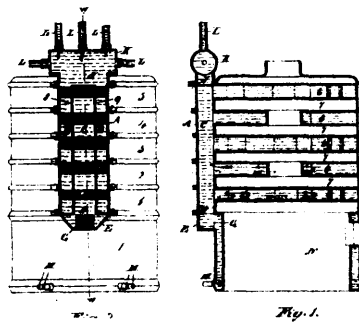
39165 Kendall's Apparatus for the Manufacture of Gas.



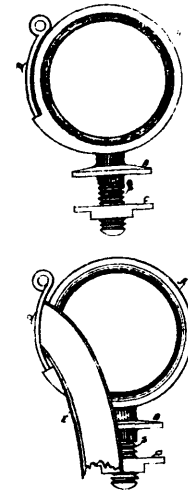
39166 Mallory's Gate Latch.



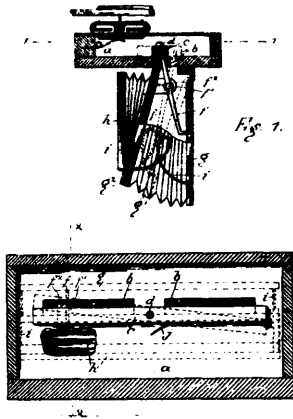
39167 Alden and Kirk's Hay Rake.



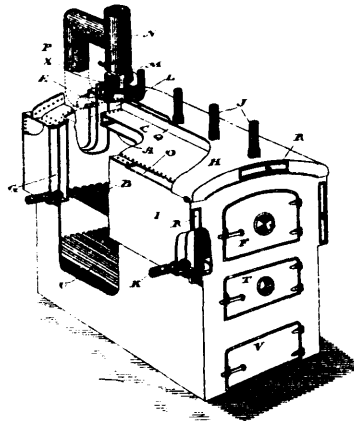
39168 Sullivan and Best's Hot Water Circulating Boiler.



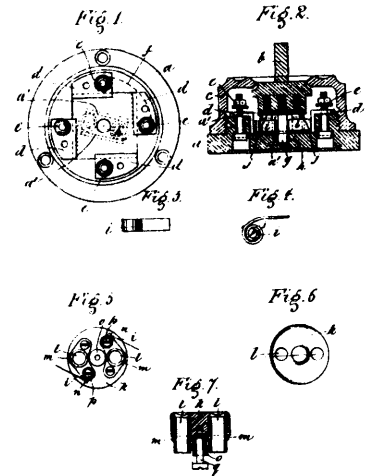
39169 Mallory's Harness Hardware.



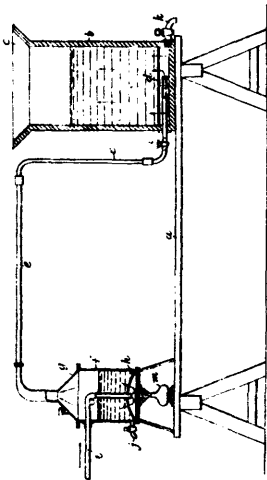
39170 Hessler's Organ.



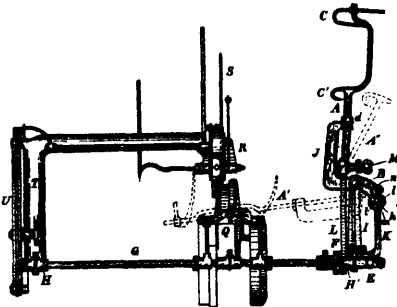
39171 Brooks' Hot Water Furnace.



39172 Lundberg's Switch for Electric Lighting.



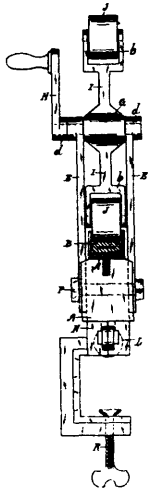
39173 Cole's Apparatus for Preparing Butter and Cream.



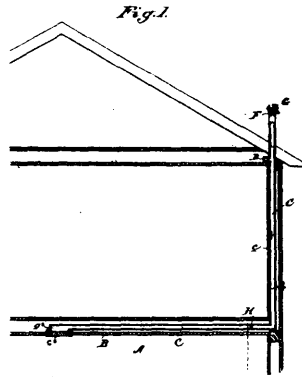
39174 Severance's Grain Binder.



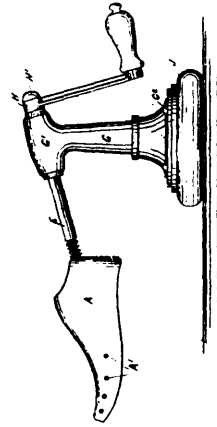
39176 Maercklein's Railway Rail.



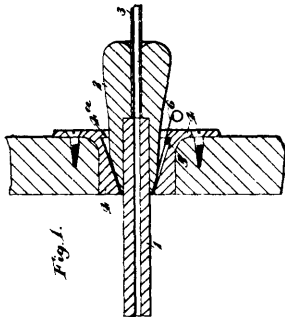
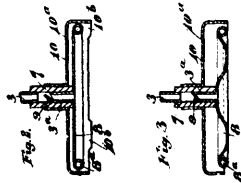
39177 Fraser and Wilson's Pump.



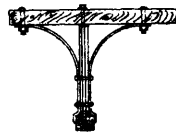
39178 Abrahamson's Ventilator.



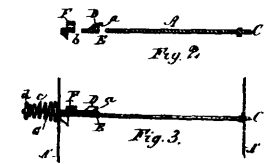
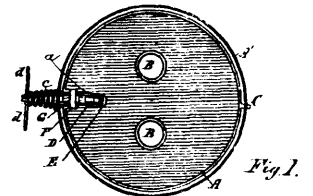
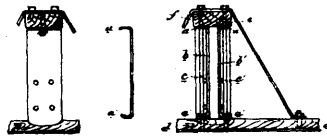
39179 Faire's Boot Stretcher.



39180 Lingford's Apparatus for Feeding Calves.



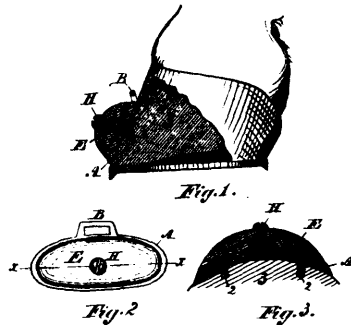
39181 Waite's Bob Sleigh Knee.



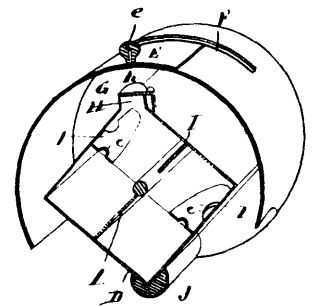
39182 Cook's Stovepipe Damper.



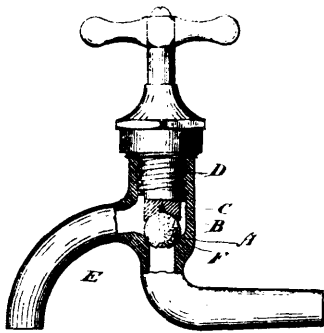
39183 Randall's Fence Post.



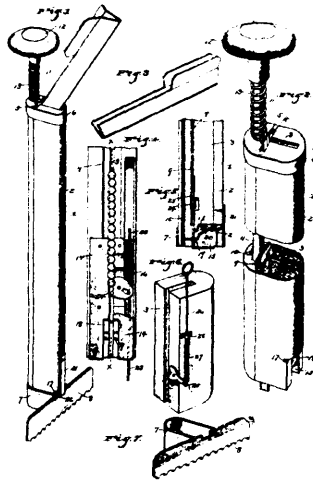
39184 Taro's Toe Weight.



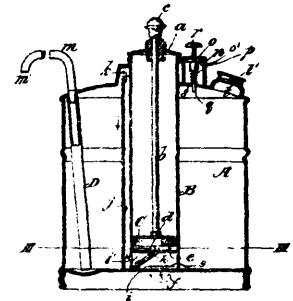
39185 Crompton's Tea Blending Machine.



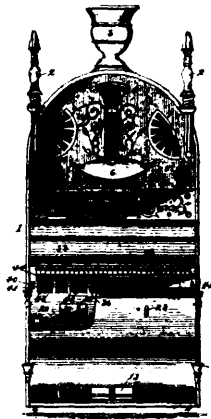
39186 Roberts' Water Cock.



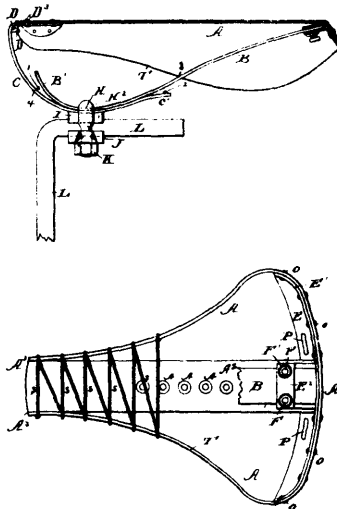
39187 Mains' Tack Driving Machine.



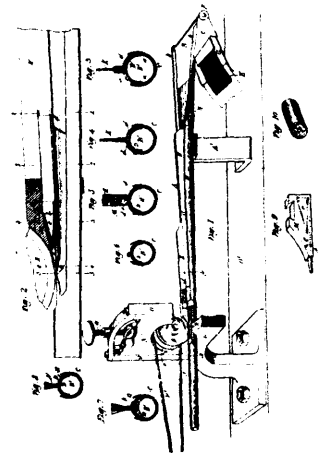
39188 Tschanty's Oil Can.



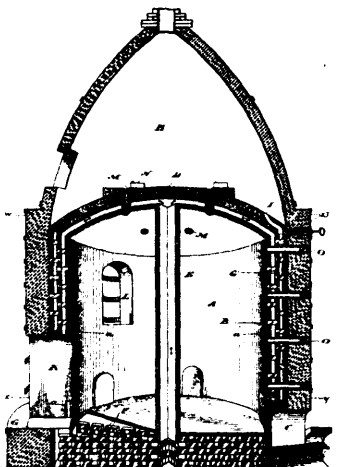
39189 Gilmore's Musical Instrument.



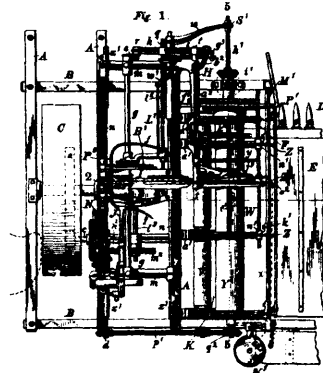
39190 Saladee's Saddle for Cycle Vehicles.



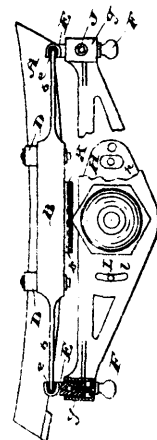
39191 Hulse's Cigarette Machine.



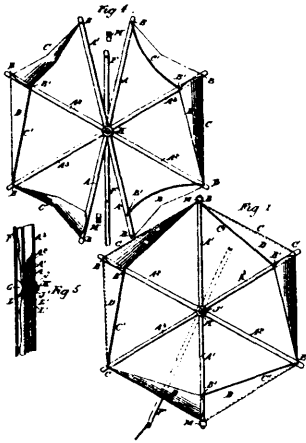
39192 Hyne's Brick Kiln.



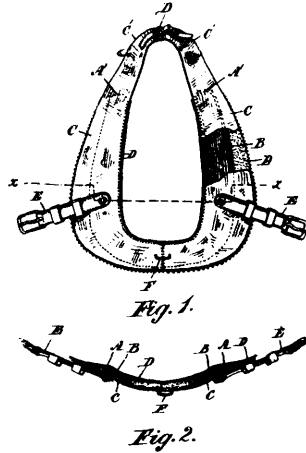
39193 Severance's Grain Binder.



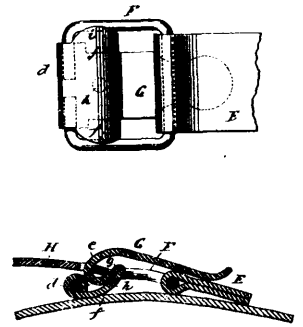
39194 Noble and Snyder's Grain Scalper and Grader.



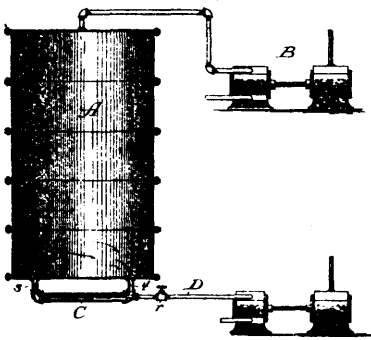
39196 Asboro and Liddle's Kite.



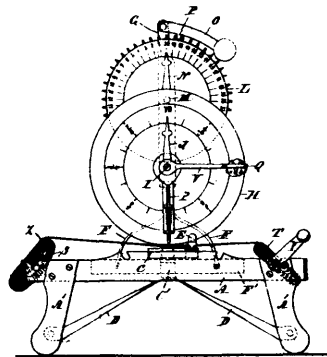
39197 Fletcher's Horse Collar.



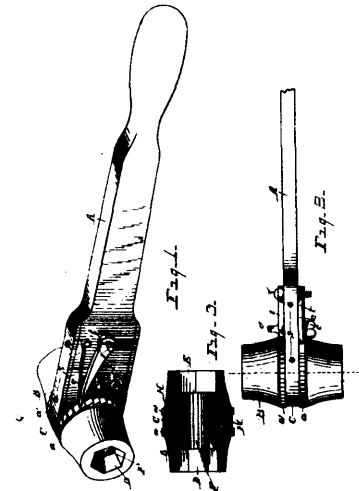
39198 Field's Buckle for Shoes.



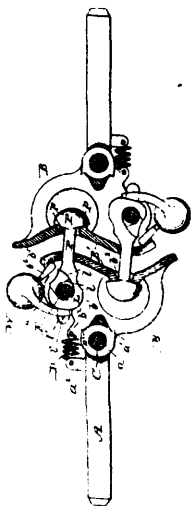
39199 Hummel's Method of Manufacturing Beer



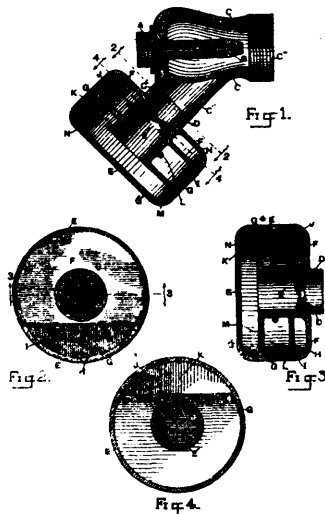
39200 Craig's Cloth-measuring Machine.



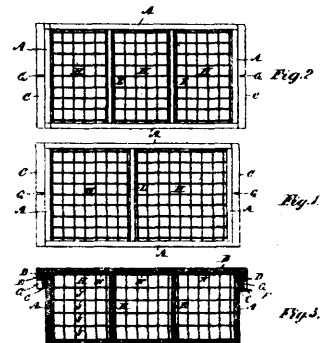
39201 Fisk's Wrench.



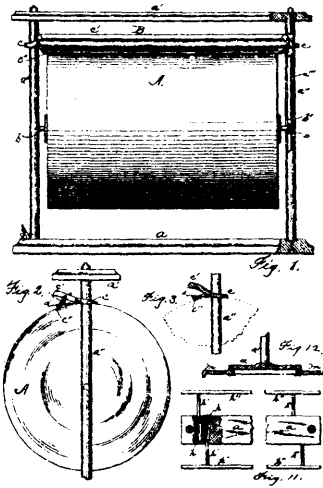
39202 Oakman's Car Coupler.



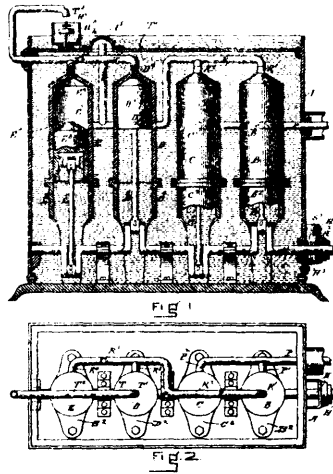
39203 Smith's Sound Arrester for Steam Jet Smoke Preventers.



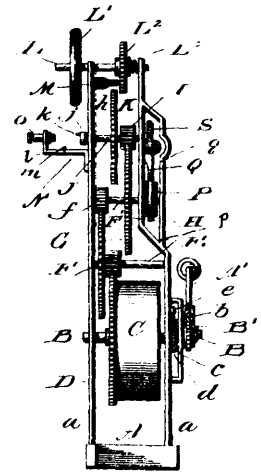
39204 Church's Egg Case.



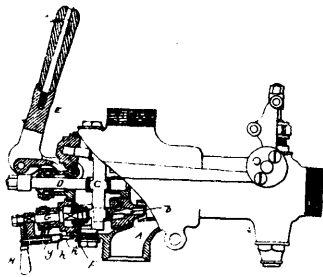
39205 McLachlan's Cutter and Holder for Roll Paper.



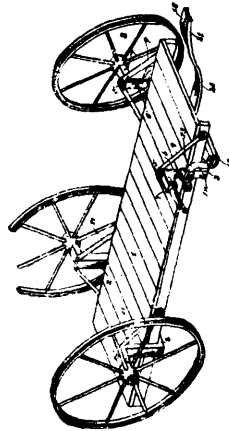
39206 Kaliske's Apparatus for Exhausting Incandescent Lamps.



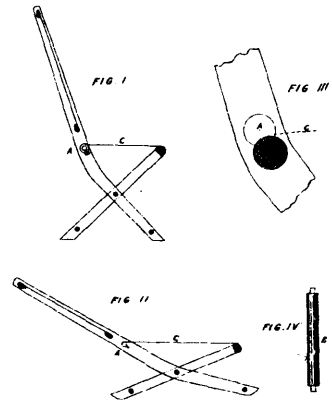
39207 Moore's Spring Motor.



39208 Schutte's Infector.



39209 Holley's Vehicle Running Gear.



39210 Coulter's Folding Chair.

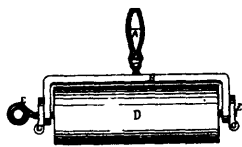


Fig. 1.



Fig. 2.

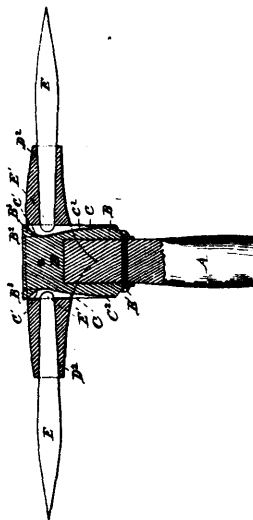


Fig. 3.

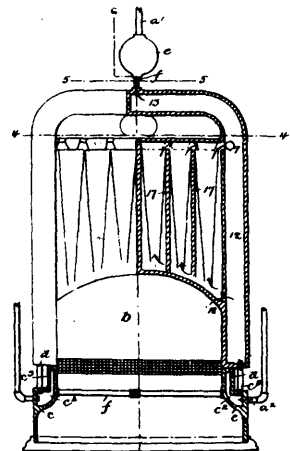


Fig. 4.

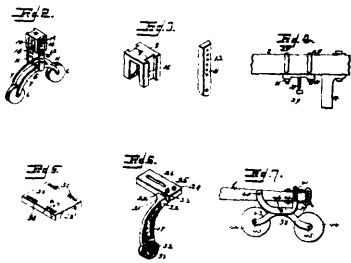
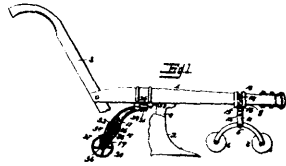
39211 Tarrant's Sponging Iron.



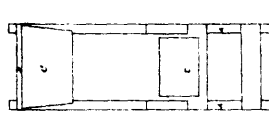
39212 Mitchell and Birkenshaw's Pick.



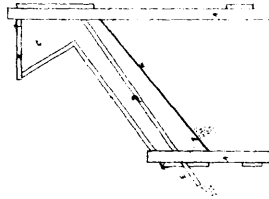
39213 Gates' Heating Apparatus.



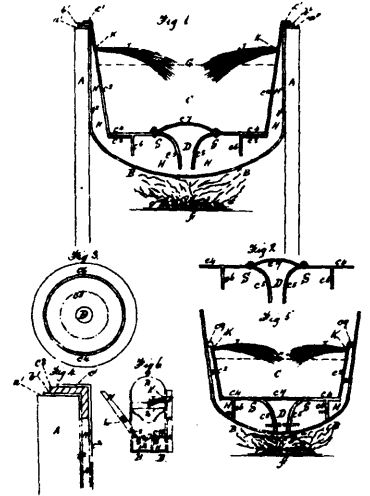
39214 Fitch's Plow.



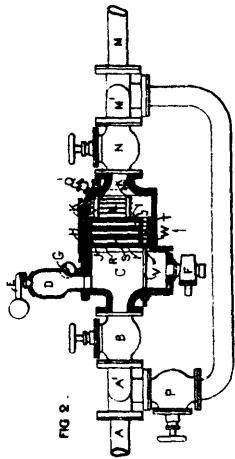
Colgate's
Patent and *the* *Sifter*
 A. Part.
 B. Lid.
 C. Receiver.
 D. Wire Screen Separator.
 E. Cast Collar.
 F. Arm Bolted.
 G. Mold Iron Bottom.



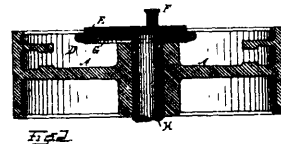
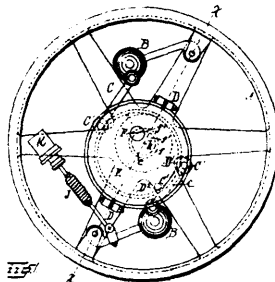
39215 Colgate's Sifter for Ashes.



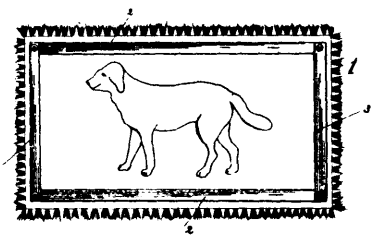
39216 Mackie's Washing Boiler.



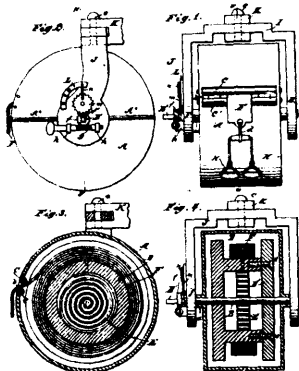
39217 Edmiston's Apparatus for Filtering or Purifying Water.



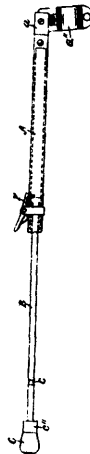
39218 Ball's Steam Engine Governor.



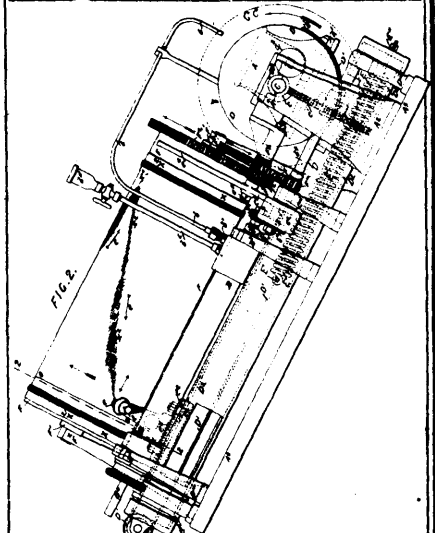
39219 Worrall's Resilient Frames for Mats.



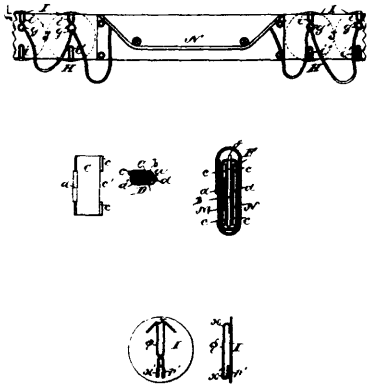
39220 Dowd's Exercising Machine.



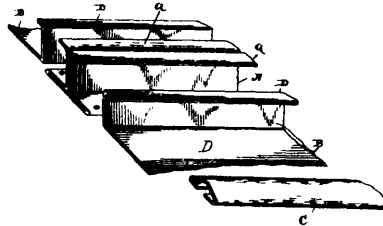
39221 Kinder's Attachment for Bicycles.



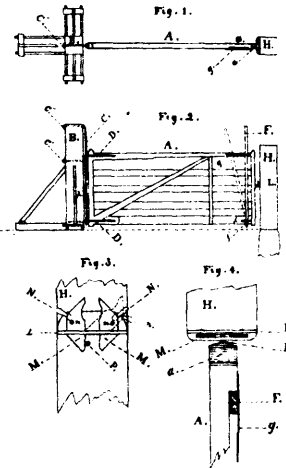
39222 Hogarth's Appliance for Testing and Recording the Properties of Flour.



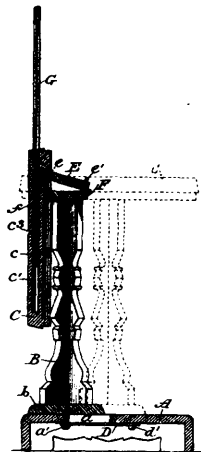
39223 Dorenwend's Electric Belt.



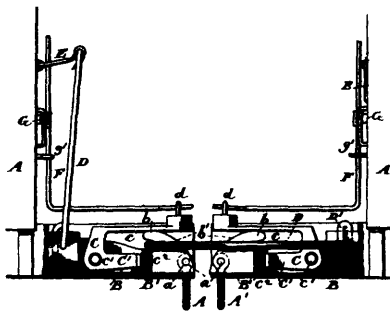
39224 Gieger and Knapp's Roofing.



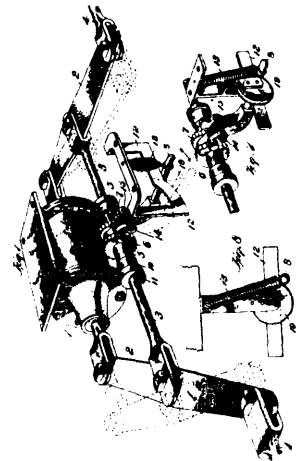
39225 Coleman's Gate Hanging and Fastenings.



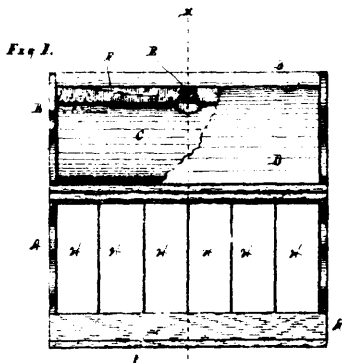
39226 Lavigne's Table, Prie-Dieu and Confessional.



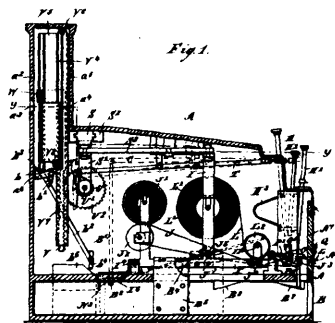
39227 Trexler's Car Coupler.



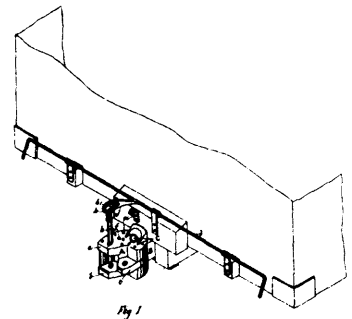
39228 Hinckley's Brake for Railway Cars.



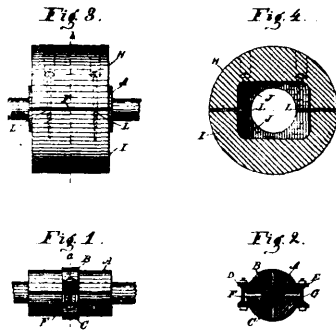
39229 Farnam's Tank, Shipment and Show Case for Liquid Blacking.



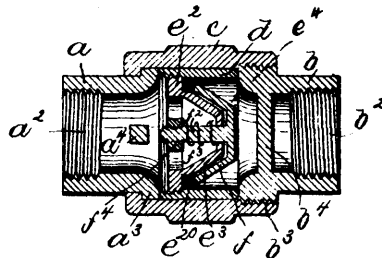
39230 Mills' Cash Indicator and Recorder.



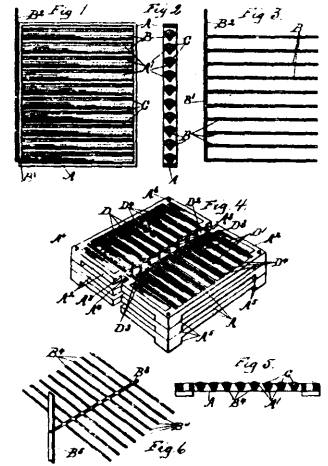
39231 Starkey's Car Coupler.



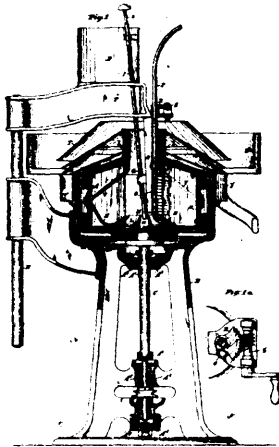
39232 Reeves' Method of Securing Pulleys to Shafts.



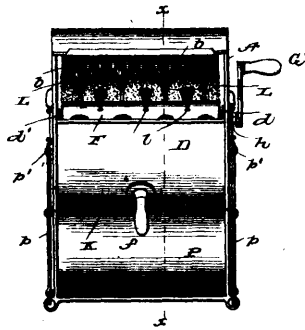
39233 Messinger's Pipe Coupling and Check Valve.



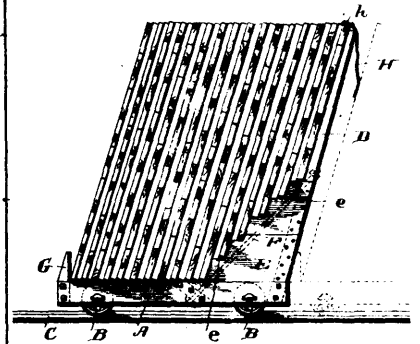
39234 Winkler's Secondary Battery.



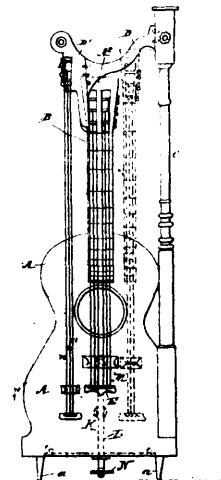
39235 Salenius' Churn.



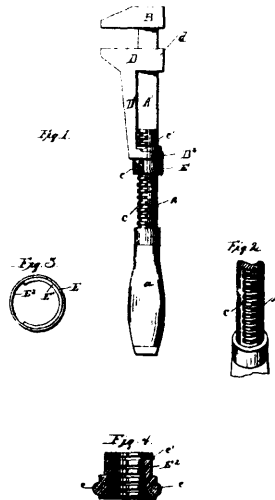
39236 Nelson's Dish Washing Machine.



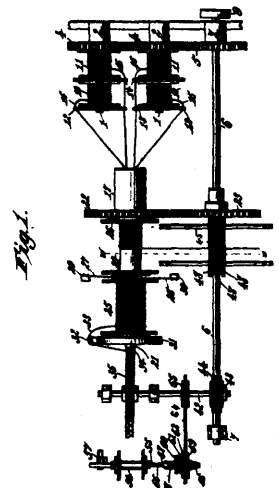
39237 Bemis' Truck for Lumber Kilns.



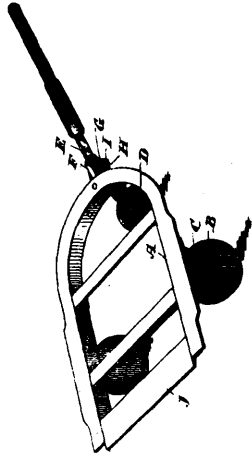
39238 Gregory's Musical Instrument.



39239 Sherk's Wrench.



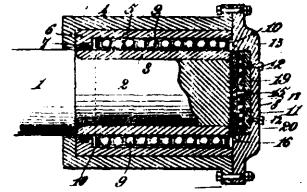
39241 Hathaway's Machine for Manufacturing Wire Fence Strands.



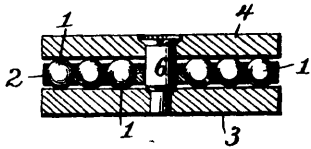
39242 Lemaitre and Warren's Truck.



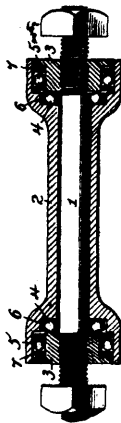
39244 Pigott's Needle for Sewing Machines.



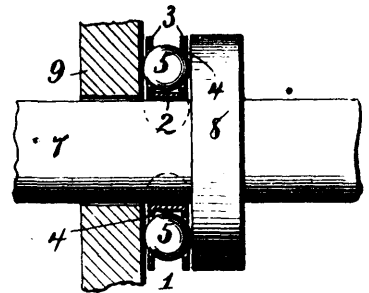
39245 Simonds' Ball Bearing.



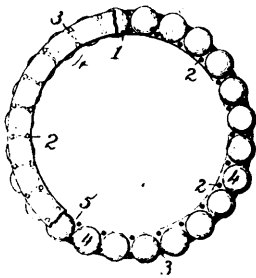
39246 Simonds' Ball Bearing.



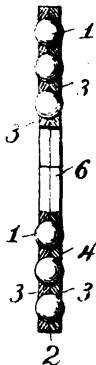
39247 Simonds' Ball Bearing.



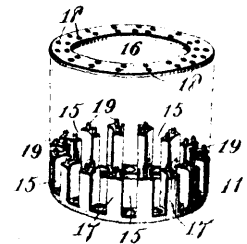
39248 Simonds' Ball Bearing.



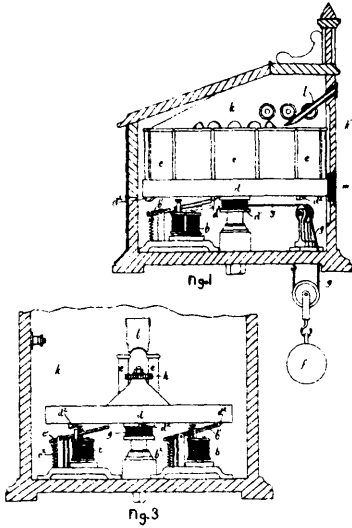
39249 Simonds' Ball Bearing.



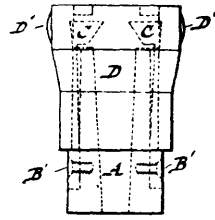
39250 Simonds' Ball Bearing.



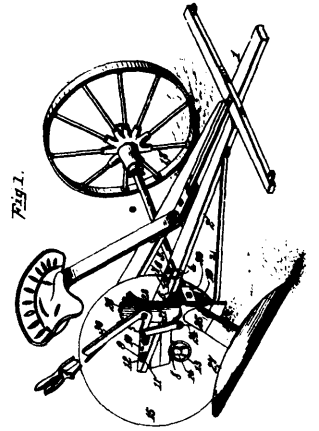
39251 Simonds' Ball Bearing.



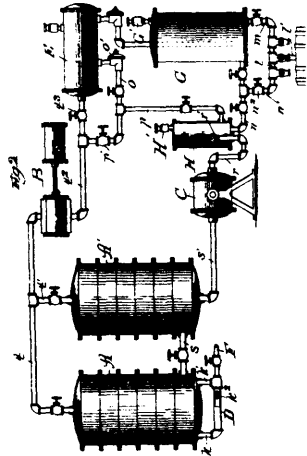
39253 Garnett and Moore's Time Recording or Checking Mechanism.



39254 Fleurant's Holder for Tools.



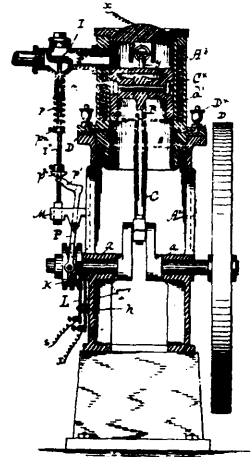
39255 Hancock's Rotary Plow.



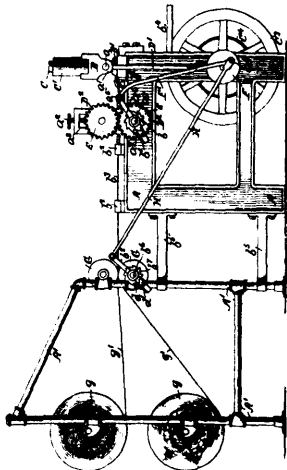
39257 Meteler's Method of Manufacturing Beer.



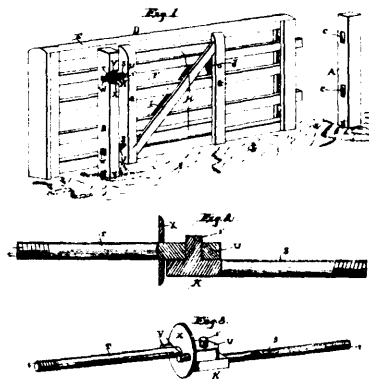
39259 Westervelt's Curling Tool.



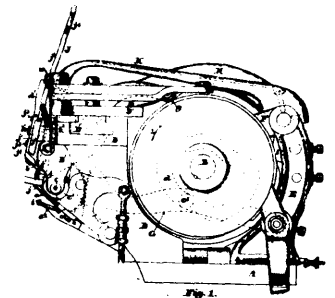
39260 Barrett and Daly's Gas Engine.



39261 Batchelder's Egg Case Machine.



39262 Erwin's Gate and Hinge therefor.



39263 Johnson and Porter's Art of and Mechanism for Channelling Boot and Shoe Soles.