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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. 38,174. Hand Rake. (*Râteau à main.*)

Orville M. Knox, Village of Oneida, New York, U.S.A., 1st February, 1892; 5 years.

Claim.—1st. The combination in a rake head having a longitudinal groove in the top of the head and perforations passing through the rake head from the bottom of the groove, of teeth formed from one piece of metal inserted in the perforations, and a retaining strip secured in the groove and securing the teeth, substantially as set forth. 2nd. In a hand rake, the combination therewith of a perforated automatically moveable clearing bar, the rake teeth inserted in the perforations of the bar, a shoe connected with the bar and extending behind the face of the clearing bar and the holders for securing the clearing bar to the head, substantially as set forth. 3rd. In a hand rake, the combination of a rake head having teeth, a perforated clearing bar arranged to receive the teeth and having a portion thereof extending beyond the plane of the bar and curving upwards, acting as a shoe for the clearing bar and adjustable connections between the clearing bar and the head, substantially as set forth. 4th. The combination in a hand rake of a rake head having teeth, a perforated clearing bar, a slotted retaining piece secured to the clearing bar and adjustably secured to the head and having an angular bend back of the clearing bar, which acts as a shoe, substantially as set forth. 5th. In a hand rake, the combination of a rake head having teeth, a perforated clearing bar running on the teeth provided with an attached or integral portion extending beyond the face of the clearing bar, acting as a runner to the clearing bar, and extending upwards to the head and adjustably secured thereto, substantially as set forth. 6th. The combination in a hand rake of a rake head having teeth, an adjustable clearing bar having perforations for receiving the teeth, angular upwardly extending slotted retaining pieces 12, and securing pins thereof fixed in the head, substantially as set forth. 7th. The combination with a rake head and handle of a socket having shoulders adapted to engage the front and top of the head, and perforations therein for receiving screws or rivets in securing the handle to the head, substantially as set forth.

No. 38,175. Whiffletree and Neck Yoke.

(*Palonnier et volée de bout de timon.*)

John Connolly, North Bay, Ontario, Canada, 1st February, 1892; 5 years.

Claim.—The combination in a whiffletree or neck yoke, with the bar A of the brace bar, consisting of the end pieces B passing out through the ends of the bar A, and suitably secured, the eyes b, the central link C secured by the eyes c, to the eyes of the said end pieces and the eye F, substantially as set forth.

No. 38,176. Combined Parlor and Sleeping Car.

(*Char-parloir et char-dortoir combinés.*)

Montgomery H. Throop, Chicago, Illinois, and Edwin Heath, New York, N.Y., U.S.A., 1st February, 1892; 5 years.

Claim.—1st. In a combined sleeping and drawing salon, a frame pivoted to the side of the salon, adapted to swing upward against the side thereof or extend outward therefrom into the salon, and form a frame upon which the mattress of the berth can be placed, in combination with a mattress having bars secured to the ends thereof adapted to fit on the end bars of the pivoted frame, substantially as described. 2nd. A frame consisting of bars pivoted to the side of the salon, such bars having a groove on one side thereof, a bar secured to the outer end of such pivoted bars and extending from one to the other thereof, and legs pivoted to the outer end of such pivoted bars, whereby the frame may be placed against the side of the car or extended horizontally, in combination with a mattress having bars secured to the ends thereof, adapted to fit into the grooves in the pivoted bars and form therewith the frame and mattresses of a berth in such salon, substantially as described. 3rd. In a combined sleeping and drawing salon, a frame consisting of bars pivoted to the side of the salon, such bars having a third bar secured to the outer ends thereof, and extending from the one to the other, and legs pivoted to such frame, whereby the frame may be placed against the side of the salon or extended horizontally, a rotatable ratchet-wheel on the end bars of such frame, such ratchet-wheel having a hole in the center thereof, in combination with a mattress having bars secured to the ends thereof, such mattress bars having squared ends, one of such ends adapted to fit into the square hole of the ratchet-wheel, and the other of such ends adapted to have placed thereover a wrench, whereby when the mattress bars are placed on the horizontal frame the mattress can be drawn taut by the turning of such mattress bars, substantially as described. 4th. In a combined sleeping and drawing salon, a frame pivoted to the side of the salon, adapted to swing upward against the side thereof or extend outward therefrom into the salon, and form a frame upon which the mattress of a berth can be placed, in combination with a mattress having bars secured to the ends thereof, adapted to fit on the end bars of the pivoted frame, pivoted legs upon the end bars of the pivoted frame, and the side rail of the pivoted frame adapted to come against the panel of an upper berth, and form an ornamentation therefor when such pivoted frame is against the side of the salon, substantially as described.

No. 38,177. Propelling Power. (*Appareil à propulsion.*)

Joseph Tait, assignee of Thomas Henry Allen, both of Toronto, Ontario, Canada, 1st February, 1892; 5 years.

Claim.—1st. A shaft suitably journaled, and having a right and a left hand screw formed on it in such a manner that the said screws run one into the other, in combination with a dog engaging with the said screws, and connected to a cross-head deriving a reciprocating motion, substantially as and for the purpose specified. 2nd. A shaft supported in suitable bearings at the bottom of the boat, and having a propeller wheel fixed to its end, which projects through the end of the said boat, and a right and a left hand screw formed on the portion of the shaft within the boat, the said screws connecting together at each end, in combination with a dog formed on the end of the spindle journaled in a suitable cross-head, which derives a reciprocating motion from a rod or handle, substantially as and for the purpose specified.

No. 38178. Treatment of Waste Tinned Steel or Iron. (*Traitement des déchets du fer et de l'acier.*)

William Lorenzo Brockway, New York, N. Y., U. S. A., 1st February, 1892; 5 years.

Claim.—1st. The improvements in the treatment of waste tinned iron or steel, whereby the tin, iron and other metal are saved, which consists in heating the tinned metal to a temperature sufficient to melt and remove the tin, in a heating chamber from which air is excluded to prevent oxidation, and collecting the tin; and also cold rolling the iron or steel plates from which the tin has been removed, with or without annealing said plates.

No. 38179. Siphon Discharge, Flush Tanks and Analogous Apparatus. (*Siphon de décharge de réservoirs et autres.*)

Sidney Walker Miller, August Mayer, Frederick Howard Post and Albert Warren Berry, all of Pasadena, California, U. S. A., 1st February, 1892; 5 years.

Claim.—1st. The combination with a reservoir, of a siphon having a trapped heavily sealed discharge pipe, and means for suddenly removing from the seal a quantity of water, for the purpose of starting the siphon into action, substantially as specified. 2nd. The combination with a reservoir, of a siphon having a trapped heavily sealed discharge pipe, and means for suddenly removing from the seal a sufficient quantity of water to so shorten the column of water therein that it will cease to counterbalance the column of water in the reservoir limited between the plane at which the air within the siphon becomes confined by the rising water and the level of the water in the reservoir at the time when the removal of the water takes place, substantially as specified. 3rd. The combination with a reservoir, of a siphon having a trapped heavily sealed discharge pipe provided with an ascending intaking limb having between the receiving mouth of the discharge limb and the water level of the reservoir at which the air within said intaking limb and discharge limb becomes confined, a capacity greater than the capacity of that portion of the efficient seal of the trap adjacent to the intaking mouth of the discharge limb and limited between the upper level of the water within the trap and a vertical plane passing through the lowest point of said trap the discharge end of the discharge limb of the siphon being so constructed as to allow ample overflow for the immediate and efficient escape of that water from the trap which is forced up and raised above the mouth or overflow of said discharge end by the ascending air escaping from within the siphon, substantially as specified. 4th. The combination with a reservoir, of a siphon comprising a trapped heavily sealed discharge pipe provided with an ascending intaking limb having between the receiving mouth of the discharge limb and the water level of the reservoir at which the air within said intaking limb and discharge limb becomes confined, a capacity greater than the capacity of that portion of the efficient seal of the trap adjacent to the intaking limb, and limited between the upper level of the water within the trap, and a vertical plane passing through the lowest point of said trap, and the T branch or similar vessel, with the discharge end of the discharge pipe, projecting freely above the floor thereof, substantially as specified. 5th. The combination with the reservoir, of the siphon comprising the trapped heavily sealed discharge pipe provided with an ascending intaking limb having between the receiving mouth of the discharge limb, and the water level of the reservoir, at which the air within said intaking limb and discharge limb becomes confined, a capacity greater than the capacity of that portion of the efficient seal of the trap adjacent to the intaking limb, and limited between the upper level of the water within the trap, and a vertical plane passing through the lowest point of said trap, and the siphonage breaking device, substantially as specified. 6th. The combination with the reservoir, of the siphon comprising the trapped heavily sealed discharge pipe, provided with an ascending intaking limb, having between the receiving mouth of the discharge limb and the water level of the reservoir, at which the air within said intaking limb and discharge limb becomes confined, a capacity greater than the capacity of that portion of the efficient seal of the trap, adjacent to the intaking limb, and limited between the upper level of the water within the trap, and a vertical plane passing through the lowest point of said trap, and the siphonage breaking U pipe, arranged with one end opening into the reservoir below the level of the mouth of the intaking limb, and its other end opening into the discharge pipe below this level, substantially as specified.

No. 38180. Fixtures for Toilet Paper.

(*Porte-papier de garde-robe.*)

The E. B. Eddy Company, Hull, Quebec, Canada, assignees of Seth Wheeler, Albany, New York, U.S.A., 1st February, 1892; 5 years.

Claim.—1st. A bundle of toilet paper having a rivet through its sheets near one of its edges, in combination with a hanger-plate which is capable of turning upon said rivet, so as to form a hook as well as a hanger-plate, substantially as described. 2nd. A bundle of toilet paper, in combination with a hanger consisting of a flat metal plate provided with an elongated opening, and pivotally secured to the bundle so as to be reversible, substantially as described.

No. 38181. Wrapping or Toilet Paper Roll.

(*Rouleau à papier de garde-robe.*)

The E. B. Eddy Company, Hull, Quebec, Canada, assignees of Seth Wheeler, Albany, New York, U.S.A., 1st February, 1892; 5 years.

Claim.—1st. A roll of paper for wrapping or toilet use, so constructed that the points of attachment and severance between the sheets will be alternately out of parallel lines running through the whole body of the sheets, so that a pull upon the free end of the web will not be transmitted in a direct line through a series of sheets, but will be diverted by spaces opposite the connected points of the sheets, thereby producing a transverse strain upon the connected points sufficient to break them, substantially as described. 2nd. A roll of paper for wrapping or toilet use so constructed that the points of attachment and severance between the sheets will be alternately out of parallel lines running through the whole body of the sheets, such points of attachment and severance being upon both sides of the central longitudinal line of the web or series of sheets, so that a pull upon the free end of the web will not be transmitted in a direct line through a series of sheets, but will be diverted by the spaces opposite the connecting points of the sheets pulled upon, thereby producing a transverse strain upon the next line of connecting points sufficient to break them, substantially as described.

No. 38182. Gopher Trap. (*Piège.*)

Gordon Gilchrist, Lethbridge, District of Alberta, North-West Territory, Canada, 1st February, 1892; 5 years.

Claim. The combination of the tank A, the gravitating platform tilting within the tank, near the top, and the removable hood D, sleeved upon the wall of the tank, near the top, and having an open entrance E, and provided with a bait box F, oppositely to said entrance, substantially as set forth.

No. 38183. Combined Counter and Display Rack for Wearing Apparel. (*Comptoir et râtelier-montre combinés pour vêtements.*)

John W. Morrison, St. Louis, Missouri, U. S. A., 1st February, 1892; 5 years.

Claim.—1st. A combined counter and display rack for wearing apparel, having a hanger or hangers adapted to be rotated in a horizontal plane, and move to and from a cabinet, substantially as set forth. 2nd. A combined counter and display rack for wearing apparel, having a supporting bar or a series of supporting bars, hangers mounted upon the ends of the same, and adapted to be moved to and from the cabinet, substantially as set forth. 3rd. A combined counter and display rack for wearing apparel, having a series of supporting bars, hangers movably mounted upon the ends of the same, adapted to be moved to and from the cabinet, and sliding shelves located above the said supporting bars for receiving apparel in piles, substantially as set forth. 4th. A combined counter and display rack for wearing apparel, having a hanger or a series of same, adapted to receive a cloak or other apparel, and adapted to be moved to and from a cabinet, substantially as set forth. 5th. A combined counter and display rack for wearing apparel, consisting of a series of supporting bars, hangers mounted upon the ends of the same, for receiving a cloak or other apparel, said hangers adapted to rotate in a horizontal plane, grooves formed in the sides of the said counter and rack for receiving the ends of said sliding shelves 8, substantially as set forth. 6th. A combined counter and display rack for wearing apparel, consisting of a cabinet such as 1, openings such as 9, formed in the upper portion of the same, supporting bars such as 11, projecting on each side of the cabinet, and adapted to move in said opening, hangers such as 14, removably attached to the end of the said supporting bars, horizontal grooves such as 7, formed in the end pieces 3, and a sliding shelf or shelves such as 8, adapted to move in said grooves for receiving the apparel, substantially as set forth. 7th. A combined counter and display rack for wearing apparel, consisting of a cabinet such as 1, grooves such as 7, formed in the end pieces 3 of the same, for receiving the ends of the sliding shelves 8, opening such as 9, formed in the upper portion of the cabinet 1, supporting bars such as 11, adapted to move in said openings, hangers such as 14, removably attached to the ends of the said supporting bars, and adapted to be rotated in a horizontal plane, and knobs such as 20 for operating said supporting bars, and consequently said hangers, substantially as set forth. 8th. A combined counter and display rack for wearing apparel, consisting of a cabinet, leaves such as 15, hinged to the top of the same, and provided with a suitable mirror, and hangers adapted to be moved to and from the cabinet, and forming a part of the same, substantially as set forth. 9th. A combined counter and display rack for wearing apparel, consisting of a cabinet 1, mirrors such as 6 secured to the ends of the same, supporting bars such as 11 movably secured in the upper portion of the said cabinet, and hangers such as 14 movably secured to the ends of said supporting bars and adapted to be moved to and from a cabinet, substantially as set forth. 10th. A combined counter and display rack for wearing apparel, consisting of a cabinet such as 1, mirrors such as 6 secured to the ends of the same, supporting bars such as 11 movable in suitable openings, such as 9 formed in the upper portion of said cabinet hangers, such as 14, movably

secured to the ends of said supporting bars, sliding shelves such as 8, upon which apparel is adapted to be piled or placed, leaves such as 15 hinged to the top of the said cabinet, and provided with suitable mirrors, and shelves such as 18 secured to said leaves, substantially as set forth. 11th. A combined counter and display rack for wearing apparel, bearing hinged leaves such as 15, and hooks such as 19, secured to the edge of the same for receiving a suitable curtain or curtains, substantially as set forth.

No. 38,184. Portable-Force Pump.

(*Pompe foulante portative.*)

Mott Billings Brooks, Hammond, New York, U.S.A., 1st February, 1892; 5 years.

Claim.—1st. In a pump for pails, barrels or other vessels, the coiled spring S, metal grooved plate H, and cylinder E, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with the casing A, coiled spring S, cylinders B, D and E, metal grooved plate H and the several valves, substantially as and for the purpose hereinbefore set forth.

No. 38,185. Fence Post, etc. (*Pieux de clôture, etc.*)

Hiram Alden Fenner, Flushing, Michigan, U.S.A., 1st February, 1892; 5 years.

Claim.—1st. In a fence of the kind described, the combination of the post A, having ground-supports I, a cross-bar J, a foot K arranged at the end of said ground-supports, leaving a socket between the said foot and the cross-bar, and of the securing stakes M, substantially as described. 2nd. In a frame of the kind described, the combination with the post A', of the top cleats of one section engaging with the posts of the adjoining section above the top rail, and the bottom cleats engaging with the posts of the adjoining sections below the bottom rails, substantially as described.

No. 38,186. Car-Brake. (*Frein de char.*)

Charles Warren Duncan, St. Louis, Missouri, U.S.A., 1st February, 1892; 5 years.

Claim.—1st. In a car or locomotive brake, a brake hanger in combination with a removable brake shoe rigidly secured directly thereto, said brake hanger being formed with a laterally projecting lug portion adapted to be fitted into a recess formed in the rear side of the brake shoe, substantially as described and for the purpose specified. 2nd. In a car or locomotive brake, brake hangers dependently secured in a suitable position, said brake hangers being formed with inclined surfaces, arms pivotally secured to the brake cylinder rod, and a connecting rod retaining the said arms at an angle relative to each other, combined and operating substantially as described and for the purposes specified. 3rd. In a car or locomotive brake, the brake cylinder piston rod, in combination with arms pivotally secured to the projecting end of said piston rod; a spreading rod removably connected with the free ends of said arms, retaining said arms at an angle relative to each other; brake hangers dependently secured to the supporting frame work of the car or locomotive, said hangers being formed with their adjacent surfaces inclined corresponding to the angle at which the said arms are retained, combined as a whole and operating substantially as described and for the purposes specified. 4th. In a car or locomotive brake, the brake cylinder piston rod, in combination with arms pivotally secured to the projecting end of said piston rod; an adjustable spreading rod removably connected with the free ends of said arms, retaining the said arms at an angle to each other relatively; brake hangers dependently secured to the supporting frame work of the car or locomotive, said brake hangers being formed with an incline on their adjacent faces corresponding with the angle at which the arms are retained, the whole combined and operating substantially as described and for the purposes specified. 5th. In a car or locomotive brake, the brake cylinder piston rod, in combination with arms pivotally secured to the projecting end of said piston rod, and adjustable spreading rod removably connected with the free ends of said arms, retaining the said arms at an angle to each other relatively; hanger arms dependently and pivotally connected to the supporting frame work of the car or locomotive, said hangers being formed with an incline on their adjacent faces corresponding approximately to the angle at which the said arms are retained, the contiguous faces of the said arms and the said hangers being formed with a tongue and groove respectively, and brake shoes removably secured to said hangers, substantially as described and for the purposes specified.

No. 38,187. Castor for Furniture. (*Roulette de meuble.*)

Ernest Gustav Hoffmann, New Southgate, County of Middlesex, England, 1st February, 1892; 5 years.

Claim.—1st. A castor having the spindle of its roller carried in curved or angular slots for the purpose of allowing it to be brought back directly under the vertical pressure exerted on it, substantially as described. 2nd. A castor having its roller carried by pivoted cranks, or otherwise, so that it will be brought back directly under the vertical pressure exerted upon it, substantially as described. 3rd. In roller castors a stamped horn portion having slots for the roller spindle and ears turned up therefrom to give increased bear-

ings for said spindle, substantially as described. 4th. In a castor the combination with the roller and its spindle of a horn portion, having a curved slot for carrying said spindle, a grooved base portion pivotally connected to the horn portion, with means for attaching it to the article of furniture, and antifriction balls placed between the base and horn portion, substantially as described.

No. 38,188. Regulator or Governor for Gas.

(*Régulateur ou gouverneur pour le gaz.*)

Lewis A. Boore, Niagara Falls, Lewis Bore, John F. Diehl and John E. Haas, all of Buffalo, New York, U.S.A., 2nd February, 1892; 5 years.

Claim.—1st. The combination, with a gas-burner, of a governor consisting of a large and small cylinder adapted to be secured in the burner, and piston heads connected together by a stem, said stem protruding through the larger piston and a disk mounted on this protruding end, and said piston heads fitted to the inner walls of the cylinders, and constructed to move up and down therein with the varying pressure of gas, substantially as set forth. 2nd. A governor or regulator constructed to fit inside of a gas-burner, the same comprising a pair of cylinders of different sizes, a pair of connected pistons, fitted respectively to the inner walls of the cylinders, and adapted to move up and down therein with the varying pressure of gas, one of said pistons having an opening, or openings therein, and means for regulating the size of the opening or openings, substantially as set forth.

No. 38,189. Safety Catch for Hammer and Hammerless Guns. (*Arrêt de sûreté pour chiens de fusils ou fusils sans chiens.*)

The Jenkins Safety Catch Gun Company, assignees of William Edward Jenkins, all of Rock Hill, South Carolina, U.S.A., 2nd February, 1892; 5 years.

Claim.—1st. In a firearm, the combination with the stock having a recess in the grip portion, a catch for locking the trigger, and a lever engaging the catch to prevent its retraction, of a trip plate pivoted longitudinally in the said grip recess and projecting beyond the surface of the grip, a spring for pressing the grip outward and returning the catch and lever to their normal positions, and a connection between the trip plate and the said lever, substantially as described. 2nd. The combination, with a trigger-latch, of levers independently fulcrumed and provided with engaging toothed ends, a spring-pressed trip plate, and a connection substantially as described, between one lever and the latch and the other lever and the trip plate, as and for the purpose set forth. 3rd. The combination, with a trigger-latch having a recess in its rear surface and a spring-pressed trip plate, of a lever engaging with the recessed surface of the latch and having a segmental, toothed inner end, a second lever having a toothed end engaging with the toothed surface of the first lever, and link connection between the levers and the trip plate, substantially as described.

No. 38,190. Distinctive Paper. (*Papier distinctif.*)

James Macdonough, New York, N. Y., U. S. A., 2nd February, 1892; 5 years.

Claim.—1st. A distinctive paper for bonds, notes, checks or other securities, consisting of a sheet of paper having incorporated therewith a multiplicity of planchets, substantially as described. 2nd. A distinctive paper for bonds, notes, checks or other securities, consisting of a sheet of paper, having incorporated therein a multiplicity of planchets of a color differing from said sheet. 3rd. A distinctive paper for bonds, notes, checks or other securities, consisting of a sheet of paper, having colored portions and having incorporated therein a multiplicity of planchets. 4th. A distinctive paper for bonds, notes, checks or other securities, consisting of a sheet of paper, having incorporated therewith a multiplicity of planchets of different colors. 5th. A distinctive paper for bank-notes, checks, bonds or other securities, consisting of a sheet of paper having incorporated therewith a multiplicity of planchets of predetermined shape. 6th. A distinctive paper for bonds, notes, checks or other securities, consisting of a sheet of paper having incorporated therewith a multiplicity of planchets of different shapes. 7th. A distinctive paper for bonds, notes, checks or other securities, consisting of a sheet of paper, having incorporated in portions thereof a multiplicity of planchets.

No. 38,191. Molding Machine. (*Machine de moulage.*)

Ellis Keenan, Buffalo, New York, U. S. A., 2nd February, 1892; 5 years.

Claim.—1st. The combination of an upright, a rectangular frame journaled at the upper end of the same, the levers pivoted to lugs on the upper and undersides of the bottom and top pieces of said frame, respectively, a diagonal rod connecting the outer or front end of the upper lever with the end or rear end of the lower lever, the bifurcated operating lever pivoted to said frame, the link connecting the said bifurcated operating lever with the rear end of the lever pivoted to the top bar of the frame, a plunger rod slidingly vertically in perforations at the outer ends of the top and bottom frame bars, the links connecting said plunger rod with the front end

of the lever pivoted to the bottom frame bar, the plunger or follower secured detachably to the lower end of the plunger rod, and a bench arranged under the frame containing the operating mechanism, substantially as set forth. 2nd. In a machine of the class described, the combination of the frame, the bifurcated operating lever, a vertically reciprocating plunger rod having an adjustable collar, and links connecting the said collar with a lever actuated by the operating lever by means of the intermediate mechanism, substantially as described. 3rd. In a machine of the class described, the combination of the frame, the operating lever, the vertically movable rod, the levers pivoted to the upper and under sides of the top and bottom bars of the frame, respectively the link connecting the upper lever with the operating lever, the links connecting the lower with the plunger rod, a rod connecting the outer and inner ends of the upper and lower levers, and a weight suspended from one end of said operating lever to restore it to its normal position, substantially as set forth. 4th. In a machine of the class described, the combination with an upright, of a frame journaled at the upper end of the same, a vertically movable plunger rod in said frame, having a follower at its lower end, and operating mechanism comprising a lever pivoted upon said frame and suitable connections, substantially as set forth. 5th. In a machine of the class described, the combination of the frame, the vertically movable plunger rod, the bifurcated operating lever straddling and pivoted to the frame, the intermediate mechanism connecting the said operating lever, with the plunger rod, the perforated head at the front end of the operating lever, the handle connected pivotally to the latter, and an adjusting pin passing through said handle and engaging the perforations in said head, substantially as and for the purpose set forth. 6th. In a machine of the class described, the combination of the upright, the frame consisting of the arms 3, 4, and the front and rear connecting pieces 5 and 5a, journaled on the upright, the plunger rod 14, working through the arms 3, 4, and the operating mechanism for the plunger rod, located within the space inclosed by the parts 3, 4, 5 and 5a, as set forth. 7th. In a machine of the class described, the combination of the upright, the frame consisting of the arms 3, 4 and the front and rear connecting pieces 5 and 5a, journaled on the upright, the plunger rod 14, working through the arms 3, 4, the operating lever 12, connected pivotally to the connecting piece 5a, and toggle joint mechanism located within the space inclosed by the parts 3, 4, 5 and 5a, and connecting the operating lever 12 with the plunger rod 14, as set forth.

No. 38,192. Envelope. (Enveloppe.)

Peter Harvey Flynn, Syracuse, New York, U.S.A., 2nd February, 1892; 5 years.

Claim.—1st. An envelope having an aperture cut in one edge, and the remainder of said edge perforated. 2nd. An envelope having an aperture cut partly in the body and partly in a flap, and intersected by the folded edge between the body and said flap, and the remainder of said folded edge perforated. 3rd. An envelope having the folded connection between the front and back upon one edge weakened in strength, for the greater part of its length, and the remainder cut away entirely, creating an aperture extending into the body. 4th. An envelope having an aperture cut in the edge, and the remainder of said edge weakened in strength, in combination with the enclosure inserted within the envelope, and adapted to be grasped through said aperture, when the envelope is sealed up. 5th. An envelope having one edge weakened in strength, and an aperture cut in said edge and extending into the body, in combination with an enclosure sealed up therein, and removable therefrom by severing said edge by the edge of the enclosure when strain is applied to it through said aperture.

No. 38,193. Hydraulic Motor. (Moteur hydraulique.)

Pierre Onésime Gosselin, Quebec, Quebec, Canada, 2nd February, 1892; 5 years.

Claim.—The combination, with the stationary supports, of the frame having hollow projections at one end, the pivoting pieces longitudinally adjustable in the said projections and pivoting the frame to the said supports, the propeller wheel provided with a crank-shaft journaled in the other end of the said frame, and the pivoted leg for supporting the free end of the said frame, substantially as and for the purpose set forth.

No. 38,194. Machine for Cutting Cloth or Wearing Apparel. (Machine pour découper les draps ou hardes.)

Morris Grossman, St. Louis, Missouri, U.S.A., 2nd February, 1892; 5 years.

Claim.—1st. A machine for cutting apparel having a knife or knives conforming to the shape of a pattern, and adapted to be brought in contact with the cloth or apparel to be cut, substantially as set forth. 2nd. A machine for cutting cloth, consisting of a knife holder or holders, a knife or knives adapted to be secured thereto, said knife or knives corresponding to the shape of the pattern to be cut, and adapted to be brought from contact with the cloth, substantially as set forth. 3rd. A machine for cutting cloth, consisting

of a stand or table, a movable plate 5 adapted to move to and from the same, a knife or knives conforming to the shape of a pattern, and adapted to be brought in contact with the cloth to be cut, and mechanism for moving said plate, substantially as set forth. 4th. A machine for cutting cloth, consisting of a support or table having a bed, a movable plate adapted to move to and from said bed, a knife or knives conforming to the shape of the pattern, and adapted to be brought in contact with the cloth placed upon said bed, a shaft such as 6 provided with worms, worm-wheels such as 11 adapted to meet with the said worms, and upright posts 12 provided with screw-threads, which threads are adapted to receive the threads formed upon the bore 13 of the worm-wheels 11, by means of which the said plate 5 is moved, substantially as set forth. 5th. A machine for cutting cloth, having a knife or knives conforming to the shape of the pattern, a plate 24, yieldingly secured within said knife or knives, substantially as set forth. 6th. A machine for cutting cloth, consisting of a knife-holder or holders, a knife or knives adapted to be secured thereto, a plate or plates 24 adapted to move within the said knife or knives, spring 23 interposed between said plate or plates and the said knife holder or holders, and means for causing the said knife or knives to be brought in contact with the cloth to be cut, substantially as set forth. 7th. A machine for cutting cloth, consisting of a support or table, upon which the cloth to be cut is placed, a movable plate 5, a knife or knives 18 adapted to be brought in contact with the cloth placed upon the table, a shaft 6 provided with worms 10, bores 13 formed in the said worm-wheels 11, and provided with screw-threads, uprights 12 secured to the movable-plate 5 and provided with screw-threads, which threads mesh with the threads formed in the bores 13, and a crank or other device mounted upon the said shaft 6 for imparting motion thereto, substantially as set forth.

No. 38,195. Washing Machine. (Machine à blanchir.)

John Dowling, Wilkesbarre, and Addison C. Church, Luzerne, all of Pennsylvania, U. S. A., 3rd February, 1892; 5 years.

Claim.—1st. The herein-described washing machine, the same comprising a body oscillating upon pivots, the sides of the top of the body being provided with flap-valves, each closing automatically as the water rises in that end of the body, and the centre of the top of the body being provided with openings, and cross-pieces within said body across the same, depending from the top at points between said sides and centre, as and for the purpose set forth. 2nd. In a washing machine, the combination, with the oscillating body, a socket on one of the ends thereof having notches in its upper end at right angles to each other, and a bracket on the other end thereof having a notch in traverse alignment with one of those in the socket, of a pin seated in said socket and having a lug adapted to engage the notches therein and a wringer-board secured to the upper end of said pin, as and for the purpose hereinbefore set forth.

No. 38,196. Apparatus for Preventing Horses from Cribbing. (Appareil pour empêcher les chevaux de ronger.)

Charles W. Nutter, Assignee of John Christesen, all of Haverhill, Massachusetts, U. S. A., 3rd February, 1892; 5 years.

Claim.—1st. A device for preventing horses from cribbing, consisting of an outer frame having a hollow boss in the centre of its lower portion, a pin or stud secured in the bottom of said hollow boss, and pins or studs on each side thereof, an inner frame having a collar in the centre of its lower portion, through which the stud in the hollow boss passes, and slots on each side of the collar, through which the outer studs on the outer frame pass, the two frames being held together by screws working in slots in the outer frame, the said frames being kept apart by a spiral spring, the lower end of which bears upon the bottom of the hollow boss in the outer frame, and its upper end against the collar on the inner frame, substantially as set forth. 2nd. In a device for preventing horses cribbing, the combination with an outer frame A, having a hollow boss A', a pin or spur E, secured in said boss, pins or spurs E', on each side thereof, and slots D in the sides of said frame, of an inner frame B, having a collar B', and slots b, the screws C, for connecting the two frames together, the spiral springs F, arranged in the hollow boss around the spur E', and means for securing the apparatus around the horse's throat and neck, substantially as set forth.

No. 38,197. Inking Attachment for Job Printing Presses. (Encrier de presse d'imprimerie.)

The Thompson Manufacturing Company, assignees of William A. Thompson and Stacy C. Thompson, all of Manistee, Michigan, U. S. A., 3rd February, 1892; 5 years.

Claim.—1st. In a printing press a main revoluble ink-distributing plate or disk 2, provided with normally stationary supplemental disks 6, in combination with holding means 17, 18, 19, for retaining said plate or disk stationary, and revolving devices 5, 12, for

imparting motion to said supplemental disks, substantially as described. 2nd. In a printing press, a main circumferentially-adjustable and normally stationary ink-distributing plate or disk 2, provided with revolvable supplemental disks 6, for printing blended colors, substantially as described. 3rd. In a printing press, a main normally-stationary ink-distributing plate or disk 2, provided with an elongated chamber 3, having rounded ends 4, and with supplemental disks 6, having gear wheels 5, on their under surfaces, substantially as and for the purpose described. 4th. In a printing press, a main normally-stationary ink-distributing plate or disk 2, provided with an elongated chamber 3, having rounded ends 4, and circular depressions or recesses 7, near its upper surface in combination with supplemental disks 6, having revolvable gear wheels 5, on their under surfaces, substantially as and for the purpose described. 5th. In a printing press, a main normally-stationary ink-distributing plate or disk 2, provided with an elongated chamber 3, having rounded ends 4, and circular depressions or recesses 7, near its upper surface, in combination with supplemental disks 6, having revolvable gear-wheels 5, on their under surfaces, and means 17, 18, 19, for adjusting said main plate or disk circumferentially, substantially as and for the purpose described. 6th. In a printing press, a main normally-stationary ink-distributing plate or disk 2, having short journal boxes 13, on its under surface and an elongated chamber 3, in combination with supplemental disks 6, having revolvable gear-wheels 5, on their under surfaces, and also short journals 14, mounted in said boxes, substantially as described. 7th. In a printing press, a main ink-distributing plate or disk 2, provided with short journal-boxes 13, on its under surface, with an elongated chamber 3, and with a central tubular depending journal 8, in combination with supplemental disks 6, having short journals 14, and gear-wheels 5, on their under surfaces, and the short vertical shafts 10, provided with gear-wheels 12, 11, at its upper and lower ends, substantially as described. 8th. In a printing press, a main adjustable ink-distributing plate or disk 2, provided with short journal-boxes 13, on its under surface, with an elongated chamber 3, and with a central tubular depending journal 8, in combination with supplemental disks 6, having short journals 14, and gear-wheels 5, on their under surfaces, and the short vertical shaft 10, provided with gear-wheels 12, 11, at its upper and lower ends, substantially as described. 9th. In a printing press, a main ink-distributing plate or disk 2, provided with revolvable supplemental disks 6, and formed with screw threaded apertures 19¹, in its under surface and near its outer edge or rim, in combination with an adjustable bar 17, formed with a slotted upper end 18, and a thumb-screw 19, passing through said slotted end and into said screw-threaded apertures, substantially as described. 10th. In a printing press, a main ink-distributing plate or disk 2, provided with revolvable supplemental disks 6, and a central tubular depending journal 8, in combination with a short vertical shaft 10, provided with gear-wheels 12, 11, at its upper and lower ends, and means 15, 16, for connecting and disconnecting said tubular journal and shaft, substantially as described. 11th. In a printing press, a main ink-distributing plate or disk 2, provided with revolvable supplemental disks 6, and a central tubular depending journal 8, in combination with a short vertical shaft 10, provided with gear-wheels 12, 11, at its upper and lower ends, and means for connecting and disconnecting said tubular journal and shaft, said means consisting of holes 15, formed in said journal and shaft and the removable bolt or pin 16, substantially as described. 12th. In a printing press, a main ink-distributing plate or disk 2, provided with an elongated chamber 3, with circular recesses 7, near its upper surface, with short depending journal-boxes 13, and with screw-threaded apertures 19¹, in its under surface near its edge or rim, in combination with the supplemental disks 6, having gear-wheels 15, and journals 14, on their under surfaces, a central gear-wheel 12, meshing with the gear-wheels just named, a short vertical shaft 10, provided with said gear-wheel and having on its lower end another gear-wheel 11, which is suitably operated, and adjustable bar 17, formed with a slotted upper end 18, and a thumb-screw 19, passing through said slotted end and into said screw-threaded apertures, substantially as described.

No. 38,198. Mitring Machine. (Machine à ongles.)

Solomon Phillips, assignee of Peter Phillips, both of the Town of Toronto Junction, Ontario, Canada, 3rd February, 1892; 5 years.

Claim.—1st. A circular saw suitably journaled on the end of two parallel rods, supported by and longitudinally adjustable in a revolvable frame, carried by a frame revolvable at right angles to the frame supporting the parallel rods, in combination with means for holding the revolvable frames at such angles as they may be independently set, substantially as and for the purpose specified. 2nd. A circular saw suitably journaled on the end of two parallel rods, supported by and longitudinally adjustable in a revolvable frame, carried by a frame revolvable at right angles to the frame supporting the rods, in combination with a wedge key operated by a treadle and arranged to lock the revolvable rod frame, substantially as and for the purpose specified. 3rd. A divided saw-table, hinged upon the face of a plate vertically and horizontally adjustable upon the frame of the machine, in combination with means for independently locking each wing of the divided table at any desired angle, substantially as and for the purpose specified.

No. 38,199. Autographic Register.

(*Régistre autographique.*)

The Dayton Autographic Register Company, assignees of John Bernard Thies, Christian Jacob Weimann, Edward Erasmus Euchenhofer, and Will McCoy Kinnard, all of Dayton, Ohio, U.S.A., 3rd February, 1892; 5 years.

Claim.—1st. In an autographic register, the combination with the frame, of a series of paper rolls journaled in an inclined slot therein, one above the other so that each roll will serve as a tension for the one below, substantially as shown and described. 2nd. In an autographic register, the combination with frame work having inclined slots on opposite sides to receive the paper rolls, of a series of paper rolls resting therein, one above the other and a tension roll, resting on the topmost roll, to give tension thereto, substantially as shown and described. 3rd. In an autographic register, the combination with the cutting knife operating against the paper to be cut, of two or more slotted knife-bars, arranged on the other side of said paper to receive and act as cutting edges for the knife, substantially as shown and described. 4th. In an autographic register, the combination of a series of paper rolls, writing tablet and transfer paper upon which copies are to be made, feeding mechanism to unwind said paper, reciprocating cutting knife operating upon said paper and slotted double knife bars arranged opposite said cutting knife and between which bars the paper is passed, said bars arranged to receive said knife and thus sever the sheets, substantially as shown and described. 5th. In an autographic registering apparatus in which a number of strips of paper are employed, a writing tablet and mechanism to propel the paper over said tablet, in combination with a cutting knife arranged below the paper strips and a slotted bar arranged above the paper, said bar being adapted to receive said knife and sever the paper into strips, substantially as shown and described. 6th. In an autographic register in which a number of strips of paper are employed, a writing tablet, a mechanism to propel the paper over said tablet and dividing rod to separate the sheets, in combination with a cutting knife arranged below the paper strips, and a slotted bar arranged above the paper, said bar adapted to receive said knife and to sever the paper into strips, substantially as shown and described. 7th. In an autographic registering apparatus, the combination with the paper rolls and feeding mechanism, of a reciprocating knife carrier, cog formed thereon, shaft journaled in the frame and arm rigidly attached to said shaft and meshing with said cog, whereby rotation of the shaft operates said knife carrier, substantially as shown and described. 8th. In an autographic registering apparatus, the combination with the paper rolls and feeding mechanism, of a reciprocating knife carrier with knife and filing needles rigidly attached thereto, so that the duplicate sheet will be filed on the needles simultaneously with the severing of the sheet from the roll, substantially as shown and described. 9th. In an autographic registering apparatus, a reciprocating knife carrier coggled arm integral therewith, shaft journaled parallel thereto, arm rigidly attached to said shaft and meshing with said cog, and fingers frictionally attached to said shaft to serve as guides for the paper to be cut, substantially as shown and described. 10th. In an autographic registering apparatus, a filing compartment having hinged along the sides thereof, guides or shelves to support and guide the paper to be filed, in combination with a needle carrying frame, and means for operating said shelves simultaneously with said frame, so that said shelves may be automatically closed when the needles are at work in the act of filing, substantially as shown and described. 11th. In an autographic registering apparatus, in the filing compartment thereof, shelves to support and guide the paper to be filed hinged along the sides of said compartment, in combination with pins on the needle carrying the frame to close said shelves when the needles are at work in the act of filing, substantially as shown and described. 12th. In an autographic registering apparatus in which a number of strips of paper are employed, a writing tablet and means for propelling the paper over said tablet, in combination with a cutting device for severing the paper into strips, and one or more filing needles having eyes at or near their points, adapted to receive a string whereby the severed strips may be bound together, the said needles being connected to the cutting device in such manner as to be simultaneously moved with it, thus piercing and filing the severed strips, substantially as shown and described. 13th. In an autographic registering apparatus, the combination of a writing tablet, two rollers to support and hold the copying medium arranged at opposite sides thereof, one roller supported in the frame of the machine, and forming a hinge for the writing tablet, the other detachably connected to said writing tablet, so that it may be removed independently thereof, substantially as shown and described. 14th. In an autographic register, the combination with a cutting mechanism and a filing compartment and filing mechanism, consisting of a rock shaft located at one end of the said compartment, filing arms extending therefrom, a rock arm extending from said shaft, a bar connected to the rock arm and extending across one side of the filing compartment, a second rock shaft located at the other end of the compartment, and a rock arm mounted on said shaft and arranged to come in contact with said bar, and operate the same, and through it the filing arms, all substantially as shown and described. 15th. In an autographic register, the combination with the cutting and filing mechanism, of a shaft carrying fingers to assist in the filing, bifurcated arm attached thereto, box pivoted thereon and bar working through the same with spring F¹ and H¹¹ connected

thereto, substantially as shown and described. 16th. In an autographic register, the combination with shaft E¹ and filing frame thereto attached, and bar G¹ connected therewith of the shaft A¹ and arm K¹ to operate said bar G¹, which bar is curved at its outer end, and pin e¹ to support the same so that said bar G¹ will be tripped during its operation, substantially as shown and described.

No. 38,200. Vise. (Étau.)

The Armstrong Manufacturing Company, assignees of Arthur Wise Cash, Bridgeport, Connecticut, U. S. A., 3rd February, 1892; 5 years.

Claim.—1st. In a vise, a stationary jaw and a stationary rack, combined with a movable jaw, a pawl carried thereon and engaging the rack, a cam interposed between the movable jaw and the pawl, and means for operating the cam, substantially as described. 2nd. In a vise, a base provided with a jaw and with a rack, in combination with a movable jaw, an eccentric pivoted to the movable jaw, means as a handle for operating said eccentric, and a pawl carried by said eccentric and engaging the rack on the base, substantially as described. 3rd. In a vise, the base provided with a stationary jaw and rack, in combination with a movable jaw complementary to the fixed jaw, an eccentric carrying a pawl and fulcrumed to the movable jaw, and a pair of lugs, one carried by the eccentric and the other by the pawl, whereby the latter may be moved upon its centre. 4th. In a vise, the base having a fixed jaw and a rack, in combination with the longitudinally sliding jaw, the handle having oppositely projecting hubs pivoted to the movable jaw eccentric to the hubs, the gravitating pawl pivoted to said hubs, and means as a handle for the operation of said hubs, substantially as specified.

No. 38,201. Breast Collar. (Harnais à poitrails.)

Thomas White Fisher and Jacob Joel Leiser, both of Helena, Montana, U. S. A., 3rd February, 1892; 5 years.

Claim.—1st. A breast collar constructed in two corresponding sections, a detachable link-bar intervening said sections, and latch devices connecting the link-bar and the collar sections, substantially as set forth. 2nd. The combination, with a breast collar constructed in two corresponding sections attached at their rear ends to traces, and a shoulder strap supporting said sections, of a curved link-bar, bifurcated at its ends and provided between said ends with transverse pins, and latch devices on the collar sections adapted to detachably engage said pins, substantially as set forth. 3rd. The combination, with a breast collar constructed in two corresponding sections, and a curved link-bar intervening said sections, having bifurcated ends and transverse pins between said ends, of latch devices on the collar sections, consisting of hook-shaped lugs adapted to engage said pins, pivoted latch dogs adapted to engage said lugs, and finger springs holding the dogs in engagement with the lugs and pins, substantially as set forth.

No. 38,202. Roller Bearings. (Cousinet anti-frottement.)

Charles Dickinson Meneey, Albany, New York, U.S.A., 3rd February, 1892; 15 years.

Claim.—1st. The combination, with a bearing-box and axle, of a series of tube-form rollers that in length are shorter than the bearing-box, with said rollers arranged to be in axial alignment with the axle, and to break joints or lap past each other at their inner ends, with rods arranged to pass through said rollers to alternately interweave or interlock said rollers around the axle between the latter and the bearing-box, substantially in the manner as and for the purposes set forth. 2nd. The combination, with a bearing-box and axle, of tube-form rollers that in length are shorter than the bearing-box, with said rollers arranged to be in axial alignment with the axle, and break joints at their inner ends, with two rods passing through each of the rollers that are in alignment with each two of the rollers, where breaking joints at the ends of the rollers in alignment with each other in connected series around the axle between the latter and the bearing-box, substantially in the manner as and for the purposes set forth. 3rd. The combination with the axle A made with the shoulder J, the end ring D, and rings M of the bearing-box B, made with the sleeve S, the tube-form rollers R¹ and R², arranged between said bearing-box and axle, so as to be in axial alignment with the latter, but to break joints and lap past each other at their ends, and the rods T, arranged to pass through said rollers from end to end of the bearing, substantially in the manner as and for the purposes set forth. 4th. The combination, with the axle A, made with the shoulder J, the end ring D, and rings M of the bearing-box B, made with the sleeve S, the tube-form rollers R¹ and R², arranged between the bearing-box and axle, so as to be in axial alignment with the latter, but placed so as to break joints or lap past each other at the ends, and the rods T, made with the end flanges F, and arranged to pass through said rollers from end to end of the bearing, substantially in the manner as and for the purposes set forth.

No. 38,203. Mechanism for Forming Wire Strands.

(Appareil pour former les torons de fil de fer.)

George P. Rishell, Hornellsville, New York, U. S. A., 3rd February, 1892; 5 years.

Claim.—1st. In a mechanism for forming with strands, the combination, with centrally-cleft circular bearings having permanent

diametrical channels, of divided twisting-heads adapted to move in said bearings, each part of said twisting-heads, carrying one of the wires, substantially as described. 2nd. In a mechanism for forming wire strands, the combination, with centrally cleft circular bearings having permanent diametrical channels, of divided twisting-heads arranged and turning in said bearings and provided with depending guide-points through which the wires are carried, substantially as described. 3rd. In mechanism for forming wire strands, the combination, with centrally-cleft circular bearings, of divided twisting-heads having curved guide-plates lying and moving in outer channels in the cleft-bearings, and provided with central depending guide-points lying and moving in central concentric portions of the cleft-bearings, and having openings to conduct the wires, and means, substantially as described, for operating the twisting heads, substantially as described. 4th. In mechanism for forming wire strands, the combination, with centrally-cleft circular bearings having their axes converging, of divided twisting-heads having supports for spools carrying the wires and provided with gear-teeth at or near their upper ends, shafts parallel with the axes of the circular bearings and having intermeshed fuitre-gears at their converging ends and spur-gears at the other ends meshing with the gear-teeth on the divided twisting-heads, one of said shafts on each half-bearing being prolonged and provided with a spur-gear, and a shaft having a driving-gear meshing with both spur-gears, substantially as described. 5th. In mechanism for forming wire strands, the combination, with centrally-cleft circular bearings of divided twisting-heads having supports for spools containing the wire, means for imparting circular movement to said divided heads, and curved arms overhanging the same and carrying the wires forming the filling, the extremities of said arms having opposite periodical movement in the line of the channel dividing the bearings, substantially as described. 6th. In a machine for forming wire strands, the combination, with centrally-cleft circular bearings and divided twisting-heads having spool-supports and provided with tension devices from which the wires pass through central depending guide-points, of spur-gears meshing with gear-teeth formed upon the other faces of the divided twisting-heads, and curved arms mounted on oppositely-turning gears to throw the arms periodically in opposite directions in the line of the channel dividing the bearings, said arms having grooves for the filling-wires, substantially as described. 7th. In mechanism for forming wire strands, the combination, with centrally-cleft circular bearings, each half being composed of curved concentric portions curving through less than a semicircle, of divided twisting-heads having spool-supports, and provided with plates lying and moving between the eccentric portion of the bearings, and having also depending guide-points moving on the concave face of the inner portion of the bearing, the slots or channels dividing the twisting-heads, and the bearings being brought into coincidence twice during each revolution of the twisting-heads, and curved arms carrying the filling-wires, their points overhanging the channel between the cleft-bearings, said curved arms having a periodical movement in opposite directions in the line of the channel dividing the bearings, substantially as described. 8th. In mechanism for forming wire strands, the combination, with a bearing divided diametrically by a vertical channel or slot, of twisting-heads arranged in said bearings and composed of separate similar parts, each part having a spool-support, and being divided or separated from the opposite part by a channel which coincides periodically with the vertical channel of the bearings, curved arms having channels for the filling-wires, their extremities overhanging the channels dividing the bearings, gears on which the ends of said arms are mounted, and means for automatically producing a periodic opposite and partial revolution of the said gears, to throw the arms periodically in opposite directions in the line of the channel dividing the bearings, substantially as described. 9th. In mechanism for forming wire strands, the combination, with cleft circular bearings, of centrally divided twisting-heads having spool-supports, gears meshing with gear-teeth on the outer faces of the twisting-heads, means for continuously operating said gears, curved arms laying the filling-wires and carried by oppositely revolving gears, a compound gear driving the same by one of its members, a yoke-shaped rack engaging the other member, a vibrating lever supporting the journal of the compound gear, a bar vibrating said lever, and a dish having a cam-race in which lies a roll on the end of the bar, substantially as described. 10th. In mechanism for forming wire strands, the combination, with cleft bearings and divided twisting-heads moving therein to twist or spin the cables of the strand, of curved arms carrying the filling-wires and mounted upon oppositely periodically, and partially rotating spur-gears, a compound gear from which the motion of said spur-gears is derived, a yoke-shaped rack, between the toothed arms of which the other member of the compound gear lies, a lever raising and lowering the rack, a dish having a cam-race operating said lever, a movable bearing supporting the compound gear, and a lever actuated by a cam-race on the opposite side of the disk actuating the rack-lever, substantially as described. 11th. In mechanism for forming wire strands, the combination, with bearings divided by central or diametrical channels and having their axes inclined, of twisting-heads each divided diametrically into two similar independent parts, each having a spool-support and provided with a series of teeth upon the outer surface gears, meshing with said teeth and driving the twisting-heads, and adjustable guide-rolls over which the wires run as they come from the twisting-heads, substantially as described. 12th. In a machine for forming wire strands, the com-

bination, with circular bearings, each composed of circular plates inclosing an annular channel and a central circular space, the whole divided by a central channel into two equal parts, of twisting-heads each consisting of a curved plate running in the annular channel and a central guide point lying in the central opening of the bearing, and conducting the wire from a spool mounted on the head of each part, and guide rolls journaled on adjustable brackets beneath the twisting-heads, substantially as described. 13th. In a machine for forming wire strands, the combination with circular bearings, each composed of an inner and outer plate inclosing an annular channel and a central concentric opening, the whole divided into two equal parts by a diametrical channel, of twisting-heads, each consisting of a plate moving in the divided annular channel and a central guide-point having a passage for the wire, each point having a flat face which substantially coincides with the adjacent walls of the channel in the bearing when turned in the latter, spur-gears meshing with teeth on said twisting-heads, adjustable guide-rolls arranged beneath the latter to regulate the width of the strand, curved arms carrying filling-wires and having their ends from which the wires pass overhanging the diametrical channels in the bearings, and means for sweeping said arms in opposite directions at stated intervals to carry the wires through the channelled bearings and into the intersections of the cables, the edges of the curved plates on the twisting-heads being beveled or converged, substantially as described. 14th. In a machine for forming wire strands, the combination, with two circular bearings having a common central channel, of two nearly semicircular twisting-heads travelling in each circular bearing, each semi-circular part having a spool-support and being provided with a guide-point for the wire from said spool, curved arms having ways for wires forming the filling of the strands, gearing actuating the twisting-heads, and means for sweeping the curved arms in opposite directions at stated intervals to carry the filling-wires between the twisting-heads and through the channel in the bearings, substantially as described. 15th. In a machine for making wire strands, the combination, with circular bearings centrally divided by a vertical channel common to both, of twisting-heads, two of which move in each bearing, gearing driving said heads continuously, curved arms having their ends overhanging the channel in the bearings, and having the filling-wires laid in grooves in said arms, gears upon which said arms are mounted, means for giving a partial rotation to said gears in opposite directions to throw the arms periodically in opposite directions in the line of the channel dividing the bearings, a cambrake consisting of a disc on the driving shaft provided with arms at intervals, and a spring having its end resting on the edge of said disc, substantially as described. 16th. In a mechanism for forming wire strands consisting of parallel twisted cables and filling-wires, the combination, with the twisting devices, and with the vibrating arms carrying the filling-wires, of brake-shoes mounted on a support carried by a spring-raised plunger, a cam acting on said plunger, and a cam shaft geared to the main shaft of the machine to revolve therewith, whereby said brake-shoes are lowered and raised to arrest and release the said vibrating arms, substantially as described. 17th. In a mechanism for forming wire strands, the combination, with circular bearings having their axes inclined relatively to each other, of two divided or separate twisting-heads arranged in each bearing, and gears arranged upon opposite sides of the bearings and meshing with external teeth formed upon said twisting-heads, substantially as described. 18th. In a mechanism for forming wire strands, the combination, with centrally cleft circular bearings having their axes converging downwardly, of divided twisting-heads adapted to move in said bearings, and gearing meshing with teeth upon the parts of the divided heads, and having shafts arranged in parallelism with the inclined axes of the circular bearings, the lower ends of said shafts being provided with intermeshing mitre-gears, substantially as described. 19th. In a mechanism for forming wire strands, the combination, with centrally cleft circular bearings, of divided twisting-heads adapted to move in said bearings, and having their axes inclined to converge downwardly, each part of the divided twisting-heads being provided with a spool-bracket, and gearing meshing with teeth upon the parts of the twisting-heads, substantially as described. 20th. In a mechanism for forming wire strands, the combination with centrally cleft circular bearings, of divided twisting-heads, each composed of a curved plate having a head or top and a substantially central guide-point depending from said head, both the plate and the guide-point having their edges beveled or cut away, curved plates detachably mounted upon the cleft-bearings and having inwardly-turned flanges engaging slots in the parts of the divided twisting-heads, and gearing meshing with teeth upon said parts, substantially as described. 21st. In a mechanism for forming wire strands, the combination with circular bearings, of twisting-heads moving therein to form the parallel twisted cables of the strand, and means for carrying filling-wires in opposite directions between the wires forming each cable at the points where said wires intersect to form the twist, substantially as described. 22nd. In a mechanism for forming wire strands, the combination with circular bearings, of twisting-heads carrying two wires in each bearing, and having their axes inclined to bring the points where the two parallel twisted strands are formed into suitable proximity, and means for continuously feeding said strands in substantial parallelism as they are twisted, substantially as described. 23rd. In a mechanism for forming wire strands, the combination with circular bearings, of twisting-heads carrying and intertwisting two wires in each bearing, means for feeding said strands continu-

ously in substantial parallelism as they are twisted, and adjustable guide-rolls by which the interval between said strands may be still further diminished, substantially as described.

No. 38,204. Rotary Harrow. (*Herse rotative.*)

Robert King, Bluevale, Ontario, Canada, 3rd February, 1892; 5 years.

Claim.—1st. The combination of the double tree A, having a row of eye bolts B, the draw-rods C C engaging said eye bolts at the converging end of said rods, a yoke K, connected at the ends to the diverging ends of the draw-rods and the harrow sections connected to the draw-rods by an axle J, entering the hub of said harrow sections, as set forth. 2nd. The combination, with two harrow sections rotating horizontally, of the yoke K, having an eye at both ends, the draw-rods C C having an end extending rearwardly of the hub of the harrow sections and passing through said eyes, and provided with a key or pin to maintain connection, and an axle J, passing through a hole in the draw-rods and entering the bore of the hub, whereby the harrow sections are yoked together, as set forth. 3rd. A rotary harrow consisting of a hub T, spokes L, and wheel rim E, having braces G connecting the spokes and wheel rim and teeth D, at the intersection of said braces with the spokes and rim, as set forth.

No. 38,205. Tobacco Drier. (*Sachoir à tabac.*)

William Birchett Marks, Petersburg, Virginia, U.S.A., 3rd February, 1892; 5 years.

Claim.—1st. A drying apparatus, consisting of a wheeled truck having at each corner an upwardly projecting locking block, and a series of trays each composed of the side and end walls having their upper edges cut away to form spaces for the circulation of air, parallel separated slats secured to the lower edges of the side pieces, parallel longitudinal bars secured to the end pieces and extending beneath the extremities of the slats, and the vertically projecting locking blocks rising from the tray at the corners thereof to engage the inner surface of the side end pieces of a superimposed tray, whereby a column of the trays can be locked together and to the wheeled truck, substantially as described. 2nd. A tobacco drying tray, consisting of side and end pieces having their upper edges cut away to form spaces for the circulation of air, parallel separated slats secured to the lower edges of the side pieces, a central longitudinal stringer attached to the end pieces and extending beneath the slats, the parallel longitudinal bars secured to the end pieces and extending beneath the extremities of the slats, and the vertically projecting lugs or locking blocks rising above the end corners of the tray to engage the inner surfaces of the side and end pieces of a superposed tray, substantially as described. 3rd. A tobacco drying tray, consisting of side and end pieces having their upper edges cut away to form spaces for the circulation of air, parallel separated slats secured to the lower edges of the side pieces, the parallel longitudinal bars attached to the end pieces and extending beneath the extremity of the separated slats and the posts or blocks attached to the inner surface of the side and end pieces at the corners of the tray, and each formed with a locking lug rising above the uppermost edges of the side and end pieces to engage the inside surfaces of the side and end pieces of a superposed tray, substantially as described.

No. 38,206. Water Jet Condenser.

(*Condenseur à jet d'eau.*)

Ernst Korting, of Hanover, Prussia, 3rd February, 1892; 5 years.

Claim.—1st. In a water jet condenser, the combination with the steam pipe *f*, the water induction pipe *e* and water education pipe *g*, of the water jet nozzle *a* fixed to pipe *e*, the condensing tube *c* having the steam passages *d*, the receiving nozzle *b* communicating with pipe *g* and movable lengthwise in the tube *c* and means for shifting the nozzle *b*, substantially as described. 2nd. In a water jet condenser, the combination with the steam pipe *f*, the water induction pipe *e* and the water education pipe *g*, of the water jet nozzle *a* fixed to pipe *e*, the receiving nozzle *b* communicating with pipe *g* and movable lengthwise, means for shifting the nozzle *b*, the auxiliary nozzle *n* directed into nozzle *a*, the pipe *g* for supplying a fluid to nozzle *n*, valve *m* placed in pipe *g*, and a connection between the said valve and the receiving nozzle *b* whereby the valve is opened when nozzle *b* is pushed towards the nozzle *a*, substantially as specified.

No. 38,207. Apparatus for Watering Cattle.

(*Appareil pour abreuver le bétail.*)

John Allis, Lowville, New York, U.S.A., 3rd February, 1892; 5 years.

Claim.—1st. In an apparatus for supplying water to animals the supply tank A, main pipe C, with its branches E, E, carrying the individual fountains D, D, and the regulating overflow and drainage pipe J, as set forth and described. 2nd. In an apparatus for supplying water for animals, the automatically opening and closing valve T, actuated by the parts R, M, L, and float K, in combination with the ventilating stand pipe S, as shown and set forth. 3rd. The adjustable regulating and drainage pipe J, arranged to allow of partial rotation of the elbow H, upon the end of the main pipe C.

No. 38,208. Car Seal. (*Seau de char.*)

Benjamin Johnson Sturtevant, St. Paul, Minnesota, U. S. A., 3rd February, 1892: 5 years.

Claim.—1st. A car seal, comprising a flexible shackle, a hook detachably secured to the shackle and having a spring-pressed arm, and a locket adapted to receive the hook, said locket having on one side a shoulder to engage the arm of the hook, substantially as shown and described. 2nd. A car seal, comprising a flexible shackle having a hole in each end, a hook having one end bent to form a loop adapted to receive the ends of the shackle, and having at the opposite end a spring-pressed arm arranged at an angle to the body portion of the hook, and a locket formed of frangible material and having an integral shoulder to engage the spring-pressed arm of the hook, substantially as shown and described.

No. 38,209. Condensing or Liquefying Vapor or Gas and in Apparatus Therefor. (*Liquéfaction de vapeur ou gaz et appareil pour cet objet.*)

John Gauger, Wimbledon, Surrey, England, 3rd February, 1892: 5 years.

Claim.—1st. The method or process hereinbefore described of condensing or liquefying a vapor or gas which consists in causing it to pass into one end of a continuous closed passage which comprises a series of liquid columns and is in communication at the other end with a receiver, whereby the said vapor or gas in overcoming the resistance of the liquid columns or in lifting the liquid becomes absorbed therein, and consequently condensed, and then constitutes part of the liquid in the columns and serves in its turn to absorb and condense a further quantity of vapor or gas, substantially as set forth. 2nd. A vapor or gas condensing or liquefying apparatus consisting of a series of liquid columns forming a continuous closed passage, a vapor or gas inlet to one end of said passage, an outlet to the other end of said passage, and a chamber or receiver with which said outlet communicates, substantially as set forth. 3rd. A vapor or gas condensing or liquefying apparatus consisting of a series of liquid columns forming a continuous passage, an inlet to one end of said passage for the vapor or gas to be condensed, an outlet for liquid at the other end of the said passage, a chamber or receiver with which said outlet communicates and a vacuum or exhaust pipe connected with said chamber for producing a vacuum in said passage and chamber and thereby reducing the pressure therein, substantially as and for the purpose set forth. 4th. In a vapor or gas condensing or liquefying apparatus, an outer vessel, a series of concentric pipes placed within said vessel and connected alternately to the top and bottom of same so as to form a continuous closed and progressively diminishing up and down passage from the outermost to the innermost pipe, an upper chamber with which the innermost pipe communicates, an inlet to the outer part of said continuous passage, a communication between said inlet and the source or supply of the vapor or gas to be condensed, a return pipe for liquid from said upper chamber to the outer vessel and an overflow orifice in said chamber, substantially as hereinbefore described. 5th. The combination with a vapor or gas condensing or liquefying apparatus having a series of liquid columns forming a continuous closed passage, a vapor or gas inlet to one end of said passage, an outlet to the other end of said passage and a chamber or receiver with which said outlet communicates substantially as hereinbefore described, of a vertically arranged ejector condenser communicating with the exhaust of an engine and with a lower vessel supplied with water by gravity from a storage tank, the said storage tank, an upper vessel to receive the mixed steam and water from the ejector, pipes for respectively conveying water and mixed steam and water from said upper vessel to the said vapor or gas condensing apparatus, a pipe communicating from the chamber or receiver of said apparatus to the storage tank, and a pipe communicating from said chamber or receiver to the boiler, whereby an automatic circulation of the water throughout the apparatus is maintained and a constant supply of high temperature feed water to the boiler secured, substantially as set forth. 6th. In a vapor or gas condensing or liquefying apparatus, the combination of a vessel A, having a series of liquid columns forming a continuous passage, a vapor inlet pipe G, to one end of said passage, a water outlet B, from the other end of said passage, a water inlet pipe U, to said vessel A, a chamber or receiver C, with which the outlet B, communicates pipes I and H, leading respectively from the receiver C, to the boiler and to the storage tank P, the said storage tank P, an air and water vessel N, supplied with water by gravity from said storage tank, an ejector condenser M, communicating with the engine exhaust and with the water in vessel N, an air and water vessel Q, through which said ejector drives the water and steam and supplied with water from said storage tank, and a vessel R, to receive said water and steam and communicating with the pipes G and U, all substantially as and for the purpose set forth.

No. 38,210. Roll for Making Table Cutlery.

(*Rouleau pour la fabrication de la coutellerie.*)

Isaac Hirsch, Chicago, Illinois, U.S.A., 3rd February, 1892: 5 years.

Claim.—1st. The combination of two shafts with a series of screw holes therein and a series of die-plates extending entirely about each of such shafts, such die-plates consisting of short arc-shaped pieces

and provided with suitable forming-faces and countersunk screw-holes, whereby such plates may be removably secured to the shafts. 2nd. The combination of die-rolls consisting of rotating dies provided one with a groove and a forming surface at the bottom thereof, the other with a corresponding ridge and a forming surface at the top thereof, and a sharp edge about the outline of such forming surface, substantially as and for the purpose set forth. 3rd. The combination of two rotating shafts geared together and carrying, respectively, the opposed portions of dies with boxings built up of a series of parts and containing one or more removable blocks, whereby the position of said shafts with reference to each other and the frame may be varied at will by substitutions for such blocks. 4th. The combination of rotating shafts, each carrying the opposed portion of the dies with a table having converging sides which terminate in the vicinity of the point of contact with the dies, so that the metal is led across such table, directly to the dies at the point of contact. 5th. The combination of two rotating shafts geared together, each carrying portions of the dies, with boxings for said shafts, consisting of parts which have one bearing upon at least two sides of the standards of the frame, so that said shafts may be easily and properly journaled at various positions along such standards. 6th. The combination of two shafts rotating and geared together, with die portions upon such shafts, side standards in the form of frames, boxings for such shafts, which are composed of parts having bearings upon both inner sides of the frame-shaped standards and one exterior side. 7th. The combination of two shafts rotating and geared together, with die portions upon such shafts, side standards in the form of frames, boxings for such shafts, which are composed of parts having bearings upon both inner sides of the frame-shaped standards and one exterior side, and shoulders upon such shafts to engage the boxings in opposition to their engagement with the exterior side of the standards, so as to hold the parts in position. 8th. The combination of die-rolls consisting of rotating dies provided one with a groove and a forming surface at the bottom thereof, the other with a corresponding ridge and a forming surface at the top thereof, and a sharp edge about the outline of such forming-surface, rings upon said roll associated so as to form a groove between them into which the dies are dropped, and side poles which pass through such rings and secure the die in position, substantially as and for the purpose shown. 9th. The method of making cutlery which consists of passing a bar of steel between two rolls, said rolls having suitable dies concentric, and secured thereto for shaping the cutlery.

No. 38,211. Dumping Cart. (*Tombeveau.*)

Timothy Flanigan, Chicago, Illinois, U.S.A., 3rd February, 1892: 5 years.

Claim.—1st. The combination, with the frame A, of the crank axles B, clamps or boxes securing the sides of the frame to the lower axle cranks and provided with arms a^1 , longitudinally-extending braces E^1 , secured to the lower faces of the sides of the frame and connected between their ends with the arms a^1 , the upper brace E, secured at their ends to the sides of the frame and clamped between their ends to the vertical members of said cranks, and a cart body mounted on the inwardly-projecting upper cranks B^1 , substantially as specified. 2nd. The combination, with a wheeled frame having a driver's seat at its front end, and a closed dumping body mounted on the frame in rear of the seat and provided with a door, of a locking mechanism for the door, and a connection leading from said locking mechanism to the driver's seat, substantially as set forth. 3rd. The combination, with a wheeled frame having a driver's seat at its forward end, and a dumping body in rear of the seat, of gearing for rotating the body on its axis, and a lever mounted adjacent to the driver's seat for operating said gearing to dump the said body, substantially as set forth. 4th. The combination, with a wheeled frame having a driver's seat at its front end, and a closed dumping body in rear of the seat provided with a hinged cover and a locking device for the cover, of gearing for dumping the body, provided with an operating lever extending up alongside the driver's seat, and means for releasing and raising the cover from the driver's seat, substantially as set forth. 5th. The combination, with a wheeled frame having a driver's seat at its front end, a closed dumping body in rear of the seat having a vertically-swinging cover, opposite catches on the dumping body, and a spring-actuated centrally-pivoted locking bar engaging said catches, of a flexible connection leading from said bar to the forward end of the frame in reach of the driver: a chain for operating the said cover from the driver's seat, and guide pulleys for the chain, substantially as set forth. 6th. The combination, with a wheeled frame having a driver's seat at its forward end, and a dumping body in rear of the seat, of a locking bar securing the body at its forward end to the frame to prevent it from dumping, a treadle pivoted in reach of the driver's foot, and a connection between said treadle and the locking bar, substantially as set forth. 7th. The combination, with a cart body having opposite side openings, of separable flanges recessed on their inner faces, provided with a suitable packing, and entering said opposite openings to receive the axles and form a tight joint, substantially as set forth. 8th. The combination, with a cart body having opposite side openings, of a two-part sprocket wheel bolted to one side of the body and having flanges on its two parts entering one of said openings and provided with a suitable packing, a two-part plate bolted to the opposite side of the cart and having flanges entering the opening therein, and also provided with a suitable packing, and

flanges of the sprocket wheel and plate forming bearings for the axle supporting the cart body, substantially as set forth. 9th. The combination, with the body D, pivoted upon the axle B, as shown, of means, as the sprocket wheel G, chain H, sprocket wheel J and lever J¹, for operating said body, substantially as set forth. 10th. The combination, with the sprocket wheel J, mounted in a suitable supporting frame and connected with body D, as shown, of the cover L, having perforations therein, and means, as the pins P, for fixing the position of the sprocket wheel, substantially as set forth.

No. 38,212. Holding Device for Spring Actuated Shades. (*Bâton de rideau à ressort.*)

Horace Leonard Hall, Manchester, New Hampshire, U. S. A., 3rd February, 1892; 5 years.

Claim.—1st. In combination with a spring actuated shade roller and shade thereon, channeled shade-stick attached to the free end of said shade, provided with a slot connecting with said channel, spring actuated rods mounted therein having pendants attached to their adjacent ends and projecting through said slot in the shade stick. 2nd. A shade-stick provided with a pendant and a shouldered channel opening in a slot adjacent to said pendant; a shouldered rod in said channel provided at its inner end with a pendant which projects through said slot and is movable toward and away from the pendant on the stick, and a spring on the rod between its shoulder and the shoulder of the channel, all substantially for the purpose set forth.

No. 38,213. Spring Mattress. (*Sommier élastique.*)

George W. Murray, Minneapolis, Minnesota, U. S. A., 4th February, 1892; 5 years.

Claim.—1st. The combination in a mattress, of a base, with a flexible mattress top, coiled springs interposed between the same, and curved spring braces provided in connection therewith, said braces having their lower ends fixed on said base and each alternate brace a group of braces curved in opposite directions to the adjoining brace or braces, whereby each spring brace of the mattress is counterbalanced by another, thereby preventing lateral or twisting movement of the top with respect to the base, substantially as described. 2nd. The combination in a spring mattress, of a base, with a woven wire fabric mattress top, the end strips, the side wires 9, 10, the cross wires 11, coiled springs interposed between said base and top, the outer row of said coiled springs provided with ogee spring braces, each alternate brace or group of braces curved oppositely to the adjoining brace or braces and each brace constituting a constant supporting-and-spring brace, whereby pressure upon one portion of the mattress is compensated by a counter action at a corresponding opposite point, substantially as described. 3rd. The combination in a spring mattress, of a base, with a woven wire fabric top, the side wires 9, 10, the cross wire 11 provided with loops or eyes, coiled springs interposed between said base and top, the outer row of said springs having their upper coils provided with prolongatures forming ogee curved braces, said braces having their ends secured on said base, eyes formed in said upper coils and rivets or bolts 12 passing through the loops in said cross ties between said wire and through said eyes in said coiled springs, substantially as and for the purpose specified. 4th. The combination in a spring mattress, of the base, with the fabric, the said wires 9, 10, and the flexible cross wires 11 embraced by the said fabric, said side wires passing through the selvages thereof, the coiled springs having crimps whereby said coils engage said cross wires, the outer row of said coils, each alternate coil or group of coils thereof provided with spring braces, each arranged oppositely to the adjoining brace or braces, and means for securing the outer edges of the upper coils thereof to the said side wires and the ends of the mattress, substantially as and for the purpose specified. 5th. The combination in a coil spring mattress, of the base and the springs 25, with the wires or rods 26, 27, the cross ties 28, a wire fabric, coil springs interposed between said base and said cross ties and fabric, means for securing the same thereto, the compensating ogee spring and supporting braces provided in connection with the outer row of coiled springs, and means for suspending the whole beneath an ordinary spring mattress, substantially as and for the purpose specified. 6th. The combination with a spring mattress, of an auxiliary support consisting of the bars 29, with the bars 30, the coiled springs, the auxiliary wire fabric top provided above the same, the side wires 27 and 26, the cross ties 28, and the curved spring braces provided in connection with the outer row of said coiled springs and arranged in opposing positions, and hooks 35 adapted to engage the side bars 26 of an ordinary spring mattress, substantially as described. 7th. The combination with the bars 29 and the bars 30, secured transversely across the middle of said bars 29, of the loose truss wire 38 and staples for guiding said wire 38 depending below and normally free from engagement with the bar 30, said wires being arranged to engage the bar 30 when said bars 29 are sprung down, substantially as described. 8th. The combination in a spring mattress, of the base with the mattress top, coiled spring interposed between the same, the end pieces and edge wires 9, 10 and curved spring braces extending from said end pieces and said side wires and having their lower ends secured on said base, and alternate braces or groups of braces being arranged in opposing and exactly counterbalancing positions, substantially as and for the purpose set forth.

No. 38,214. Spring Bed Bottom. (*Sommier élastique.*)

Ozello R. Hunt, Minneapolis, Minnesota, U. S. A., 4th February, 1892; 5 years.

Claim.—1st. An adjustable support for a woven wire mattress, comprising a series of wires having their ends secured to the mattress frame and their middle portions crossed, in combination with cross-bars adapted to slide on the wires and carrying re-enforcing springs, and means for varying the distance between said bars for adjusting the tension of the wire, substantially as set forth. 2nd. The combination, with a woven wire mattress and its frame adjustable transverse bars carrying springs for re-enforcing the mattress, crossed wires attached to the mattress frame on which wires said bars are adjustably supported, and means for varying the distance between said bars for adjusting the tension of the wire, substantially as set forth. 3rd. An adjustable support for a bed bottom, comprising crossed wires and bars carrying re-enforcing springs arranged to be adjusted on the wires to vary their tension, substantially as and for the purpose set forth.

No. 38,215. Portable Siphon. (*Siphon portatif.*)

Sylvanus F. Bowser and Augustus Bowser, both of Fort Wayne, Indiana, U. S. A., 4th February, 1892; 5 years.

Claim.—1st. A case connecting with which is the inlet-limb of a siphon and the inlet and outlet passage-way of a suction and forcing pump, the said inlet-limb of the siphon and the said inlet and outlet extremity of said pump having one common inlet-valve entrance, which entrance is adapted to be opened by the exhausting action of a piston-head in said pump, and closed by the ejecting action of said piston in said pump, by which means the said pump mechanism is adapted to discharge its contents into the inlet end of the siphon, substantially as described. 2nd. A valveless pump-tube and a valveless siphon-tube, in combination with a piston rod and a chambered case, the said chamber in said case being adapted to serve a connecting passage-way between the interior passage-ways of the said tube and siphon, and the said case having an inwardly opening valve adapted to serve as a common entrance valve to the interior passage-ways of said pump-tube and siphon, substantially as shown and described.

No. 38,216. Holder for Pencils and Crayons.

(*Porte-crayon.*)

William W. Climenson, Borough of Honeybrook, Pennsylvania, U. S. A., 4th February, 1892; 5 years.

Claim.—1st. In a pencil and crayon holder, the combination with a slotted sheath, of a pencil fitted therein and having an annular groove, and an external sleeve provided with the compressible clamps or fingers, which are arranged within the sheath and fitted in the groove of the pencil, substantially as and for the purpose described. 2nd. In a pencil and crayon holder, a clasp made of a single piece of sheet metal of uniform width, which is bent into annular form to provide an external clasp 10, having the ends recurved upon itself, substantially concentric with said annular external ring and arranged within the same to form the fingers 11, said fingers having the edges flush with the edges of the annular external ring and adapted to clasp a pencil or crayon and to ride against the internal surface of a sheath, for the purpose described, substantially as set forth. 3rd. In a pencil and crayon holder, the combination with a slotted sheath, of a clasp consisting of the external ring 10 and the recurved pencil clasp fingers 11, arranged wholly within said external ring, substantially concentric therewith, and out of lateral contact with the same, whereby said fingers are adapted to clasp a pencil or crayon and to ride against the internal surface of the slotted sheath, for the purpose described, substantially as set forth.

No. 38,217. Wire Fence. (*Clôture en fil de fer.*)

Isaac K. Hollinger, Covington, Ohio, U. S. A., 4th February, 1892; 5 years.

Claim.—1st. In a wire fence, the combination, with the runners, of a stay secured thereto and a stop straddling the stay and secured on the outer sides thereof to a runner, substantially as specified. 2nd. In a wire fence, the combination with a runner, of the stay comprising two linked sections and a stop on the runner at each side of the stay, substantially as specified. 3rd. A stay for wire fences, formed from two pieces of wire bent in looped form and having eyes on the opposite ends of the branches of the loop and terminating in two reversibly disposed transverse loops, which embrace the branches of a main loop adjacent to the eyes thereof, substantially as specified. 4th. The combination with the runners of a wire fence, of a stay composed of two wires bent in looped form and linked together and having their ends terminating in eyes to receive the runners and a stop for limiting the longitudinal play of the stays on the runners, substantially as specified.

No. 38,218. Steam and Vacuum Pumps. (*Pompes à vapeur et à vide.*)

Ernest Korting, of Hanover, Prussia, 4th February, 1892; 5 years.

Claim.—1st. The combination with a steam and vacuum pump having two chambers, of two injection pipes passing into the respective pump chambers, a valve-box having two apertures commu-

nating each with one of the injection-pipes, a valve placed in the valve-box and seating towards the injection pipes and capable of closing the said apertures alternately and a water supply source communicating with the valve-box, substantially as described. 2nd. The combination, with a steam and vacuum pump having two chambers, of two injection-pipes passing into the respective pump-chambers, a valve box having two apertures communicating each with one of the injection pipes, a valve placed in the valve-box and adapted to close the said apertures alternately, and a water supply source consisting in an air-vessel that communicates with the valve-box substantially as specified. 3rd. The combination with a steam and vacuum pump having two chambers and a discharge pipe, of two injection-pipes passing into the respective pump chambers, a valve-box having two apertures communicating each with one of the injection pipes, a valve placed in the valve-box and adapted to close the said apertures alternately and a water supply source consisting in an air vessel that communicates with the valve-box, and a pipe by which communication is established between the air-vessel and the discharge pipe of the pump substantially as described.

No. 38,219. Railway Chair. (*Coussinet de rail.*)

Thomas Davies, Toronto, Ontario, Canada, 4th February, 1892; 5 years.

Claim.—As an improved article of manufacture, the herein described rail-chair, composed of a base-plate designed to fit below the foot of the rail and an upwardly projecting flange designed to fit against the bottom of the side of the head of the rail and engage with the nuts of the fish plate bolts and prevent them turning, the junction between the upwardly projecting flange and the base of the chair being shaped to receive and grip one side of the foot of the rail, substantially as and for the purpose specified.

No. 38,220. Table Leaf Support.

(*Support pour panneau de table.*)

Charles K. Olson, Red Wing, Minnesota, U.S.A., 4th February, 1892; 5 years.

Claim.—In a table leaf support, the combination with the curved and pivoted brace 14, having the transverse recess 18 in its outer end of the bracket 20, having the longitudinal slot 21 to receive the brace, the transverse slot 24, and the bodily movable locking-key 25, having headed ends 26 and fitting loosely in the transverse slot of the bracket above the brace, with its headed ends projecting beyond the bracket, said key being adapted to drop into the recess of the brace when the table leaf is raised into horizontal position to lock the brace and bracket together, substantially as herein shown and described.

No. 38,221. Attachment for Inkstands.

(*Accessoire pour encriers.*)

Burdley Mozart Everson, Pittsburg, Pennsylvania, U.S.A., 5th February, 1892; 5 years.

Claim.—1st. An attachment for inkstands, consisting of a reversible stopper formed of rubber, having a thick lower annular portion which is provided with a vertical wall and a thin flexible central diaphragm, whereby the stopper may be placed inside or outside of the mouth of the bottle or the thickened portion turned above or below the diaphragm, and a tube passing through the diaphragm, substantially as shown. 2nd. The combination of the cover, stopper, or diaphragm, formed of flexible and hard material, as described, and which is adapted to fit inside of the mouth of an inkstand, with an expanding device which is to be placed inside of the outer edge of the attachment, substantially as specified.

No. 38,222. Car Coupler. (*Attelage de chars.*)

David Urbane Graveline, Granby, Quebec, Canada, 5th February, 1892; 5 years.

Claim.—1st. In a car coupling, the combination of a draw-head A having a mouth *a*, throat *a'* for link and hook and cavity for hook terminating in an opening *a''*, the coupling hook B pivoted in said head, the lifter C pivoted upon the same centre as the coupling hook, and reaching with an upturned finger under the forward part of said hook, and the link L, substantially as set forth. 2nd. In a car coupling, the combination of the draw-head A having a wide mouth terminating in a throat for the reception of the link, and a cavity open below in the rear adapted to receive a vertically oscillating coupling hook, the coupling hook B pivoted in said draw-head, the lifter C pivoted upon the pivot of the coupling hook, and having a finger penetrating the forward part of the head from below, and reaching under said hook, the shaft D having a crank *d* in contact with said lifter, and provided with levers at each end held in suitable guides, substantially as set forth. 3rd. In a car coupling, the combination of the draw-head A having a wide mouth terminating in a throat for the reception of a link and a cavity open below in the rear, the coupling hook B pivoted in said draw-head, the link L, the lifter C pivoted upon the pivot of the coupling hook, and having a finger penetrating the forward part of the head from below, and reaching under the free end of the coupling hook, the shaft D having crank *d* in contact with said lifter, and provided with levers *D'* at each end held in guides *D''*, substantially as set forth.

No. 38,223. Oxy-Calcium Lights. (*Feux de Bengale.*)

George Roger Prowse, Montreal, Quebec, Canada, 5th February, 1892; 5 years.

Claim. The combination in an oxy-calcium light apparatus, the box *a* having the vessel *e*, vessel F and diaphragm *g*, and vessel *n*, adapted to be loaded, arranged as described and adapted to receive the surplus generation of gas, the whole substantially as and for the purposes set forth. 2nd. The combination in an oxy-calcium light apparatus, having box *a*, vessels *e* and F, and diaphragm *g*, adapted to form a receiver for the surplus gas generated, with the vessel *n*, adapted to hold water as a weight when in use, and adapted when not in use to receive the lamp 40, generator S, purifier 10, saturator 50, lamp *d*, whereby the apparatus is rendered highly portable, the whole substantially as described. 3rd. The combination in an oxy-calcium light apparatus of the box *a*, constructed as described and having the bars *p*, and bearings *r*; said rods being adapted to push into the box when not in use, and to be pulled out and carry the generator S, when in use, the whole substantially as described. 4th. The combination in any oxy-calcium light apparatus of vessels *e*, with vessels F, having projection *l*, diaphragm *g*, with guiding tube *k*, passage *o*, relief valve *u*, and vessel *n*, adapted to be supplied with water as a weight, the whole substantially as described. 5th. The combination in a generator for oxy-calcium lights of the tube 4, receptacles 5, and removable cover 6, whereby the generator is adapted to hold separate charges in each receptacle, the whole substantially as described. 6th. The combination in a generator for oxy-calcium light of the tube 4, composed of a low grade of heat conducting material with the receptacles 5, composed of a higher grade of heat conducting material, the whole substantially as described. 7th. The combination in a purifier for oxy-calcium light apparatus of the outer tube 11, perforated tube 16, and inner perforated tube 18, with a saturated sawdust filling 22, arranged to cause the gas to pass through the sawdust filling, the whole substantially as described. 8th. The combination in a purifier of an oxy-calcium light, of a vessel provided with a filling of sawdust saturated as described and arranged to cause the gas to pass through the saturated sawdust for the purpose of purification, substantially as described. 9th. The combination in a saturator for an oxy-calcium light of the outer tube 50, chambers 51 and 55, and inner tube 56, whereby the saturator is rendered more compact and better able to travel, the whole substantially as described. 10th. The combination in a divider for an oxy-calcium light apparatus for dividing the gas generated for use therein of the valve-chest 41, having passage 42, and valve 43, and orifice 45, and passage 46, whereby the flow of the gas can be divided into two adjustable streams, substantially as described. 11th. The combination in an oxy-calcium light apparatus, having vessels as described adapted to form a gas receiver, and provided with an escape valve *ras* described, having a vessel adapted to be weighted with water when in use, as described with a generator, regulator for governing the pressure of gas, a purifier as described, and means of dividing the gas adjustably into two streams with an oxy-calcium light or burner, the whole substantially as and for the purpose set forth. 12th. The combination in an oxy-calcium light gas pressure regulator of the socket 26, having a valve seat, pipe 27, disc 30, diaphragm 31, and weight 38, with the valve 33, having hollow spindle 34, provided with perforations 35, the whole substantially as and for the purposes set forth.

No. 38,224. Wardrobe. (*Garde-robe.*)

William Talbot Cottier, Los Angeles, California, U. S. A., 5th February, 1892; 5 years.

Claim. The improved article of furniture described, adapted to afford a constant and uninterrupted circulation of air through the seat opening and immediately below the seat to a flue or uptake leading from the base receptacle and comprising, essentially, the inner chamber having its floor or seat board provided with an opening, the outer casing arranged around the inner casing so as to form a chamber beneath the seat opening, a chamber above the roof of the inner chamber or casing, and flues at the back and side walls of said inner casing connecting the upper and lower chambers, said flues starting from the seat board of the inner chamber, whereby the draft of impure air or gases will enter the uptake or flue at that point, the pipe K, leading from the roof of the outer casing, the door B, arranged to form a space beneath its lower edge for the inlet of impure air from the room, the door G, in the lower air chamber, and the pan H, arranged in said chamber and having its rear wall inclined so as to enter the rear vertical flue, substantially as specified.

No. 38,225. Vaginal Syringe. (*Seringue vaginale.*)

John R. Trott, Springfield, Illinois, U. S. A., 5th February, 1892; 5 years.

Claim. 1st. In a syringe, the combination of a hollow enclosed body having a rounded tube portion provided with top irrigating perforations and a side air passage or opening, and an inflatable sheath secured to said tube portion and enclosing said air passage, substantially as set forth. 2nd. In a syringe, the combination of a hollow speculum shaped body having an enclosed air space and provided with a tube portion having top irrigating perforations and parallel annular grooves formed in the body thereof, a cylindrical

inflatable sheath secured in said grooves around said tube portion, and means for inflating said sheath, and for conveying medicaments to the parts to be treated, substantially as set forth. 3rd. In a vaginal syringe, the combination of a hollow speculum shaped body having an enclosed air space and provided with a tube portion having top irrigating perforations and a side air passage communicating with said air space, an inflatable sheath secured to said tube portion and enclosing said air opening, supply and return tubes passing through said body and tightly fitting in said irrigating perforations, and an air inlet tube communicating with said air space, substantially as set forth.

No. 38,226. Reversing Mechanism for Ironing Machine. (*Mécanisme de renversement pour machines à repasser.*)

John Joseph Daley, Boston, Massachusetts, U. S. A., 5th February, 1892; 5 years.

Claim.—1st. The combination of the shaft carrying the arm, the rod carrying the lugs adapted to be struck by said arm, the angle-arm connected to said rod, the rod connected to the angle-arm, the lever connected to said arm, and the shifting device connected to and operated by the said lever, substantially in the manner and for the purpose described. 2nd. The combination of the roll-shaft carrying the arm, the adjustable lugs adapted to be struck by said arm, the sliding rod operated by said lugs, the arm connected to said rod, the lever operated by said arm, the shifting device operated by the lever, and the foot-treadle connected to the lever, all arranged and adapted to operate, substantially as and for the purpose described.

No. 38,227. Valve Gear for Fluid Rams and Pistons. (*Mécanisme de soupape pour pistons à fluide.*)

John Parkin, San Francisco, California, U. S. A., 5th February, 1892; 5 years.

Claim.—1st. The valve gear for controlling the motion of fluid rams or pistons consisting of the longitudinally moveable screw connected with and adapted to operate the valve of the ram or piston cylinder and the nut fixed to the moving ram or piston, and in which the screw is seated, substantially as herein described. 2nd. The valve-gear for controlling the motion of fluid rams or pistons consisting of the longitudinally moveable screw connected with and adapted to operate the valve of the ram or piston cylinder the nut fixed to the moving ram or piston, and in which the screw is seated, and means connected with the screw for rotating it, substantially as herein described. 3rd. The cylinder, the ram or piston mounted therein, and a suitable valve in a stationary valve chest for controlling the part of the cylinder, in combination with the nut fixed to the ram or piston and the longitudinally moveable screw seated in the nut and connected with the valve of the cylinder, substantially as herein described. 4th. The ram cylinder, the ram or piston therein and the valve in the stationary valve chest controlling the part of the cylinder, in combination with the nut fixed to the ram or piston, the longitudinally moveable screw seated therein and connected with the valve, whereby said valve is operated and the means for rotating the screw consisting of the worm gear feather on the shaft engaging the worm gear, substantially as herein described.

No. 38,228. Safety Rolling Step Ladder.

(*Echelle à marches de sûreté.*)

Charles Hercules Damase Sincennes, of Montreal, Quebec, Canada, 5th February, 1892; 5 years.

Claim.—1st. The combination with store shelving and upper and lower guide rails running longitudinally along the face of same respectively at the top and about midway to the bottom, the upper rail having a vertical downward projection, of a step ladder provided with upper and lower rollers having travelling connection with and being spaced to the exact gauge of said guide rails, the upper rollers being vertical and grooved to receive said downwardly projecting rail, substantially as described. 2nd. The combination with store shelving and rails running longitudinally along the face of same at the top and about midway to the bottom, and presenting unobstructed travelling surfaces along their bottom and top sides respectively, the upper rail having a vertical downward projection, of a step ladder provided with upper and lower vertical rollers, having travelling connection with and being spaced to the exact gauge of said guide rails, substantially as described. 3rd. The combination with store shelving and rails running longitudinally along the projecting top board and the counter ledge of same, and presenting unobstructed travelling surfaces along their bottom and top edges respectively, the upper rail having a vertical downward projection, of a step ladder carrying vertical grooved rollers at its upper end adapted to receive such downward projection of the top board rail, and a support carried by the ladder and projecting rearwardly to the counter ledge rail, with the top travelling surface of which it has a travelling connection, as set forth. 4th. The combination with store shelving, provided with upper and lower guide-railing carried by such shelving, and presenting unobstructed travelling surfaces along their bottom and top edges respectively, the upper rail having a vertical downward projection, of a step ladder carrying vertical rollers, having travelling connection with the said bottom and top edges of such railing. 5th. The combination with

store shelving, of an upper and lower horizontal railing carried on the face of such shelving respectively, near the top of same and about midway to the bottom, the upper rail having a vertical downward projection, and a step ladder carrying on each of its side bars two vertical grooved rollers, one of which is located near the top and adapted to receive such downward projection of said upper railing, and the other located about midway to the bottom, and adapted to travel along the upper side of the said lower railing, as shown and described. 6th. The combination with store shelving, of an upper and lower guide-railing, presenting unobstructed travelling surfaces along their bottom and top edges respectively, the upper rail having a vertical downward projection, of a step ladder carrying on each of its side bars upper and lower vertical grooved rollers respectively adapted to travel along the underside and upper side respectively of said guide railings. 7th. The combination with store shelving and rails running longitudinally along the face of same at the top and about midway to the bottom, of a step ladder having travelling connection with and confined between said upper and lower guide rails, substantially as described. 8th. The combination with store shelving and rails running longitudinally along the projecting top board and the counter ledge of the same, of a step ladder carrying rollers at its upper end to travel along the top board rail, and a support carried by the ladder and projecting rearwardly to the counter ledge rail with which it has a travelling connection, as set forth. 9th. The combination with store shelving provided with upper and lower guide railing, presenting unobstructed travelling surfaces along their bottom and top edges respectively, the upper rail having a vertical downward projection, of a step ladder carrying rollers having travelling connection with the said bottom and top edges of such railings.

No. 38,229. Organ Stop Action. (*Jeu d'orgue.*)

Newell M. Boynton, Huntingdon, Quebec, Canada, 6th February, 1892; 5 years.

Claim.—1st. The combination, substantially as described, of the tilting lever H, fulcrumed at H¹, and provided with a wheel h, pivoted in its bifurcated rear end, the stop-pull M, the swing-lever J, formed, as shown, with the central hinging part j, whereby it is fulcrumed on the brace K, the laterally-offset lower end J¹, disposed for engaging said wheel h below the fulcrum, the laterally-offset top end J², engaging with the pull above the fulcrum, the connecting-link I, and the mute D¹, for the purposes set forth. 2nd. The combination, substantially as described, of the tilting lever H, fulcrumed at H¹ and having the wheel h mounted on its rear end, the transversely-disposed rocker-shaft F, having the laterally-offset lifter end F¹ and the crank-arm f, the link I, connecting said crank-arm with the forward end of said tilting lever, the swing-lever J, fulcrumed on the brace K and having an offset lower end that engages the wheel h, and the pull-bar M, connected with the top arm of said lever, for the purpose set forth. 3rd. The transversely-disposed shaft F, having the crank f and laterally-offset curved end F², in combination with the octave-coupler E, the link I, the tilting lever H, the swing-lever J, and the pull-bar M, all disposed for operation, substantially as shown and described. 4th. The combination, substantially as described, of the stop-pulls M, the swing-levers J, fulcrumed on the back piece K and having the offset ends J¹ and J², the tilting levers H, having the wheel h pivoted in the bifurcated rear end thereof, the connecting links I, carrying the felt supporting ring i, the cranked rock-shafts F F, the mutes D D¹, octave-coupler E, and expression-roll P, having fingers n that extend beneath the ends of said tilting levers, all disposed as shown, and for the purposes set forth.

No. 38,230. Vehicle. (*Voiture.*)

Amedé Houle, Montreal, Quebec, Canada, 6th February, 1892; 5 years.

Claim. 1st. The combination in a vehicle of the gear wheel or pulley e, cranks f, and treadles g, chain or belt s, pulley r discs having crank-pins b¹, connecting rods c¹, and pitman d¹, with adjustable yoke e, the whole substantially as described. 2nd. The combination in a vehicle of the gear wheel or pulley e, cranks f, and treadles g, chain or belt s, gear wheel or pulley r, discs a¹, crank-pins b¹, connecting rods c¹, plungers d¹, adjustable yoke e¹, trail-bar g¹, and spring arm h¹, the whole substantially as set forth.

No. 38,231. Washing Machine. (*Machine à blanchir.*)

Alonzo Abram Casler, DuBois, Pennsylvania, U.S.A., 6th February, 1892; 5 years.

Claim.—In a washing machine, the combination of suitable standards, an oscillating body journaled between the standards, and the pounders arranged at the end of the body and secured to the top thereof, and consisting of the sheet-metal cones, substantially as described.

No. 38,232. Process of Laying Artificial Stone.

(*Procédé pour poser la pierre artificielle.*)

Otto E. C. Guelich, Detroit, Michigan, U.S.A., 6th February, 1892; 5 years.

Claim.—The process of laying artificial stone pavement in blocks consisting in making the pavement in sections consecutively, and

coating the upright wall of each section, with a wash that will not unite with the cement, and then making the succeeding section against the coated wall of the first section, substantially as and for the purpose specified.

No. 38,233. Nut Lock. (*Arrête-térou.*)

John William Baxter Cook and John H. Morgan, Camden, Arkansas, U. S. A., 6th February, 1892; 5 years.

Claim.—1st. In a nut-lock, the combination, with a polygonal nut, a washer held against turning, a hole or holes in said washer, and a key having two reverse symmetrical arms, each attached to a vertical stem and equal in height to the thickness of the washer, one arm adapted to lie under the nut and be held thereby, the other arm locking the nut, and each arm adapted to fit into the said hole or holes, substantially as described. 2nd. In a nut-lock, the combination, with a polygonal nut, of a washer held against turning and having a plurality of holes symmetrically arranged about the nut and differing by one from the number of sides of the nut, and a key having two reverse symmetrical arms each equal in height to the thickness of the washer and attached to a vertical stem, each of said arms adapted to fit into the said holes in the washer, one arm adapted to lie under the nut and be held thereby, and the other arm locking the nut, substantially as described.

No. 38,234. Manufacture of Cod Liver Oil.

(*Fabrication d'huile de foie de morue.*)

Peter Moeller, Christiania, assignee of Peter Moeller Heyerdahl, Trøndlyem, Norway, 6th February, 1892; 5 years.

Claim.—In the manufacture of cod liver oil the exclusion of air from the vessels, in which the liver is heated to give off its contents of oil, said exclusion of air being preferably performed by expelling the same by forcing an indifferent gas or fluid into the vessels whereby the oxydation of the fatty acids is prevented.

No. 38,235. Knife for Binders and Mowers.

(*Couteau pour lieuses et faucheuses.*)

Thomas Kerrigan McQueen, Township of Pilkington, Ontario, Canada, 6th February, 1892; 5 years.

Claim. The combination of links and knife sections E, D, E, revolving on the pulleys A and B, and running between guide plates C, C, substantially as and for the purposes hereinbefore set forth.

No. 38,236. Means for Dry Separation of Materials of Different Specific Weight and of Different Size. (*Moyen de séparer les matières sèches de différents poids et dimensions.*)

Hermann Pape and Wilhelm Henneberg, both of Hamburg, Germany, 6th February, 1892; 5 years.

Claim.—1st. In centrifugal separators for granular mixtures the provision of an air current flowing centripetally through the separating chamber and leaving the latter centrally in upward or downward direction for the purpose of dust extraction and regulation of the speed of the single grains, substantially as herein described. 2nd. In centrifugal separators for granular substances the construction of the separator vessel so that the width between the cover of the vessel and the rims of the collecting chambers can be varied, substantially as herein described. 3rd. In centrifugal separators for granular substances the suspension of the distributor so that all lubricated parts of the separator shaft are situated above the cover of the collecting vessel or separating chamber, substantially as set forth. 4th. In centrifugal separators for granular substances the arrangement of each collecting circle as a series of hoppers so that the grain received flows continually into sacks or receptacles placed under the mouths of said hoppers, substantially as herein described. 5th. In suspending centrifugal distributors the combination with the rotary shaft carrying said distributor, of a stationary spindle carrying said shaft substantially as set forth and bored for passage of lubricant to the rotary shaft as described.

No. 38,237. Saw Dressing Machine. (*Appareil pour affûter les scies.*)

Milo Covel, Chicago, Illinois, U. S. A., 6th February, 1892; 5 years.

Claim.—1st. In a saw-dressing machine, the combination with the frame, of a reciprocating carriage mounted thereon, a shaft journaled in said carriage, and a grinding wheel mounted on said shaft, substantially as set forth. 2nd. In a saw-dressing machine, the combination with a traveling carriage, of link 15, reciprocating-lever 16, rock-shaft 17, combined crank and gear-wheel 18, mounted on a shaft journaled in the frame, and connecting rod 20, whereby a reciprocating movement is transmitted to said carriage, substantially as set forth. 3rd. In a saw-dressing machine, the combination of counter-shaft 21, pinion 22, mounted thereon, the combined crank and gear-wheel, with which said pinion engages band-pulley 23, driving-shaft 25, the band-pulley mounted thereon, and the belt

connecting said pulleys, substantially as set forth. 4th. In a saw-dressing machine, the combination of the driving-shaft, pulley 27, mounted thereon, the grinding-wheel shaft and its pulley, and the belt connecting therewith, substantially as set forth. 5th. In a saw-dressing machine, the combination of the grinding-wheel shaft, its driving-belt, the tightener-lever 29, pivoted at its lower end to the frame, and a roller journaled to the opposite end of said lever and bearing against said belt, substantially as set forth. 6th. In a saw-dressing machine, the combination with a traveling carriage, of a grinding-wheel shaft journaled thereon, a bar having a corrugated edge and adjustably mounted on the rear side of the machine and a spring mounted on said shaft and holding the end thereof against the corrugated bar whereby a reciprocating endwise movement is imparted to the grinding-wheel shaft as the carriage moves forward and back, substantially as set forth. 7th. The combination with the grinding-wheel shaft, of a stop, pivoted at one end and adapted to engage with and lock said shaft against an endwise movement, substantially as set forth. 8th. In a saw-dressing machine, the combination of the work-table, provided on the underside at the ends with rabbeted cleats, the bed-plate having a central opening through which a boss projects from the table, and the hand-lever pivoted to said boss, whereby said table may be moved towards or away from the machine on its bed, substantially as set forth. 9th. In a saw-dressing machine, the combination of the work-table, the table-bed, the companion angle-brackets, to which said bed is secured, and the vertically movable slide to which said brackets are pivoted, whereby the work-table may be inclined at different angles, substantially as set forth. 10th. In a saw-dressing machine, the combination of the work-table, the supporting angle-brackets, the vertically adjustable slide to which said brackets are pivoted, and the hand-screw engaging with said slide whereby the work-table may be raised or lowered, substantially as set forth. 11th. In a saw-dressing machine, the combination with the work-table, of a clamping-bar, chambered in its respective ends, fastening-bolts, inserted down through the chambered part, and the spiral-springs coiled on said bolts, substantially as set forth. 12th. In a saw-dressing machine, the combination with an adjustable work-table, of a bracket-arm, removably secured thereto and projecting upwardly therefrom, and means for securing a saw to said arm, substantially as set forth. 13th. In a saw-dressing machine, the combination of a traveling-carriage, a feed-lever having a pivotal action, a chain connecting said carriage and lever for the purpose of moving said lever into engagement with the saw-teeth, and a spring fastened to the frame and bearing against the lower end of said lever and disengaging the contacting end from the saw-teeth when the tension of the chain is relaxed, substantially as set forth. 14th. In a saw-dressing machine, the combination of the frame, the adjustable bracket, secured thereto, and the feed lever pivoted to said bracket, substantially as set forth. 15th. In a saw-dressing machine, the combination of the frame, the screw-threaded standard, bolted thereto, and the gage-arm adjustably mounted on said standard substantially as set forth.

No. 38,238. Method of Drying and Vulcanizing Wood. (*Méthode de sécher et vulcaniser le bois.*)

Charles Howard, New York, U.S.A., 6th February, 1892; 5 years.

Claim. 1st. The herein described method of vulcanizing wood, which consists essentially in enclosing the wood to be treated in a chamber while cold, creating a vacuum within said chamber, and then applying heat to said chamber and vacuum. 2nd. The herein described method of vulcanizing and drying wood, which consists essentially in enclosing the wood to be treated in a chamber, creating a vacuum within said chamber, applying heat to the wood while in said vacuum and then causing a circulation through said chamber and the vacuum producing mechanism. 3rd. The herein described method of vulcanizing and drying wood, which consists in first enclosing the wood in a cold condition in a chamber, then drawing the moisture of the external layers of the wood to the surface by the section of a vacuum, then admitting the heated air to the chamber, and then removing the external water and vulcanizing the wood and contained sap by a continuous circulation of the remaining dry heated air through the chamber, the absorbed water being removed from the air by condensation.

No. 38,239. Car Coupler. (*Attelage de chars.*)

Michel Leduc and John Bourke, North Bay, Ontario, Canada, 7th February, 1892; 5 years.

Claim.—1st. In a car coupling the combination with a drawhead having a chamber adapted to receive the ordinary coupling link and pin of the bar D, having engaging pins *d*, pivoted to one side thereof, the catch E, shoulder G, and the rod H, having the two arms I and J, and levers *h*, substantially as set forth. 2nd. In a car coupling the combination with a drawhead having a chamber to receive the ordinary link and pin of the chamber C, in which is pivoted the bar D, having projecting pins *d*, the catch E and shoulders G, substantially as set forth. 3rd. In a car coupling the combination with a suitable coupling bar of the catch E, having a curved guide F, sides J, and shoulders G, and means for holding down the coupling bar in said shoulders, substantially as set forth.

No. 38,240. Thill Coupler. (*Arçon de limonière.*)

James O. Ferguson, Troy, and Jacob A. Rich, Greenwich, both in State of New York, U.S.A., 7th February, 1892; 5 years.

Claim.—1st. In a thill-coupling, the ears having inner undercut V-shaped bearing surfaces, in combination with the thill-iron having arms hooked-shaped in lateral direction and V-shaped in transverse section, substantially as described. 2nd. In a thill-coupling, the combination of the ears having inner undercut V-shaped bearing surfaces, and connected at their lower edges by a plate, a cushion formed by ears and adapted to bear against the normally supported on said plate and adapted to bear against the normally supported on said plate, both below and above its centre, and a thill-iron provided with hook-shaped arm adapted to engage said bearing, and a cover movable in ways formed in the cushion-holder, substantially as described. 3rd. In a thill-coupling, the cushion-holder formed by ears and connecting-plate, the cushion normally resting on said plate, and a spring held cover for said holder, the cover-holding spring being interposed between said cover and cushion, substantially as described. 4th. In a thill-coupling, the combination with a pair of ears connected at bottom by a plate having an inner bearing surface, and means for securing the ears to a vehicle, of a rubber cushion between such ears and normally supported on their connecting plate adapted to bear against the end of a thill-iron, both above and below its centre, a recessed cover-plate for securing the cushion between the ears, and a thill-iron having a T-shaped head, the arms of which are approximately elliptical in cross-section and adapted to engage with such cushions, substantially as described.

No. 38,241. Anti-friction Bearings for Journals and Axles. (*Coussinet de tourillons sans friction.*)

Henry Brown Williams and Lemuel Augustus Jeffreys, both of Rochester, New York, U.S.A., 7th February, 1892; 5 years.

Claim.—1st. The combination of an axle B, a hardened sleeve C applied outside the axle, a box D in which the axle and sleeve rest, a set of anti-friction balls E resting between the sleeve and box, and rings F separating the balls into concentric sets, as specified. 2nd. The combination of an axle B, a sleeve C applied outside the axle, a box D in which the axle and sleeve rest, sets of anti-friction balls E resting between the sleeve and box at opposite ends thereof, and an intermediate washer G filling the space between the two sets of balls, as herein shown and described.

No. 38,242. Clothes Drier. (*Séchoir à linge.*)

John Cross and Thomas Robert Reid, both of the Village of Chesley, Ontario, Canada, 7th February, 1892; 5 years.

Claim.—The combination with the movable post G, carrying radical arms I, provided with clothes line J, of the fixed post A, provided with a longitudinal dovetail groove B, and sheave B¹, the windlass C, carried by said post A, the rope D, winding on said windlass and passing over the sheave and placed in the groove, the step-block E, having a dovetail tenon sliding in said groove, and secured to the end of the rope preferably by a rod D¹, said step-block supporting the post G, and having a pivot pin entering a hole in the step-block, and guides K, maintaining both posts frictionally parallel, whereby the post G will slide as set forth.

No. 38,243. Device for Tapping Mains.

(*Appareil à tarauder les gros tuyaux.*)

Mark Prescott Madden, Coronado Beach, California, U.S.A., 7th February, 1892; 5 years.

Claim.—1st. A tapping device for mains and other pipes consisting of a supporting saddle, a boring tool carried thereby and a valve for closing the opening between the casing and the main, said valve being composed of two parts adapted to move together horizontally, having a wedging action in relation to each other, substantially as described. 2nd. In combination with a supporting saddle a cylindrical casing carried thereby, a vertical movable moving boring tool in said casing, and a valve between said casing and the main, substantially as described. 3rd. In combination with a supporting saddle, suitable boring devices and a valve consisting of two parts with a single rod or stem for imparting to said valve a sliding movement, and a wedging action in relation to each other, substantially as described. 4th. In combination with a supporting saddle having a threaded nipple, a cap plate adapted to replace the boring devices, said saddle and cap plate being divided centrally and adapted to be used in connection with a pipe inserted through the cap plate into the opening made in the main, substantially as described. 5th. In combination with a divided saddle, a valve carried by one part thereof, a divided cap plate adapted to be secured to the saddle above the line of the valve, and gasket carried cap plate, and extending within the line of its central opening, substantially as described. 6th. In combination with a divided saddle clamps for holding the divisions together, an extension on one part carrying a valve, a divided cap plate fitted to a nipple forming a part of the saddle, a gasket and a divided washer for securing the casing in place, substantially as described.

No. 38,244. Car Coupler. (*Attelage de chars.*)

George P. Jones and H. Seeley Bell, both of Moncton, New Brunswick, Canada, 7th February, 1892; 5 years.

Claim.—The combination of the shaft H, lever G, rock lever E, and the adjusting fork D, substantially as and for the purposes hereinbefore set forth.

No. 38,245. Lock. (*Serrure.*)

Yale & Towne Manufacturing Company, assignees of Warren Howard Taylor, all of Stamford, Connecticut, U. S. A., 7th February, 1892; 15 years.

Claim.—1st. In a lock the combination of a plug or key-cylinder, provided with a key-way into which projections extend from both sides past the centre thereof, and tumbler chambers intersecting said key-way and said projections, substantially as described. 2nd. In a lock a key-cylinder or plug provided with a key-way into which projections extend from both sides past the centre thereof, and tumbler chambers intersecting said key-way and said projections, one surface of one of said projections which must serve to support a picking tool being inclined to the axis of the key-way at an angle more acute than the other surface of said projection substantially as set forth. 3rd. In a lock a plug or roll-back carrying a sliding tumbler, and provided with a key-way having projections extending from both sides past the centre thereof, and tumbler recesses intersecting said projection in combination with a key which has key bittings either central or on one side of its axis, said tumbler having a continuous key bearing surface wide enough to be operated by the hitting of the key furthest from its axis, substantially as set forth. 4th. In a lock a cylindrical pin tumbler with the end upon which the key bears rounded or beveled only from opposite sides of a central line, so as to form a broad continuous key-bearing surface, substantially as described. 5th. In a lock the combination of a cylindrical pin tumbler rounded or beveled on one end from the opposite sides of a central line, to provide a broad bearing surface and provided with a projection or groove which engages with a corresponding groove or projection in the tumbler case or chamber, so that when the key is inserted the tumbler will not revolve on its axis, substantially as described. 6th. In a lock the combination of a tumbler case or escutcheon and a key-cylinder or roll-back, with a stop against longitudinal motion in both directions at one end only thereof, so that said cylinder at the face of the escutcheon may be of its maximum diameter to permit a deeper key-way, substantially as described. 7th. In a lock a tumbler which is cylindrical at one end and flattened at the other end upon which the key bears, and which flattened end is beveled or rounded from opposite sides of a central line so as to make a wider key-bearing surface, substantially as described. 8th. In a lock, a key-cylinder or roll-back provided with tumbler recesses which are cylindrical in one portion and non-cylindrical in another, so that the tumbler which is fitted to said recesses can move at right angles to the axis of the key-cylinder, and will not revolve on its own axis, substantially as described.

No. 38,246. Kitchen Utensils. (*Ustensiles de cuisine.*)

Horace B. Wiley, John J. Newport, Albert D. Evans and Thomas W. Wiley, all of St. Louis, Missouri, U.S.A., 7th February, 1892; 5 years.

Claim.—1st. As a new article of manufacture, a receptacle for culinary purposes provided with cold air ingress ports, and a passage for the exit of volatile products generated in said receptacle and the fire chamber on the stove on which the same is applied, substantially as set forth. 2nd. As a new article of manufacture, a receptacle for culinary or other similar purposes provided with a series of air inlet ports, and a passage for the exit of volatile products generated in said receptacle, lying diametrically opposite to said series of air inlet ports and in communication with the interior space of said receptacle, and the fire chamber of the stove to which the same may be applied, substantially as set forth. 3rd. As a new article of manufacture, a cooking receptacle having an elliptical hole 3 formed in the bottom thereof, a U-shaped cleat formed around the inner edge of said hole to the inside of said receptacle, thus forming a passage 6 for the exit of volatile products, a handle 7 provided with compartments 9 and 10 secured to said receptacle, the said compartment 9 being in communication with the interior space of said receptacle, and a series of air inlet ports 11 formed in said handle, substantially as set forth. 4th. As a new article of manufacture, a cooking utensil comprising a receptacle 1, a lid 2 for the same, a hole 3 formed in the bottom of said receptacle, a cleat 4 secured around the edge of said hole and to inside of said receptacle, thus leaving a passage 5 and forming a passage 6 as an exit for volatile products generated in said receptacle, and a handle 7 provided with a partition 8, thus dividing said handle into two compartments 9 and 10, the former of which is in direct communication with the interior space of said receptacle, and a series of air inlet ports 11 formed in said handle, substantially as set forth.

No. 38,247. Stovepipe and Thimble. (*Dé de tuyau de poêle.*)

Firm of S. Cheney & Son, assignees of Walter William Cheney, all of Manlius, New York, U.S.A., 7th February, 1892; 5 years.

Claim.—The improved stovepipe thimble consisting of the head a cast with the perforated ears e e, the head a¹, having fixed to it the hooks h h formed with set-backs h¹ h¹, the telescopic cylinders c c¹, secured respectively to the backs of said ears and hooks by means of brazing them thereon, and the springs s s permanently attached to the aforesaid ears, and provided at their free end with rings d d for attachment to the hooks, as set forth and shown.

No. 38,248. Game. (Jeu.)

George Francis Devine, Montreal, Quebec, assignee of Allen Gardiner Ingalls, Ottawa, Ontario, Canada, 8th February, 1892; 5 years.

Claim.—1st. A game consisting of the part or member A, to which is pivotally attached the part or member B, the former member representing a railroad having a single track, the latter a turn-table having accommodation for but three cars or two cars and an engine at one time, upon which the counters representing the engines and the cars may be advanced towards and past each other, substantially as set forth. 2nd. The combination with the block A, having the card-board strips *c, c*, representing the road bed, said strips arranged to prevent the counters from leaving the road bed, the stops *d, d*, to keep the counters from interfering with the motion of the turn-table of the member B, representing a turn-table pivotally attached to the said block and provided with similar strips of card-board to serve the like purpose, and the numbered counters to represent engines and cars, all substantially as set forth.

No. 38,249. Sash Lock. (Arrête-croisée.)

Charles Altman, Duncan C. C. Macdonald and James Grant, all of London, Ontario, Canada, 9th February, 1892; 5 years.

Claim.—The locking dogs L, L, formed with the trunnions T, the operating handles H, and curved serrated faces F, in combination with the case C, standard S, the cover A, formed with the elongated slots B, and the spring D, substantially as shown and described and for the purpose specified.

No. 38,250. Extension Table. (Table à rallonge.)

Frederick Page Cobham, Warren, Pennsylvania, U.S.A., 10th February, 1892; 5 years.

Claim.—In combination with the main table frame and support, of the extension frame provided with supplemental supports adapted to sustain auxiliary leaves when drawn out, said frames being provided with cross braces and bottom portion forming drawers for the main table frame, said supplemental supports being connected to the cross braces, and said cross braces dividing said drawers into compartments and auxiliary leaves adapted to engage the extension frames, substantially as described. 2nd. In combination with the main table frame and top provided with a support, of the extension frames provided with supplemental supports, adapted to support auxiliary leaves when drawn out, and the auxiliary leaves leaving projections for engaging the table top, and locking notches for engaging a portion of said frames, substantially as described. 3rd. In combination with a main table frame and top provided with a central support, of the sliding extension frames provided with supplemental supports, the auxiliary leaves provided with cleats having projections adapted to engage the under side of the table top, and locking notches for engaging a portion of said frames, and securing devices for securing said leaves to said frames, and holding them against accidental displacement, substantially as described. 4th. A table having a top formed of separate strips, bolts clamping said strips together, facing strips covering the ends of said bolts, and cleats engaging the ends of said strips, substantially as described. 5th. In an extension table, the combination with the fixed table top provided with metallic side portions forming guides, of sliding extension frames engaging said metallic sides carrying supplemental leaves movable vertically with respect to said frames, said frames and leaves being of substantially the same width as the table top, and adapted to lie beneath the same when not in use, and lifting devices for lifting said leaves into the plane of and flush with the fixed table top when the frames are drawn out, substantially as described. 6th. In an extension table, the combination with the fixed table top and supports for the same, of the sliding extension frames carrying supplemental leaves movable vertically with respect to said frames adapted to lie beneath the table top when not in use, and means for drawing out said leaves in the plane which they occupy beneath the table, and means for raising said leaves into the plane of the fixed table top after they reach the limit of their outward movement, substantially as described. 7th. In an extension table, the combination with the table top and supports for the same, of the sliding extension frames carrying supplemental leaves having a vertical movement with respect to said frames adapted to lie beneath the table top when not in use, the lifting levers and devices for guiding said leaves in their vertical movements and limiting the movement of said leaves, substantially as described. 8th. In an extension table, the combination with the table top and supports for the same, of the sliding extension frames carrying the supplemental leaves having a vertical movement with respect to said frames, the lifting levers, and the slotted guide plates for guiding said leaves and limiting their movements, substantially as described. 9th. In an extension table, the combination with the table and supports, of the sliding extension frames provided with supplemental leaves, the lifting levers, and the trip rods, adapted to control the operation of said levers when the extension frames are drawn out, substantially as described. 10th. In an extension table, the combination with the table top and supports, of the sliding extension frames provided with supplemental leaves, the spring actuated lifting levers, the locking devices therefor and the trip rods for releasing said locking devices, substantially as described. 11th. In an exten-

sion table, the combination with table top and supports, of the sliding extension frames carrying supplemental leaves having a vertical movement with respect to said frames and adapted to lie beneath said top when not in use, and the spring actuated lifting levers for raising said leaves when the frames are drawn out, substantially as described. 12th. In an extension table, the combination with table top and supports, of the sliding frames provided with movable leaves, the lifting levers for said leaves, springs for forcing out said frames, locking devices for said frames adapted to secure and release said frames, and the trip rods for controlling the operation of the lifting levers automatically when the frames are forced out by said springs, substantially as described.

No. 38,251. Store Service Apparatus.

(Appareil de service de magasin.)

Seldon Arnold Bailey, New London, Connecticut, U.S.A., 10th February, 1892; 5 years.

Claim.—1st. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and two spring fingers for stopping and holding said carrier, said fingers having vertically inclined frictional contact faces, and laterally diverging jaws. 2nd. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and two spring fingers for stopping and holding said carrier, said fingers being provided with vertically diverging jaws forming vertical and horizontal frictional contact faces. 3rd. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and two spring fingers for stopping and holding said carrier, said fingers having vertically inclined frictional contact faces and laterally diverging jaws, said jaws being provided with upturned guides at their outer ends. 4th. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and two spring fingers for stopping and holding said carrier, said fingers having laterally diverging jaws and upturned guides at the outer ends thereof. 5th. A trap for store service apparatus composed of two spring fingers provided with vertically inclined and laterally diverging jaws forming vertical and horizontal frictional contact surfaces, and a holder for said fingers. 6th. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and a trap consisting of two spring fingers forming an elongated pocket and diverging jaws at the mouth thereof, and two supplemental spring fingers provided with curved contact faces. 7th. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and a trap consisting of two spring fingers forming an elongated pocket and diverging jaws at the mouth thereof, and two supplemental spring fingers having a downwardly springing loop. 8th. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and a trap for stopping and holding said carrier, said trap consisting of two bent spring fingers forming a pocket and diverging depressed jaws at the outer ends thereof, and two supplemental spring fingers provided with contact faces. 9th. In a store service apparatus, the combination of a way, a carrier adapted to travel thereon, and a trap consisting of two bent spring fingers forming a pocket and diverging depressed jaws at the outer end thereof, and two supplemental spring fingers looped around said primary fingers and provided with lateral contact faces.

No. 38,252. Whistle-tree. (Palonnier.)

Nicholas Name Van Pelt, Township of East Orange, New Jersey, U.S.A., 10th February, 1892; 5 years.

Claim.—1st. The combination with the whistle-tree, cross bar and pivot *d*, of metallic springs *f, f*, bolted at their opposite ends to the whistle-tree and cross bar, respectively, substantially as and for the purposes set forth. 2nd. The combination with the whistle-tree and cross bar of the shafts, of metallic springs secured to the cross bar and extending oppositely and upwardly into engagement with the whistle-tree toward the ends thereof, substantially as and for the purposes set forth.

No. 38,253. Hot Air Drum. (Calorifere à air.)

Ezra T. Whiting, Dartford, Wisconsin, U. S. A., 10th February, 1892; 5 years.

Claim.—An improved hot-air drum comprising an upper and a lower chamber having top and bottom plates or portions and central openings in their top and bottom, respectively, for the usual smoke-flue, said upper chamber being constructed with a removable top section, a central smoke-flue opening at its lower end into the upper part of the lower chamber and at its upper end into the lower part of the upper chamber, a number of auxiliary smoke-flue and opening at their lower and upper ends respectively, into the upper part of the lower chamber and the lower part of the upper chamber, air-heating pipes inclosed in the auxiliary flues and extending completely through the lower and upper chambers and open at their upper and lower ends, braces *i*, in the lower chamber rigidly secured at their upper and lower ends and located between the flues, the braces *j*, in the upper chamber permanently secured to the pipe-extension and resting on the bottom of the upper chamber between the flues and the dampers for regulating the draft, substantially as described.

No. 38,254. Book Binding. (*Relieure.*)

Joseph Henry Workman, New York, N. Y., U. S. A., 10th February, 1892; 5 years.

Claim.—1st. The method of binding books wherein the leaves are secured to a back or web, which consists in first sizing one side of said web or the rear edges of the leaf sections, or both, then sewing each section independently to said web, then applying the sizing to unite thereby the said sections to the web, and then finishing the book in the usual manner, substantially as described. 2nd. The method of binding books, which consists in first sizing the rear edges of the several sections of leaves or pages, and also one side or surface of the web, then sewing the several sections separately to said web with the sized edges adjacent to the sized surface of the web, then heating said web and the rear edges of the separate sections to cause the size to adhere to each, and finally shaping the back and otherwise finishing the book in the usual manner, substantially as described. 3rd. The method of binding a book wherein the leaf sections are separately sewed to a suitable web, which consists in applying sizing to the web and to the rear edges of the leaf sections, then sewing the said sections separately to the web throughout the entire length of the section, moistening and applying the size to unite the web and the edges of the sections and then in finishing the book in the usual manner.

No. 38,255. Water Motor Wheel. (*Roue de moteur à eau*)

Samuel Wade, New Westminster, British Columbia, 10th February, 1892; 5 years.

Claim.—The combination with the wheel casing constructed in two halves A, B, provided with peripheral flanges A¹, B¹ bolted together, and having a horizontal inlet near the top and a vertical outlet at the bottom, of the wheel G, journaled in said case and having peripherally buckets or floats H, greater and less tangential faces, the lesser face of one bucket meeting the greater face or back of the next bucket, the intersection or meeting angles of the bucket diametrically opposite to one another, as set forth.

No. 38,256. Cover for Sewing Machines.

(*Couvrete de machine à coudre.*)

Cornelius Clifford Jenking, Montreal, Quebec, Canada, 10th February, 1892; 5 years.

Claim.—1st. The combination, with a sewing machine cover, of a slide for the purpose set forth. 2nd. The combination, with a sewing machine cover, adapted to be set on end to furnish a seat, of a slide contained therein and adapted to be withdrawn to form a back rest for such seat. 3rd. The combination, with a sewing machine cover adapted to be set on end to furnish a seat, of a slide contained therein and adapted to be withdrawn to form a back rest for such seat, and means for locking such back rest in position. 4th. The combination, with a sewing machine cover, of projections carried by combination, with a sewing machine cover, of the ends thereof, for the purpose set forth. 5th. The combination, with a sewing machine cover adapted to be set on end to furnish a seat, of a back rest for such seat held in connection with the upper end thereof towards the rear.

No. 38,257. Indicator for Laundries.

(*Indicateur de blancheries.*)

Charles W. Turner, Montreal, Quebec, Canada, 10th February, 1892; 5 years.

Claim.—1st. The combination in a laundry indicator of the card or board *a*, having dials *b*, provided with numbers, and the names of articles, also with moveable hands *f*, or *f* and *g*, the whole substantially as described. 2nd. The combination in a laundry indicator of the card or board *a*, having dials *b*, provided with numbers and names of articles and with a hand or hands, with dial *c*, provided with numbers and names of the days in the week, the whole substantially as described.

No. 38,258. Device for Opening Hot Boiled Eggs.

(*Appareil pour ouvrir les œufs cuits à la coque.*)

Franklin Nelson Jewett, Fredonia, New York, U.S.A., 10th February, 1892; 5 years.

Claim.—1st. In a device for opening hot boiled eggs, the combination of a base *a*, having an upwardly projecting portion *a*¹, and the guide *a*², with a knife *b*, which is rigidly attached to the base *a* in such a manner that the plane of its cutting edge is substantially at right angles to the surface of the guide *a*², substantially as and for the purposes set forth. 2nd. In a device for opening hot boiled eggs, the combination of a base *a*, having an upwardly projecting portion *a*¹, and concave guides *a*², and a knife *b*, substantially as and for the purposes set forth. 3rd. In a device for opening hot boiled eggs, a base *a*, having an upwardly projecting portion *a*¹, a guide or fulcrum *a*², and knife *b*, the parts so arranged that the penetration of the knife *b* is limited and that by rotation of the egg, as described, the shell is cut or torn from inward outwardly, substantially as and for the purposes set forth.

No. 38,259. Bolt and Rivet Cutter. (*Appareil pour couper les boulons et rivets.*)

John Helwig, Dubuque, Iowa, U.S.A., 10th February, 1892; 5 years.

Claim.—1st. The combination, with the jaws A A¹, provided with dovetail sockets and knives seated in said sockets, of retaining screws for said knives, said screws being adjustably secured to the jaws, so as to regulate the place at which the knives are to act, said knives being provided with slots or enlarged holes for the passage of the screws, so that the screws are not exposed to the strain on the knives during the operation of cutting, substantially as described. 2nd. The combination, with the actuating handles, of cutters having longitudinally concave cutting edges situated in the same plane with one another, so as cut on a bolt close to the plate and prevent the cutters slipping across the bolt, substantially as described. 3rd. The combination, with the jaws A A¹, the plates B, and the screws C, forming pivots for the jaws and made to hold the plates B together, of a locking plate R, interposed between and having its extremities fitted against the screws C to prevent turning of the latter, and a screw S passed through the locking plate and screwing into one of the plates B, substantially as described. 4th. The combination, with the jaws A A¹, of handles for actuating said jaws, each handle being made in two sections G H adjustably united by a screw K and cogs I for moving the lower handle section to and from the other section, one handle section being provided with a semi-circular knuckle X made to fit into a corresponding recess in the other handle section, so that part of the strain is taken off the cogs and taken up by the knuckle and recess, substantially as described.

No. 38,260. Buck-saw. (*Scie de travers.*)

John Stepler, Sarnia, Ontario, Canada, 10th February, 1892; 5 years.

Claim.—1st. The combination with the blade of a buck-saw, of the piece B, and the piece C, arched as shown, and connected to the piece B, by the dowel pins *c*, as and for the purpose specified. 2nd. The combination, with the blade of a buck-saw, of the piece B, the arched piece C, the lower end of the blade A being connected to the piece B by the pin *a*, and the upper end having notches *d*, designed to fit over the pin *b*, extending through the groove D, made in that portion of the frame B, near the handle, as and for the purpose specified.

No. 38,261. Rotary Engine. (*Machine rotatoire.*)

Arnold Kullbach, Boston, Massachusetts, U.S.A., 10th February, 1892; 5 years.

Claim.—1st. A rotary engine having a chamber *c*, a wheel or drum C, of considerably less diameter than the diameter of the chamber and having the notches or recesses *c*¹, with one or more steam inlets *d*, *d*¹, bearing the relation to the wheel or drum and its recesses or surfaces indicated and an unthrottled passage extending from said inlet or inlets to the exhaust as and for the purposes described. 2nd. In a rotary engine, the combination of a casing having the steam inlet *d* arranged substantially as specified, with a rotary wheel or disc having a series of angular recesses in its edge adapted to be brought successively in operative relation with the inlet, and when in such operative relation to present a surface substantially at right angle to the line of the said steam inlet, as and for the purpose described. 3rd. In a rotary engine, the casing having the steam inlets *d*, *d*¹, the throttled passage extending about the wheel or piston from each inlet to the exhaust, and the wheel having the angular recesses *c*¹ adapted whichever way the wheel or piston is turned to present a surface at right angles to the line of the inlet through which steam is admitted to the wheel or piston chamber, as and for the purposes described. 4th. A rotary engine having a chamber *c*, a wheel or drum C, contained in said chamber and of considerably less diameter than the diameter of the chamber having the angular notches *c*¹, in its surface with a steam inlet reduced or decreased in size, as and for the purposes described.

No. 38,262. Bed Bottom and Brace.

(*Sommier elastique et lien.*)

Walter Hammond Lightfoot, Junction City, Texas, U.S.A., 11th February, 1892; 5 years.

Claim.—The combination with a bedstead, of the slat frame, the semi-circular clips 8 secured to the posts of the bedstead, the U-shaped clips 7 attached to the slat frame, and the adjustable coupling bolts connecting the clips 7 and 8, substantially as described.

No. 38,263. Combined Founce and Belt.

(*Volant et ceinture de robe combinés.*)

Adolph Neuville, St. Louis, Missouri, U.S.A., 11th February, 1892; 5 years.

Claim.—1st. As a new article of manufacture, a combined founce and belt adapted to be applied to or removed from the body of the wearer, independently of the other garments, substantially as set forth. 2nd. As a new article of manufacture, a founce 1 of one-third the length of an ordinary skirt, in combination with a finished

band 3, secured to the upper edge of the same, and provided with hooks and eyes for securing the ends thereof together around the waist of the wearer, substantially as set forth. 3rd. As a new article of manufacture, a combined founce and belt comprising a founce 1, of one-third the length of an ordinary skirt and provided with a lower scalloped end, and a finished belt 3, provided with hooks and eyes secured to the upper end of said founce, substantially as set forth. 4th. A combined founce and belt comprising a founce 1, provided at its lower end with a scalloped outline, and a belt 3, provided with a button hole, elastic gores 8 located intermediately of the end of said belt and diametrically opposite, a button 5 and a loop 7, said belt 3 being stitched or secured to the upper edge of the said founce, substantially as set forth. 5th. A combined founce and belt comprising a founce 1, composed of lace, and provided at its lower end with a scalloped outline, and a continuous elastic belt 9 carrying hooks and eyes and a loop secured to the upper edge of said founce, substantially as set forth.

No. 38,264. Inhaler. (Aspirateur.)

Roland Edgar Woodward, Chicago, Illinois, U. S. A., 11th February, 1892; 5 years.

Claim. 1st. In an apparatus for medicating, heating and healing, the combination of circular jar 1, with circular drying chamber 6, and its thermometer 18, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of jar 1, and drying chamber 6, with burners 7 and 19, the latter having on its tube an asbestos shield 20, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of jar 1, drying chamber 6, and burners 7 and 19, with inner casing 16, and outer casing 17, substantially as and for the purpose hereinbefore set forth. 4th. The combination of jar 1, drying chamber 6, burners 7 and 19, casings 16 and 17, with removable medicating cup 9, and its inhaling pipe 14, substantially as and for the purpose hereinbefore set forth.

No. 38,265. Stove Pipe Thimble. (Dé de tuyau de poêle.)

Michael J. Fahey, Ft. Madison, Iowa, U. S. A., 11th February, 1892; 5 years.

Claim. The herein described stove-pipe thimble, comprising an annular upper cap C, having an outer supporting rim and a depending sleeve, an inner cylinder B, having outwardly spun ends arranged at an angle, the upper of which engages the inner edge of said cap, a lower annular cap D, engaged by the lower spun end and its outer edge being spun upwardly, and an outer fire-proof cylinder A, its lower end engaged by said spun edge and its upper end arranged inside said sleeve, the cylinders being concentric and forming an annular space E, and the caps having perforations opening into the ends of this space, as set forth.

No. 38,266. Car Coupler. (Attelage de chars.)

Samuel George Trine, Pierre, South Dakota, U. S. A., 12th February, 1892; 5 years.

Claim. 1st. The combination, with a forwardly-chambered draw-head having a flared front end, and a top and bottom shoulder within the throat of said chamber, and also slotted above to align with spaced ears thereon, of a pendant locking pin and a lever pivoted between the ears to which the pin is joined, substantially as set forth. 2nd. The combination, with a forwardly-chambered drawhead having a flared front end, two opposite aligning shoulders formed above and below in the throat of the drawhead chamber, a slot longitudinally extended from the shoulders rearward in the top wall of the drawhead chamber, leaving a transverse web therein, and two spaced ears laterally perforated to receive a fulcrum bolt and located in alignment with the sides of the slot, of a lever having a cam rounded head and ears on one side to pivotally engage the upper end of a pendant locking pin, and further provided with an elongated hole for engagement with the fulcrum bolt in the ears, said hole extending in the direction of length of the lever, a locking pin, and means to manipulate the lever from the roof of a car, substantially as set forth.

No. 38,267. Landing Net. (Rets d'atterrisage.)

Charles S. Hebard, Pequaming, Michigan, U.S.A., 12th February, 1892; 5 years.

Claim. 1st. The combination of a hollow handle and a folding net frame, said handle supporting said frame in its open condition, and receiving the same into its interior in its folded condition, substantially as and for the purpose specified. 2nd. The combination of a hollow handle, a folding net frame and a sliding plug in said handle, said plug supporting said frame in its open condition and drawing the same within the handle in its folded condition, substantially as and for the purpose specified. 3rd. The combination of a folding net comprising two sections pivoted at their inner ends in a handle, and at their outer ends diverging, and connected by knuckle-joints to other sections which converge, and are connected at their adjacent ends by a knuckle-joint, substantially as and for the purpose specified. 4th. The combination of a hollow handle, a sliding plug therein, and a folding net frame comprising two sections pivotally supported in said plug, and at their ends diverging, and connected by knuckle-joints to two other sections which converge, and are connected at

their adjacent ends by a knuckle-joint, substantially as and for the purpose specified. 5th. The combination of the net A, supported on the sections $b^1 b^1$, the interposed knuckle-joints $b^2 b^2 b^4$, the heads b^3 on the sections b^1 , the pins c for the support of said heads, and the pin c^2 interposed between the latter, said pins being supported in a plug adapted to slide in a hollow handle, substantially as and for the purpose specified. 6th. The combination of a hollow handle having therein a longitudinal slot d with oppositely disposed offsets d^1 at each end, a sliding plug with a knob or button whose shank is in said slot, and a folding net frame supported by said plug, substantially as and for the purpose specified. 7th. The combination of a hollow handle having therein a longitudinal slot d with the offset d^1 at its ends, a sliding plug with a slot c^1 , the pin c and the pin c^2 therein, the sections b^1 with their heads b^3 pivoted on the pin c , the joints $b^2 b^4$, the sections b connected by the joint b^3 , and the rings $a^1 a^1$ on said sections supporting a net, substantially as and for the purpose specified.

No. 38,268. Signal for Railways.

(Signal de chemin de fer.)

Byron Shoecraft and Judson Shoecraft both of St. Louis, Missouri, U.S.A., 12th February, 1892; 5 years.

Claim. 1st. An automatic signal device for railroads having a device carried by the locomotive and controlled by the engineer, said device adapted to come in contact with a suitable lever or levers arranged to one side of the track, substantially as set forth. 2nd. An automatic signal device for railroads having a device adapted to be carried by the locomotive, and controlled by the engineer, a system of levers movably secured near the track of the road, and adapted to be operated by said device carried by the locomotive, whereby a signal or bell is sounded by an approaching train, substantially as set forth. 3rd. An automatic signal device for railroads having a movable device adapted to be carried by the locomotive, and operated by the reversing lever of the locomotive, substantially as described. 4th. An automatic signal device for railroads having a device adapted to be carried by the locomotive, and a lever movably secured to said device, the lower end of which is adapted to come in contact with a suitable device or devices located adjacent to the track rails, whereby an alarm is sounded, substantially as set forth. 5th. An automatic signal device for railroads consisting of an arm movably attached to one side of the locomotive and adapted to be operated by the reversing lever of the locomotive, a friction roller mounted upon the lower end of said arm, a system of levers adapted to be operated by said roller whereby suitable arms are elevated adjacent to the track rails, and a lever movably secured to the said arm carried by the locomotive, and adapted to come in contact with said arm so elevated for sounding an alarm, substantially as described. 6th. An automatic signal device for railroads, consisting of an arm 5, suitably mounted in bearings and adapted to be attached to the front of the locomotive, a friction wheel 7 carried by said arm, a curved brace 14 also secured to said arm, a lever 15 movably secured to said brace having a wedge shaped lower end 17, a rope or cord 18 attached to the upper end of said lever leading to and connected to an alarm upon the cab of the locomotive, a rod attached to the said arm 5 and connected to the reversing lever on the locomotive levers secured to the cross ties and adapted to be moved by the said roller, and suitable wires leading to and connected with a shaft for operating or elevating an arm, substantially as described. 7th. An automatic signal device for railroads, consisting of a roller or other device carried by the locomotive to one side of the same levers such as 23 pivotally secured to the cross ties, a wire such as 31 attached to the opposite arms of said levers 30, levers such as 32 one arm of which is secured to the opposite end of said wire 31, a wire 33 attached to the opposite arm of said lever 32, and also attached to one arm of the lever 30, a long wire 34 also attached to one arm of the levers 39, a wire 38 attached to the opposite arms of said levers 39, levers 36 attached to the ends of the wires 38, shafts such as 40 provided with two arms, one of which is attached to the wire 34, and the other to the short wire 31, whereby when the levers 23 and 36 are operated, one of said arms of the shaft 40 will be raised and lowered alternately, substantially as described. 8th. An automatic signal device for railroads, having levers such as 23 and 36 adapted to be operated by a suitable device upon the locomotive whereby an arm or arms is elevated the end of which is adapted to come in contact with a suitable device carried by the locomotive for sounding an alarm, substantially as set forth. 9th. An automatic signal device for railroads having levers such as 23 and 36, a second set of levers such as 30, 32 and 39, suitable wired connections between said levers, and rotating shaft such as 40 in connection with the said wires, substantially as set forth. 10th. An automatic signal device for railroads having operating shafts such as 40, having upturned ends such as 43 which are adapted to be elevated and lowered when the locomotive passes the same, substantially as described. 11th. An automatic signal device for railroads consisting of a right angular arm such as 5, mounted in suitable bearings 3, an arm such as 8 attached to or formed with the arm 5, a rod 9 movable attached to the said arm 8, and also attached to the lever 10 for operating the eccentric upon the locomotive, a second rod such as 11 attached to the said arm 10, and also the reversing lever 12 upon the locomotive, a brace such as 14, a lever such as 15 movably secured to said brace, having a wedge shaped lower end 17, a cord

or rope such as 18 attached to the upper end of said lever and passed over suitable rollers, and also attached to the clapper 21 of the gong 32 for sounding an alarm, and a system of levers arranged to one side of the track-rails for operating or rotating suitable shafts such as 40, substantially as described.

No. 38,269. Valve Gear for Engines. (*Renvoi de mouvement de tiron pour les machines à vapeur.*)

The Woolf Valve Gear Company, assignee of Ellis J. Woolf and John Peebles, all of Minneapolis, Minnesota, U.S.A., 12th February, 1892; 5 years.

Claim.—1st. In a valve gear, the combination with an eccentric or crank of a rigid arm actuated by the eccentric or crank, a guide for said arm constraining it to move in a definite path and a rod for driving the valve attached to said arm at a point offset from the centre line of the arm motion, substantially as described. 2nd. In a valve gear, the combination with an eccentric or crank, of a rigid arm actuated by the eccentric or crank, a pivoted guide for said arm constraining it to move in a definite path, variable at will, and a rod for driving the valve attached to said arm at a point offset from the centre line of the arm motion, substantially as described. 3rd. In a locomotive, the combination with the driving axle, and its eccentric, of a carrier boxed on the axle, a guide pivotally mounted on said carriers, an eccentric strap having an extended arm pivotally mounted in said guide, and a rod for driving the valve attached to said arm at a point offset from the centre line of the arms motion, substantially as described. 4th. In a valve gear, the combination with an eccentric or crank, of a rigid arm actuated by the eccentric or crank, a guide for said arm constraining it to move in a definite path, an eccentric rod attached at one end to said rigid arm at a point offset from the centre line of the arm motion, and a rock shaft having a pair of rocker arms connected respectively one to the valve rod and the other to said eccentric rod at or about right angles when the valve is in mid position, substantially as described. 5th. In a locomotive, an automatically adjustable support for the point of suspension, of a valve gear consisting of a carrier boxed on the driving axle and a fixed guide for the carrier, rigidly secured to the main frame, or such form as to constrain the point of suspension to move approximately on the arc of a circle, when the axle rises and falls with reference to the frame, substantially as described. 6th. In a locomotive, an automatically adjustable support for the point of suspension, of a valve gear consisting of a carrier boxed on the driving axle, a fixed guide for the carrier rigidly secured to the main frame, and anti-friction rollers between their bearing surfaces, the said guide being of such form as to constrain the point of suspension to move approximately on the arc of a circle, when the axle rises or falls with reference to the frame, substantially as described. 7th. In a locomotive, an automatically adjustable support for the point of suspension of a valve gear, consisting of a carrier boxed on the driving axle having a vertical slot and anti-friction rollers on the opposite sides of the slot, and a guide pin fixed to the main frame at an oblique angle to the vertical plane and working in said slot against said rollers, substantially as described. 8th. In a locomotive, an automatically adjustable support for the point of suspension of a valve gear, consisting of a carrier boxed on the main driving axle and provided with a vertical slot, and a guide pin fixed to the main frame at an oblique angle to the vertical plane and working in said slot, substantially as described. 9th. In a locomotive, the combination with the driving axle of an eccentric thereon, an eccentric strap having an extended arm, a carrier boxed on the axle, a guide for the outer end of said arm pivotally mounted in said carrier, a rod for driving the valve attached to said arm at a point offset from the centre line of its motion, and a fixed guide for said carrier rigidly secured to the main frame of such form as to constrain the point of suspension, to move approximately on the arc of a circle when the axle rises and falls, substantially as described. 10th. In a valve gear, the combination with an eccentric or crank, of a pivoted guide, a roller movable in said guide, a rigid arm actuated by the eccentric or crank, and having a rigid pivot pin loosely mounted in said roller and a rod for driving the valve attached to said arm at a point offset from the centre line motion, substantially as described. 11th. In a locomotive, the combination with the driving axle and its eccentric, of a carrier boxed on the axle, a guide pivotally mounted on said carrier, a roller movable in said guide, an eccentric strap having an extended arm pivotally mounted in said roller, a fixed guide for said carrier rigidly attached to the main frame at an oblique angle to the vertical plane, an eccentric rod attached to said eccentric arm at a point offset from the centre line of its motion, and a rocker arm on the main frame having a pair of rocker arms connected respectively one to the valve rod and the other to said eccentric rod at or about right angles when the valve is in mid position, substantially as described.

No. 38,270. Cove. (*Cintre.*)

Charles F. Baker and John H. Randall, assignees of George S. Mayhew, all of Minneapolis, Minnesota, U.S.A., 12th February, 1892; 5 years.

Claim.—1st. The combination in a cove of thick sheets of paper board, with the parallel wood strips arranged between the same, the edge strips being wedge-shaped, and the whole cemented together, substantially as and for the purpose specified. 2nd. A cove having

a main rigid curved portion and a sheet of thick comparatively rigid paper board, wider than the same combined therewith, substantially as described. 3rd. A cove consisting of a curved board of composition material having a face sheet of thick elastic comparatively rigid paper board forming a part of the same, said sheet being wider than the said curved board, whereby the extension edges are formed, the same being adapted to spring firmly into contact with the wall or ceiling when the cove is placed in position, substantially as described. 4th. The combination in a curve with the two sheets of thick, heavy paper or other pulp board, of parallel wooden strips or slats arranged between the same, the edge strips having a wedge-shape and the whole firmly and rigidly cemented together, the outer or face sheet of said paper being wider than the other, and the edges thereof extending or projecting beyond the same, substantially as and for the purpose specified. 5th. The combination in a cove of the sheets of thick paper with the rectangular and wedge-shaped strips 4 and 4', respectively arranged and cemented between said sheets, the outer sheet being wider than the other and extending out and shaved to sharp edges adapted to make fine joints with the wall and ceiling, substantially as described.

No. 38,271. Process of Embossing Paper, Cardboard, &c. (*Procédé pour le gaufrage du papier, carton, &c.*)

Kitchell Embossing Company, assignee of Hudson Mindell Kitchell, all of Bayonne City, New Jersey, U.S.A., 12th February, 1892; 5 years.

Claim.—1st. The within described process of embossing cardboard and the like, which consists in spreading upon a flat, flexible surface a plastic substance, then forming the desired design therein, and then transferring the design to the article to be ornamented. 2nd. The method, substantially as hereinbefore set forth, consisting of the following operations, viz.: First, covering a hard, flat, flexible blank with a coat of plastic material; second, engraving the said plastic coat while in a soft or hard condition. 3rd. The within described process of embossing cardboard and the like, which consists in covering a suitable backing with a coat of plastic material, then engraving a design in the plastic coat, hardening and smoothing the plastic material, and then transferring the design to the paper or other article to be ornamented.

No. 38,272. Fastener for Shoe Ties.

(*Attache de chaussures.*)

John Benton Craig, St. Louis, Missouri, U.S.A., 12th February, 1892; 5 years.

Claim.—The improved shoe tie fastener herein described and shown, consisting of a single blank folded transversely on itself, the upper fold provided at one end with an opening b^5 to receive a fastening rivet, and near said end with an opening b^2 , having converging walls b^3 , and the lower fold provided with a longitudinal upset b^7 , having an inclined end b^4 , and a bottom parallel to the face of the blank and coinciding with the opening b^2 when the blank is folded, and a rivet inserted through the opening b^5 into the shoe.

No. 38,273. Trap for Animals. (*Piège.*)

Chauncey Burdette Trumble, Groton, New York, U. S. A., 12th February, 1892; 5 years.

Claim.—1st. A trap comprising a pan-jaw and a lever-jaw pivoted upon posts upon a base, a trigger mounted upon the base and engaging with the lever-jaw and the pan-jaw, a U shaped spring, the extremities of which are provided with eyes fitting over the post upon which the lever is mounted, said spring adapted to throw the lever as described. 2nd. A trap comprising a base piece provided with upright teeth, three vertical posts on said base piece, a slotted pan mounted on one of said posts and provided with a side lug, a U shaped spring having eyes fitting over the intermediate posts, a bell-crank lever fulcrumed on the intermediate posts, said lever being provided with a lug and a trigger mounted on the three posts, adapted to rest above the lug of the lever, and to engage the lug on the pan, as described.

No. 38,274. Sharpener for Bush Hammers.

(*Appareil pour aiguiser les bouchardes.*)

Louis Mayer, Mankato, Minnesota, U. S. A., 12th February, 1892; 5 years.

Claim.—1st. In a machine of the class described, the combination with the frame having a horizontal extension, a shaft journaled in said extension, and a saw on said shaft, of a vertically-movable table in the frame travelling past said saw, a transversely-movable carriage on the table, and clamping devices on the carriage, as and for the purpose set forth. 2nd. In a machine of the class described, the combination with the rotating saw, the frame, a vertically-movable table in the latter, and a laterally-movable carriage on said table, of studs on said carriage arranged in pairs, one of the front pair having a hooked upper end and the other being swiveled in the carriage, an arm pivoted to the upper end of the swiveled stud adapted to engage the hooked stud, and a lever having an eccentric heel pivoted to said arm, as and for the purpose set forth. 3rd. In a machine of the class described, the combination with the frame, a vertically-movable table therein, and a laterally-movable carriage

on said table, of a rotating saw, an ear on the frame below and at one side of the saw, a strap on the frame at the other side of the saw, a set screw in said strap, and a guide pivoted at one end to said ear and having its other end bent at an angle marked with a scale and passed through said strap, as and for the purpose hereinbefore set forth. 4th. In a machine of the class described, the combination with the frame, a vertically-movable table therein, a pedal and connections for raising and lowering the same, a laterally-movable carriage on said table, a screw for moving the carriage laterally, and clamping devices carried by the carriage, of a rotating saw located transversely of the frame at one end of the carriage, as and for the purpose set forth.

No. 38,275. Cushioned Car Wheel.

(*Coussinet de roue de char.*)

Benjamin F. Haugh, Indianapolis, Indiana, U.S.A., 12th February, 1892; 5 years.

Claim.—1st. In a cushioned car wheel, the combination with the tire 6, and the wheel centre thereof consisting of a rigid or fixed plate 1, a hub 4, formed centrally thereon and integral therewith, and an outer removable plate 8, of the inner and outer thrust flanges 19 and 20, the inner and outer peripheral safety shoulders 21 and 22, an inwardly projecting flange 7, formed on said tire and having its sides parallel, the elastic cushions 17 and 18 interposed between said tire and bearing peripheries of said centre plates, and suitable securing bolts 11 and 15 for removably securing said centre plates and tire, all substantially as and for the purpose set forth. 2nd. In a cushioned car wheel, the combination with the tire 6 and the wheel centre thereof consisting of a rigid or fixed plate 1, a hub 4, formed centrally thereon and integral therewith, and an outer removable plate 8, of the inner and outer thrust flanges 19 and 20, the inner and outer peripheral safety shoulders 21 and 22, an inwardly projecting flange 7, formed on said tire and having its sides parallel, annular safety flanges 23 and 24 formed on the inner faces of said plates and adapted to contact with the flange of said tire, the elastic cushions 17 and 18 interposed between said tire and bearing peripheries of said centre plates and suitable securing bolts 11 and 15 for removably securing said tire and centre plates, all substantially as described. 3rd. In a cushioned car wheel, the combination with the tire 6, and the centre thereof consisting of a fixed or rigid plate 1, a removable plate 8, of the flanges 19 and 20, the safety shoulders 21, 22, the tire flange 7, between said plates the safety flanges 23 and 24, the cushions 17 and 18, having the shields 17¹ and 18¹, and suitable peripheral and hub connecting bolts 11 and 15 for securing said tire and removable plate to said centre, all substantially as set forth. 4th. In a cushioned car wheel, the combination with the tire and the centre thereof consisting of a fixed or rigid plate 1, a hub 4, formed centrally thereon and integral therewith, a flange 16 formed on said hub, a removable plate 8, of the flanges 19 and 20, the safety shoulders 21 and 22, the tire flange 7, between said plates, the safety flanges 23 and 24, the cushions 17 and 18, having the shields 17¹ and 18¹, and suitable peripheral and hub connecting bolts 11 and 15 for securing said tire and removable plate to said centre and hub, all substantially as set forth. 5th. In a cushioned car wheel, the combination with the main or inner flange plate 1, having the integral hub 4 formed thereon, the channel re-enforcing ribs 2 and 3, extending radially along the radial lines of the securing bolts 11, the collar or outwardly projecting flange 16, formed on said hub, and a removable outer flange plate 8 secured centrally to said hub flange and at its periphery to said rigid plate, and adapted to clamp the flange of said tire, substantially as and for the purpose set forth.

No. 38,276. Machine for Reducing Bituminous Rock. (*Machine pour réduire la roche bitumineuse.*)

William Meakin, San Francisco, California, U.S.A., 13th February, 1892; 5 years.

Claim. 1st. A bituminous rock disintegrating machine comprising a double walled steam heated trough, and a similarly shaped double walled steam heated upper shell or inverted trough, which when united with the lower trough forms two intersecting cylinders corresponding in size and shape with the cylinders described by the revolving mixing blades upon the inclosed shafts, suitable inlet and outlet openings being provided through said trough-shaped casings, all substantially as shown and described.

No. 38,277. Dormant Warehouse Scales.

(*Balances de magasin comman-ditaires.*)

John Milne, Hamilton, Ontario, Canada, 13th February, 1892; 5 years.

Claim. 1st. In a dormant warehouse scales, in connection with the leverage under the platform L, the combination and arrangement of the hollow single pillar K, set at one side of the head of the platform L, (instead of in the centre) said hollow pillar K, containing the short ends of the cut off lever F, extension rod I, scale beam end C, and the connections for the drop lever A, said hollow pillar K thus bearing the load and strain of the leverage as set forth, and dispensing with a heavier cap B, and two pillars for that purpose, as described. 2nd. In a platform counter scales the combination and arrangement of the cut off lever F, connected by the steelyard

H, with a straight central lever under the platform L, in connection with the extension rod I, beam C, drop lever A, and the hollow pillar K, substantially as herein set forth.

No. 38,278. System of Connecting Railway Cars.

(*Attelage de chars.*)

Thomas Baril, Arthabaskaville, Quebec, Canada, 13th February, 1892; 5 years.

Claim. 1st. A draw-bar having one end pivoted to the central point of the frame of a railway car and having its other end extending to the end of the car and provided with means of coupling it to other, substantially as set forth. 2nd. The combination with a railway car A, of a central support A', a bolt C in the center of said support, two draw-bars B, each having an eye at one end engaged by the pivot bolt and extending with its other end to the end of the car and provided at that end with suitable means of coupling, and means of supporting said bars such as brackets D, D', or slots allowing lateral deviation, substantially as set forth.

No. 38,279. Swimming Equipment.

(*Équipement pour nager.*)

Patrick Curran, Hoquiam, Washington, U. S. A., 13th February, 1892; 5 years.

Claim. 1st. In a swimmer's equipment, a pair of similar paddle blades attachable to the hands, and that feather in one direction of movement, and project as lateral wings from the hands when moved oppositely, substantially as described. 2nd. In a swimming equipment, an appliance for each hand, comprising a blade hinged with a rule joint to a base plate, and removably secured to the wrist and hand, substantially as described. 3rd. In a swimming equipment, an attachment for each hand, comprising a wrist-band, looped straps secured by their ends to the wrist-band, encircling bands on the looped straps, a base-plate thereon, and a paddle blade secured to the base-plate by a rule jointed hinged connection that will allow the blade to feather when moved in one direction, and project as a wing from the hand when oppositely moved, substantially as described. 4th. In a swimming equipment, a pair of similar attachments for the lower limbs, each having a series of folding blades that lie flat when the limb is retracted, and project when the limb is forcibly extended, substantially as described. 5th. In a swimming equipment, an attachment for each lower limb, comprising two base blocks, float strips thereon, a loop band loosely joined to the lower ends of the base blocks, securing straps for the blocks, and a set of feathering paddle blades for each base block that are rule jointed in series thereon, substantially as described.

No. 38,280. Replacer for Cars. (*Lève-char.*)

John Maxwell Donnelly, Neihart, Montana, U.S.A., 13th February, 1892; 5 years.

Claim. 1st. In a car replacer, a plate B, provided at its front end with a pivoted block and adjacent thereto a clamp for securing the front end to a rail, an arm secured near the rear end of the plate for engagement with the opposite rail, and the plate B, having side flanges and ways for the car wheel, substantially as set forth. 2nd. The combination in a car replacer, of a plate B, having means for securing the same to the rails, said plate having side flanges *b, b*, and raised portions *C, C*, forming guideways at the front end of the plate, a removable bar H, inclined at each end, and a triangular reversible block D, substantially as set forth. 3rd. In a car replacer, the combination of the plate B, tapered and provided with a base E, side flanges, as shown, blocks C, C, adjacent to the front ends of said flanges, pivoted blocks *d, d*, rests *c, c*, through which a sliding bar passes, a reversible plate D secured to the plate B, and a removable bar H, having inclined ends, the parts being constructed substantially as set forth.

No. 38,281. Joint Coupling. (*Embrayage de joint.*)

Thomas William Moran, Louisville, Kentucky, U.S.A., 13th February, 1892; 5 years.

Claim. The self-adjusting flexible joint for steam pipes, consisting of the hollow ball section, the annular coupling section having an inner spherically beveled surface fitting said ball section steam tight, an internally screw threaded offset portion, and the socket section offset inward, providing a steam space or way thereat, and provided with an external screw thread, engaging said screw threaded portion of said coupling section, said socket section also having a circular stop shoulder engaging the outer edge of the offset portion of the coupling section, substantially as specified.

No. 38,282. Road Cart. (*Désobligeante.*)

Robert Day Scott, Pontiac, Michigan, U.S.A., 13th February, 1892; 5 years.

Claim. 1st. In a road cart, the combination of the spring upon which the body rests, the springs E and the links H at the forward end of the body, substantially as described. 2nd. In a road cart, the combination of the body, the coil springs F at each side of the body, and links E suspending said springs from the shafts, substantially as described. 3rd. In a road cart, the combination of the body, the links H supporting the forward end, the bracket J, in which said link is adjustably supported, and the spring F and links F, supporting the rear end, substantially as described.

No. 38,283. Valve. (Soupape.)

William Manson Mackay, Newark, New Jersey, U.S.A., 15th February, 1892; 5 years.

Claim.—1st. A valve comprising the valve-body *a*, provided with the valve-seat *b*, and having the valve-stem *c*, rotated at right angles to the water-way through such valve-seat, and provided with the plate *e*¹, having the inclined slot *h*¹, the valve-carrying arm pivoted adjacent to the plate *e*¹, and projected through the slot *h*¹, and the valve flap or disk attached to the arm and moved thereby to and from the seat, as and for the purpose set forth. 2nd. The combination, with the valve-body having the valve seat *b*, of the open sockets *i* adjacent to the valve seat, an arm having the pivot *a* fitted in such sockets, and having a valve flap or disk attached thereto, and movable to and from the seat, and valve-stem *c* rotated at right angles to the water-way through the valve-seat, and provided with the plate *e*¹, having the inclined slot *h*¹ fitted to the arm, as and for the purpose set forth. 3rd. The combination, with the valve-body having the valve-seat *b*, of the open sockets *i* adjacent to the valve-seat, the seat *l* adjacent to the sockets, the circular plate *e*¹, held movably upon such seat by the cap *k*, and provided with the valve-stem *c* and inclined slot *h*¹, the valve-actuating arm *h*, pivoted in the sockets and extended through the slot *h*¹, and the valve flap or disk moved by the arm to or from its seat, substantially as set forth.

No. 38,284. Tire for Bicycles.

(*Bandages pour bicyclet.*)

Thomas Fane and Charles F. Lavender, both of Toronto, Ontario, Canada, 15th February, 1892; 5 years.

Claim.—1st. A pneumatic tire consisting of an outer tube having an endless wire along each edge thereof, an air tube partially enclosed by the outer tube provided with the usual means of inflation, and a rim, the sides of which are so formed as to grip the wired edges of the outer tube, and securely hold all parts in place when the air tube is inflated to its fullest capacity, substantially as set forth. 2nd. In a wheel, a tire consisting of an air tube provided with the usual means of inflation, an outer tube or covering curved to correspond with the curve of the air tube, each edge of the outer tube having an endless wire running therethrough in combination with the rim of the wheel, which rim is provided with an annular recess near each edge into which enters the wired edge of the outer tube or covering, substantially as set forth. 3rd. A tire for a wheel consisting of an air tube provided with the usual means of inflation, an outer tube or covering curved to correspond to the curve of the air tube, and having a wire or string passing through each edge in combination with the rim of the wheel having an annular recess at or near each edge into which enters the wire edge of the outer tube or covering, substantially as set forth. 4th. A tire for a wheel consisting of an air tube provided with the usual means of inflation, an outer tube or covering through each edge of which passes an endless wire in combination with the rim of the wheel, and an annular plate located thereon to grip the wired edges of the outer tube or covering and securely hold all parts in place, substantially as set forth. 5th. A tire for a wheel consisting of an air tube provided with the usual means of inflation, an outer tube or covering having each edge enlarged or beaded in combination with the rim of the wheel, and an annular plate located therein to grip the beaded or enlarged edges of the outer tube or covering, and securely hold all parts in place, a lug cast on the under side of each end of said annular plate, and a lug secured to the under side of the rim of the wheel, a tightening bolt passing through all of said lugs, having its inner end riveted or enlarged to prevent it passing through said lugs, and a tightening nut on its outer end for the purpose of drawing the ends of said annular plate tightly together, substantially as described.

No. 38,285. Method of Manufacturing Tiles. &c.

(*Méthode de fabrication des tuiles, &c.*)

Henry Baggaley, Stoke-on-Trent, England, 15th February, 1892; 5 years.

Claim.—1st. A tile or other porcelain earthenware or similar article, in which the colour of the embossed design extends throughout the embossed portion and into the body of the article, substantially as described. 2nd. A tile or other porcelain earthenware or similar article, in which the colour extends completely through the article. 3rd. A tile or other porcelain earthenware or similar article, in which the colour of the embossed design extends throughout the embossed portion and completely through the body of the article, substantially as described. 4th. A tile or other porcelain earthenware or similar article, embossed on both sides and in which the colour of the embossed design extends completely through the body of the article and from one embossed surface to the other, substantially as described. 5th. In the manufacture of tiles in which the colour of the pattern or design extends completely through the body, producing the design by means of a pattern plate and afterwards completely covering in the design with body forming dust, that portion of the said body forming dust which after pressing obscures the design being then removed, substantially as described. 6th. In apparatus for manufacturing tiles or other porcelain earthenware or similar articles, the combination with an indented or relief die-plate of a pattern plate, substantially as described and illustrated in the accompanying drawings.

No. 38,286. Suspensory Bandage.

(*Bandage pour Suspensoirs.*)

Josephus C. Chambers, Detroit, Michigan, U.S.A., 15th February, 1892; 5 years.

Claim.—1st. In a suspensory bandage, a scrotum sac formed of India rubber, provided with a penis opening *A*¹, an elastic band *A*² united to the upper portion of the sac, buckles *D* connected with said band, attaching bands *C*, *C*¹ engaged with the lower portion of the sac, and a strap *D* connected with the band *A*², substantially as described. 2nd. In a combined suspensory bandage and truss, an India rubber scrotum sac *A*, provided with a band *A*² at its upper edge, an opening *A*¹ near its upper portion, the edge of which is formed into a piping, a cord *B* within the piping having ends projecting therefrom for the purpose set forth, and folds *a* in the sac extending longitudinally from near the opening and below the same to the rear of the sac, said sac having in combination therewith extensions *a*¹ connected with the upper portion thereof at each side of the sac, rubber attaching bands *C*, *C*¹, connected with the lower portion of the sac, a strap *D* connected with the band *A*², buckles *D*¹ engaged with said extensions *a*¹ to engage said attaching bands and strap, and truss pads or compressors *F*, *F*¹, located on the band *A*² between the extensions *a*¹, substantially as set forth. 3rd. In a combined suspensory bandage and truss, an India rubber scrotum sac *A*, provided with a band *A*² at its upper edge, an opening *A*¹ near its upper portion, the edge of which is formed into a piping, a cord *B* within the piping having ends projecting therefrom for the purpose set forth, and folds *a* in the sac extending longitudinally from near the opening and below the same to the rear of the sac, said sac having in combination therewith extensions *a*¹ connected with the upper portion thereof at each side of the sac, rubber attaching bands *C*, *C*¹ connected with the lower portion of the sac, a strap *D* connected with the band *A*², buckles *D*¹ engaged with said extensions *a*¹ to engage said attaching bands and straps, substantially as set forth. 4th. In a suspensory bandage, a scrotum sac formed of a single piece of rubber and adapted to exert a constant compression upon the parts within the sac, and provided with folds *a* and a penis opening *A*¹, a cord run about said opening and having its ends projecting therefrom whereby the size of the opening may be varied and retained in its varied positions by drawing the cord about the opening and tying its ends together, and means for securing the bandage to the person of the wearer, substantially as set forth.

No. 38,287. Car Coupler. (Attelage de chars.)

Charles Avery Kennedy, assignee of George A. Kennedy, both of Coaticook, Quebec, Canada, 15th February, 1892; 5 years.

Claim.—1st. In a link and pin draw-bar coupler, the combination of the link-guide *A*, with draw-bar *D* of link guide hinged upon the bed piece *E*, and resting upon the projection *G*, said arm of link-guide having a set off *H*, to release it from the rest *G*, so soon as the car is coupled, substantially as and for the purpose hereinbefore set forth. 2nd. In a link and pin draw-bar coupler, the combination of the bed *E*, having elongated opening *F*, and projection *G*, with link-guide *A*, so hinged within the slot, that it can move forward or backward as required for coupling, substantially as and for the purpose hereinbefore set forth. 3rd. In a link and pin draw-bar coupler, the combination of the self adjusting clapper *J*, with draw head *D*, and pin *B*, substantially as and for the purpose hereinbefore set forth. 4th. In a link and pin draw-bar coupler the combination of the lever *K*, having elongated opening *N*, and bar guide *M*, with the rest *G*, and the chain *L*, with the pin *B*, substantially as and for the purpose hereinbefore set forth.

No. 38,288. Process for Seasoning Hub Blocks.

(*Appareil pour dessécher les blocs pour les moyeux.*)

Standard Hub Company, assignee of Henry Lex DuBois, all of Philadelphia, Pennsylvania, U.S.A., 15th February, 1892; 5 years.

Claim.—The process of seasoning hub blocks, which consists in first softening the block, then compressing it substantially to the natural shrinkage line in a direction transversely to the grain of the wood, and then subjecting said block while confined under compression to a drying heat substantially as specified, whereby the fibrous structure of the wood is uninjured, and its strength and elasticity unimpaired, substantially as set forth.

No. 38,289. Flour Bolt. (Blutoir.)

Benjamin Barter, Toronto, Ontario, Canada, 15th February, 1892; 5 years.

Claim.—1st. In a flour bolt, a series of brushes made in separated diagonal sections arranged around the bolt shaft, which revolves at a higher speed than, but in the same direction as the reel, substantially as and for the purpose specified. 2nd. In a flour bolt, a drum journaled within the reel, the said drum having a series of brushes arranged around its periphery and driven at a higher speed than, but in the same direction as the reel, substantially as and for the purpose specified. 3rd. In a flour bolt, a drum journaled within the reel, the said drum having a series of brushes around its periphery, and driven at higher speed than, but in the same direction as the reel, in combination with a series of lifts or buckets arranged around the reel, substantially as and for the purpose specified. 4th. In a flour bolt,

a series of lifts or buckets arranged around the reel, each bucket being larger at the end where the flour enters the reel than it is at the opposite end of the said reel, substantially as and for the purpose specified. 5th. In a flour bolt, a hollow drum journaled within the reel and having brushes arranged diagonally around its circumference, diagonal fans being arranged between each row of diagonal brushes and holes through the body of the drum, substantially as and for the purpose specified. 6th. In a flour bolt, the combination with the reel of a spiral brush extending from one end to the other of the said reel, substantially as and for the purpose specified. 7th. In a flour bolt, a drum having a series of diagonally set brushes arranged around its periphery, substantially as and for the purpose specified.

No. 38,290. Automatic Gas Regulator.

(*Régulateur automatique à gaz.*)

Myron J. Amick, New York, State of New York, U. S. A., 15th February, 1892; 5 years.

Claim.—1st. In a gas-regulator the combination with the flanged casing A, of the inner flanged casing E, having the annular cup G, the gas drum I, having the cup J, and the guide-rod Q, passing below through the raised guide-bridge S, and having adjustably secured near its lower end the valve P, and the liquid L, as and for the purposes hereinafter set forth. 2nd. In a gas regulator the combination with guide-rod Q, mounted upon the gas-drum and carrying the valve P, with the raised guide-bridge S, secured upon the casing A, above the gas-inlet opening, substantially as herein described. 3rd. In a gas-regulator the combination of the inner casing E, carrying the annular guide-cup G, with the gas-drum I, provided with an inverted cup J, fitting loosely into the annular guide-cup G, thus guiding the upper portion of the gas-drum, and provided at its upper surface with a projecting pin R, placed out of centre and the projecting perforated rim *i*, running along its outer edge, and the weights R¹, substantially as herein shown and set forth.

No. 38,291. Boot Cleaning Apparatus.

(*Appareil pour nettoyer les chaussures*)

Austin Berry, Warden, Quebec, Canada, 15th February, 1892; 5 years.

Claim.—1st. The combination with a frame or standard, of a rotary or oscillating brush at the base thereof, a hand crank at the top and suitable mechanical appliances for operating such brush from said crank, as and for the purpose set forth. 2nd. The combination of the rotary brush G, with the spindle or shaft F, and means for operating same, as and for the purpose set forth. 3rd. The combination of the oscillating brush H with the oscillating shaft K, and means for operating same as and for the purpose set forth.

No. 38,292. Electric Soldering and Cementing Apparatus. (*Soudage électrique et appareil à cimenter.*)

The Thomson International Welding Company, assignees of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 15th February, 1892; 5 years.

Claim.—1st. In an electric soldering or cementing apparatus, a heating electric conductor provided with an insulating surface where it is applied to the work. 2nd. In an electric cementing or soldering apparatus, a heating electric conductor having an insulated surface and a protective face of metal. 3rd. In an electric soldering or cementing apparatus, a circular heating conductor placed in an electric circuit from any suitable source of electricity. 4th. In an electric soldering or cementing apparatus, a circular heating conductor having its working surface covered with insulating material, and provided with a metal protective face fastened to the conductor at points of equal potential. 5th. In an electric soldering or cementing apparatus, a heating electric conductor faced with mica. 6th. In an electric soldering or cementing apparatus, a rotary carrier for the objects to be cemented, provided with a series of jaws or holders, a series of heating conductors or portions of conductors opposite the same, and a rotary electric switch for including such conductors in circuit one after the other. 7th. The combination with the series of clamps or jaws J¹, carried on a suitable rotary support, of a cam H, upon which they ride, a series of heating conductors opposite the jaws, and an electric switch for including the same successively in circuit, as and for the purpose described.

No. 38,293. Method of Working Metals by Electricity. (*Méthode de travailler les métaux par l'électricité.*)

The Thomson International Electric Welding Company, assignee of Elihu Thomson, Swampscott, Massachusetts, U.S.A., 15th February, 1892; 5 years.

Claim.—1st. The herein described art of treating metal objects locally, consisting in heating the part to be treated by an electric current of large volume passed through the same, and surrounding the object with the desired treating substance, while the same is still heated by the current. 2nd. The herein described improvement in metal working, which consists in locally treating the object by surrounding the same with the desired treating material, while

the object is locally heated by the passage of an electric current of large volume. 3rd. The herein described improvement in metal working, consists in surrounding the object locally with a deoxidizing and carburizing substance, while the same is heated by an electric current of large volume passed through the same. 4th. The herein described improvement in tempering or hardening metal, which consists in passing a heating current of electricity through the object, while surrounded by a protective atmosphere, and then passing a chilling fluid over the object, as and for the purpose specified. 5th. The herein described improvement in metal working, which consists in heating the object locally by passing a current of large volume through the same, and simultaneously enveloping the part treated in a protective atmosphere. 6th. The herein described method of locally tempering or hardening metals, which consists in including the part to be treated in a heating electric current while surrounded by a protective envelope, passing a chilling substance over the heated surface and then reheating by the electric current, as and for the purpose described. 7th. The herein described improvement in working metals locally, which consists in clamping the object between suitable conducting clamps, passing a heavy electric current through the object from clamp to clamp to heat the object, and surrounding the object at a part between the clamps, and while still heated with a treating envelope or covering, as and for the purpose described. 8th. The herein described improvement in electric welding, forging, etc., which consists in surrounding the work at the part between the clamps with an inert protective envelope, preferably gaseous, adapted to protect the work from oxidation. 9th. The herein described process of locally case-hardening or otherwise treating a continuous bar, rod, or other structure of metal, which consists in including the part of the object to be treated in an electric circuit between two conducting clamps or abutments, passing through such part of the object a heavy current of electricity, so as to heat the same, and then subjecting the locally heated portion to the desired treatment. 10th. The herein described method of producing an object with a locally case-hardened, chilled, tempered, or otherwise modified section, consisting in passing a heavy heating electric current through the portion whose character is to be modified, and applying the necessary local treatment while the object remains in the circuit.

No. 38,294. Induction Discharge Protector for Welding Apparatus. (*Protecteur d'induction de décharge pour appareil à souder*)

The Thomson International Electric Welding Company, assignees of Elihu Thomson, Swampscott, Massachusetts, U. S. A., 15th February, 1892; 5 years.

Claim.—1st. The combination, with a transformer or converter for electric welding or other metal-working operations, of an induction discharge protector in a short circuit between the terminals of the primary, whereby on rupture of the secondary circuit damage to the primary may be prevented. 2nd. The combination, with a transfer or converter having a high-potential primary and a low-potential secondary adapted to develop a current incapable of forming a prolonged arc, of an induction-discharge protector connected to the terminals of the primary, and a circuit breaker for the current following the discharge through the protector upon the rupture of the circuit for the low potential secondary current. 3rd. The combination, with an electric welding or metal-working converter, substantially such as described, of an induction discharge protector in a shunt across the terminals of the primary, whereby on fusion or melting down of the work in the low potential secondary the high potential developed in the primary coils may have a path independent of the insulation of the coils. 4th. The combination, with magnet-coils placed on an electric circuit and traversed by current from any suitable source, of an induction-discharge protector consisting of electrodes normally separated by a narrow insulating-space, but connected, respectively, to opposite sides or terminals of such coil directly, so as to form a short-circuit path for any inductive electric discharge-current produced in the coils themselves, and a circuit-breaker for rupturing the circuit of any arc following such induction-discharge from the coils and maintained by the electric current flowing over the main line.

No. 38,295. Memorandum Book. (*Livre de notes.*)

Marcus A. Miller, Chicago, Illinois, and George E. Green, Binghamton, New York, both in U. S. A., 15th February, 1892; 5 years.

Claim.—1st. A book consisting of leaves connected flexibly and adapted to fold inwardly, and open faced mats secured upon each leaf, in a plane parallel with and detached from the head, by side or end connections, leaving one edge open creating open faced pockets, in combination with removable tablets inserted into said pockets. 2nd. A book consisting of leaves flexibly connected and adapted to fold over inwardly, each leaf comprising a cover and a backing secured thereon, and open faced mats secured by three edges to each leaf, in a plane parallel with and detached from the leaf by connecting strips secured to the mat and to the leaf, creating an open faced pocket upon each leaf, in combination with removable recording tablets inserted into said pockets, and a storage pocket between the backing and cover of one leaf, all enclosed by folding the outer leaves over inwardly.

No. 38,296. Stovepipe. (Tuyau de poêle.)

Cleophas LeBel, Lewis, Quebec, Canada, 15th February, 1892; 5 years.

Claim.—A stove or furnace pipe having the meeting edges of the sheet metal plate secured by a hook joint, the ends of the pipe being screw threaded, the said hook joint running through the said screw threads, substantially as set forth.

No. 38,297. String for Musical Instruments.

(*Corde pour instruments de musique.*)

Lawrence Alonzo Subers, Phœbus, Virginia, and Samuel Britton Coughlin, Philadelphia, Pennsylvania, both in U.S.A., 16th February, 1892; 5 years.

Claim.—The within described wire string for musical instruments, said string consisting of a series of strands twisted together, substantially as specified.

No. 38,298. Process of Baking Clay.

(*Procédé pour cuire la glaise.*)

The Western Burnt Clay, Ballast and Paving Company, Cameron, Missouri, assignee of Joseph Stubbs, Mount Pleasant, Iowa, both in U.S.A., 17th February, 1892; 5 years.

Claim.—1st. The method herein described of burning clay as it is spaded or thrown from its bed or pit for road paving, railroad ballast and for other purposes, which consists in forming or excavating a few short trench-flues in the ground, covering them, making a fire over them and between them, building the first part of the kiln over the fire in inclined layers of clay and fuel, as shown and described, making further trenches and covering them, and raking the preceding and burning layers of clay and fuel to procure fire beneath the succeeding layers of clay and fuel and over the last described trenches, and with which to fire said last recited layers of clay and fuel inclined as described, substantially as described. 2nd. The method herein described of burning clay as it is spaded or thrown from its bed or pit for road paving, for railroad ballast, and for other purposes, which consists in forming or excavating a few short trench-flues in the ground, covering them, making a fire over and between them, building the first part of the kiln over said fire in inclined layers alternating of clay and fuel, as shown and described, making further fire-trenches and covering them, raking the preceding and burning alternate layers of clay and fuel to procure fire on which to build the succeeding inclined and alternating layers of clay and fuel and over the last described fire-trenches, and with which to fire said last recited layers of clay and fuel, and closing as required the open outer ends of the fire-trenches to more perfectly control the draft, substantially as described. 3rd. The method herein described of burning clay as it is spaded or thrown from the pit or bed for road paving, for railroad ballast, and for other purposes, which consists in forming or excavating in the ground a few fire-trenches *a* having main branches *a*¹, and lateral branches *a*² covering them, making a fire over them, building a kiln of inclined and alternating layers of clay and fuel over said fire-trenches, making additional fire-trenches *a*, and raking the preceding inclined layers of clay and fuel to procure fire beneath succeeding inclined and alternate layers of clay and fuel, and over the last described fire-trenches and with which to fire said inclined layers of clay and fuel, the inclined layers of clay and fuel to be built so as leave the ends of the fire-trenches *a*² always open, so that they can be covered to check the draft in their respective flues *a*¹ *a*², substantially as described. 4th. The method herein described of burning clay as it is spaded or thrown from its bed or pit for road paving, railroad ballast, and for other purposes, which consists in forming or excavating a few short trench-flues in the ground with a vertical trench-flue *c* at the inner end of each, covering said trench-flues, making a fire over them and between them, building the first part of the kiln over said fire and inclined layers of clay and fuel, as shown and described, making further fire-trenches and covering them, and raking the preceding and burning layers of clay and fuel to procure fire beneath additional inclined layers of clay and fuel, and over the last recited trench-flues, except their outer ends, and with which to fire said last recited inclined layers of clay and fuel, substantially as described.

No. 38,299. Method of Decorating Glass.

(*Méthode d'orner le verre.*)

George Washington Martin, Boston, Massachusetts, U. S. A., 17th February, 1892; 5 years.

Claim.—1st. The method hereinbefore described of ornamenting glass, the same consisting in engraving the surface of the glass and thereby forming a design comprising both the smooth and the roughened or engraved portions of the glass and then applying metallic foil to said engraved surface, as set forth. 2nd. The method hereinbefore described of ornamenting glass, the same consisting in engraving the surface of the glass and thereby forming a design comprising both the smooth and roughened or engraved portions of the glass then applying metallic foil to said engraved surface, and finally applying a silver white glaze or protective coating to the back of the coating of metallic foil, as set forth.

No. 38,300. Tip for Vehicle Poles.

(*Bout pour timons de voiture.*)

William J. Austin, Fond du Lac, Wisconsin, U. S. A., 17th February, 1892; 5 years.

Claim.—1st. The pole tip B, provided with a holdback projection C, and having a slot H, on the underside, the spring E, having a fin G, in said slot, said spring following around the end on the tip on the inside, as set forth. 2nd. The combination with the pole A, having a recess or slot D, at the end and rearwardly of the tip B, having a holdback projection C, and slot H, and a spring E, one end secured to the upper side of the pole and following the slot D, said spring provided with a fin G, depressible into the slot in the tip and pole, and against the resistance of the spring, as and for the purpose set forth.

No. 38,301. Car Wheel. (Roue de chars.)

Wolcott John Parmelee, Wilkes Barre, Pennsylvania, U.S.A., 17th February, 1892; 5 years.

Claim.—1st. A car-wheel having a flat tread provided with circumferential grooves and with transverse or spiral corrugations adjacent to said grooves, substantially as and for the purpose set forth. 2nd. A car-wheel comprising in its make-up a series of rings having beveled edges adapted to form a portion of the flat tread, substantially as set forth. 3rd. A car-wheel comprising in its make-up a ring having a transversely or spirally grooved outer edge forming a portion of the flat tread, substantially as set forth. 4th. In a car-wheel, the combination with a flange-disc having a circular offset or enlargement, of a series of rings mounted upon the same and having beveled edges, and an outer ring having a transversely or spirally corrugated edge, the said rings serving to form the tread of the wheel, substantially as set forth. 5th. In a car-wheel comprising a flange-disc having a circular offset or enlargement provided with an annular groove, a series of rings mounted upon said offset and having beveled edges, an outer ring mounted upon the annularly grooved portion of said offset and having a transversely or spirally corrugated edge, and suitable connection bolts, substantially as and for the purpose set forth.

No. 38,302. Extinguisher for Lamps.

(*Lampe à éteignoir.*)

Henry Justus Clarry, Ottawa, Ontario, Canada, 17th February, 1892; 5 years.

Claim.—1st. The combination with a lamp burner of a square spindle, a square sleeve fitting said spindle slidingly carrying the cog wheels for lifting the wick, and said spindle having a square-shouldered journal at its free end, the sleeve surrounding the upper free part of the wick tube and sliding freely upon the same and provided with tubular lugs and a lever fulcrumed in the rim of the burner and having its lower part slotted and engaged by the journal of the square spindle and its upper part bifurcated and the tines passing through the tubular lugs on the sleeve, substantially as set forth. 2nd. The combination of the burner A, having a wick-tube *a*, a sleeve B, surrounding said wick tube and adapted to slide upon it, lugs *b* on said sleeve, a square wick raising spindle C, having means to engage the lever at its free end, and the lever D, having its lower end engaged by said spindle fulcrumed about the middle in the rim of the burner and having its upper end bifurcated and engaging the lugs *b*, of the sleeve B, substantially as set forth. 3rd. The combination of a burner A, having a wick tube *a*, the sleeve B, having the lugs *b*, and the lever D, fulcrumed in said burner rim and having the tines *d*¹, of its bifurcated upper portion connected to said lugs *b*, substantially as set forth.

No. 38,303. Butter Worker. (Butte à beurre.)

Hans Jacob Anderson and Frank Brown Fargo, both of Lake Mills, Wisconsin, U. S. A., 19th February, 1892; 5 years.

Claim.—1st. In a butter worker, the combination with a revoluble drum partially open centrally at one end, and buckets secured to the drum on the inside about its periphery adapted by the revolution of the drum to elevate butter thereon, of two pressure rollers geared to each other, supported in the drum centrally on a suitable frame therefor, which rollers are arranged parallel and near to each other, and a driving shaft to which the drum and one of the rollers are directly geared severally, substantially as described. 2nd. In a butter worker, the combination with a revoluble drum partially open centrally at one end, and buckets secured to the drum on the inside about its periphery and adapted by the revolution of the drum to elevate butter thereon, of two pressure rollers geared to each other supported in the drum centrally on a suitable frame therefor which rollers are arranged parallel and near to each other and at right angles to the axis of the drum, and a driving shaft to which the drum and one of the rollers are directly geared severally, substantially as described. 3rd. In a butter worker, the combination with a revoluble drum having a central circular opening in one end through which butter may be introduced to and removed from the drum, and buckets in the drum about its periphery adapted by the rotation of the drum to elevate the butter from the bottom to the top of the drum, of two corrugated rollers geared to each other so as to revolve towards each other, which rollers are supported in the

drum centrally on a fixed frame near to and parallel with each other and at right angles to the axis of the drum, a driving shaft at right angles to the axis of the drum, geared to the drum and to one of the corrugated rollers in the drum, and detachable inclined boards supported on the frame in front of and leading downwardly through the central aperture into the drum, substantially as described. 4th. In a butter worker, of the class described in which a revolving drum elevates the butter and drops it upon the revolving pressure or butter-working rollers, the butter-working rollers supported in the drum centrally on a fixed frame, geared wheels on the rollers at one end which mesh with each other, a box having an elongated bearing fixed on the frame in which the journal of one of the rollers at the extremity other than the one having the gear wheel, has its bearing movable from and towards the other roller, and a bar handle pivoted on the journal of the laterally movable roller, whereby the roller can be moved laterally, substantially as described. 5th. In a butter worker, the combination with a revoluble drum having a central circular opening in one end, and means for elevating butter therein by the revolution of the drum and letting it fall centrally on rollers therein, of detachable boards having curved outer edges corresponding to the arc of the circular aperture in the end of the drum, secured removably to the frame in the plane of the drum head, in and so as to close the lateral portions of the circular aperture in the end of the drum, substantially as described. 6th. In a butter worker, the combination with a revoluble drum having a central opening in one end and means for elevating butter therein by the revolution of the drum, and letting it fall centrally on rollers therein, of boards supported detachably on the frame in inclined positions partially through the opening in the drum head, above and below the rollers, substantially as described. 7th. In a butter worker, the combination with a revoluble drum having a central opening in one end and means for elevating butter therein by the revolution of the drum and letting it fall centrally on rollers therein, of an apron supported detachably on the frame in an inclined position below the rollers and extending through the opening in the end of the drum, substantially as described. 8th. In a butter worker, a cylindrical rotatable drum open centrally at one end and provided with a series of apertures in its periphery adapted to permit the escape of milk from the drum, in combination with devices substantially as described in the drum adapted by the revolution of the drum to separate the milk from the butter, as set forth.

No. 38,304. Boots and Shoes. (Chaussures.)

Joseph Lauzon, Montreal, Quebec, Canada, 19th February, 1892; 5 years.

Claim.—In the manufacture of boots and shoes a filling having chamfered edges, made in one continuous piece, interposed between the outer and inner soles, substantially as set forth.

No. 38,305. Regulator for Hydraulic Wind Mill.

(*Régulateur pour moulins hydraulique à vent.*)

Andrew Church and Charles Augustus Church, both of Morenci, Michigan, U.S.A., 19th February, 1892; 5 years.

Claim. 1st. In a hydraulic wind-mill regulator a hydraulic cylinder, in combination with a four-way-valve casing adapted to be applied to the discharge-pipe of a pump having an inlet from the pump, an outlet to the hydraulic cylinder, two service-outlets, a single valve controlling the opening into either of the two service-outlets, said valve having seats with the same axis as the inlet, and a valve-chamber communicating centrally between said valve-seats with the inlet from the pump and the outlet to the hydraulic cylinder, substantially as shown and described, for the purpose specified. 2nd. In a hydraulic wind-mill regulator, a valve mechanism comprising in its construction a valve-casing having an inlet from the pump, an outlet to a hydraulic cylinder, two service outlets, a single valve controlling the opening into either of the two service-outlets, said valve having two seats with the same axis as the inlet, and the service outlet leading to the goose-neck, a check-valve in the outlet leading to the elevated tank, and a check-valve in the inlet to the casing, the whole constructed as described, whereby the regulator may be applied to the discharge pipe of a pump without disturbing its other parts, substantially as shown and described, for the purpose specified. 3rd. In a hydraulic wind-mill regulator, a reciprocating hydraulic cylinder having a safety-valve, in combination with an adjustable stop adapted to open said valve at any desired point in the throw of the cylinder, whereby undue pressure in the cylinder and its connections may be avoided by the opening of said valve, substantially as shown and described, for the purpose specified. 4th. In a hydraulic wind-mill regulator, the hydraulic reciprocating cylinder, in combination with a spring *s*, an arm *r* controlled by said spring, a ratchet and pawl *g g'*, adapted to adjust and maintain the tension of said spring and the connections intermediate of said cylinder and said arm, substantially as shown and described, for the purpose specified. 5th. In a hydraulic wind-mill regulator, a bracket *p*, provided with a shaft *p'*, having a ratchet *g g'*, a pawl *g'*, an arm *r r'*, and a coiled spring *s*, engaging arm *r* and ratchet *g*, in combination with the wind-wheel and reciprocating hydraulic cylinder, and the rods or wires connecting said wheel and cylinder, substantially as shown and described, for the purpose specified. 6th. A hydraulic wind-mill regulator comprising in its construction a pump, a four-way-valve casing, a reciprocating cylinder having a safety-valve, and an adjustable stop actuating said valve, rods or wires leading from

said cylinder to the wind-wheel, and a spring having adjustable tension and suitably connected with said rod or wires, substantially as shown and described, for the purpose specified.

No. 38,306. Aerial Tramway. (Tramway aérien.)

Alfred Henry De Camp, of Boonton, New Jersey, U.S.A., 19th February, 1892; 5 years.

Claim. 1st. In a suspended railway, the herein described suspended track formed of continuous rails less in vertical section than in their other dimensions, the said rails being supported at intervals throughout the track, whereby they are allowed to flex between said supports, substantially as set forth. 2nd. The combination, in an elevated tramway, with the grooved supporting rollers, of the track formed of continuous parallel oblong bars resting at intervals between their terminals flatwise in the grooves of the said rollers to slide therein, substantially as set forth. 3rd. In an aerial tramway, the combination, with two parallel rails supported loosely at intervals throughout the length of the track, of parallel cross bars extending across the upper side of the track over the supports and oppositely placed inclines supported at their adjacent larger ends on said cross bars and extending freely along the upper sides of the tracks, substantially as set forth. 4th. In an aerial tramway, the combination, with two parallel rails, of a cross bar keeper for said rails, a keeper for said cross bar, and a spring to elevate said cross bar. 5th. In an aerial tramway, the combination, with two parallel rails, of a flanged way for said rails, means of supporting the flanged way, substantially as described, a keeper bar for said rails, and an incline attached to said keeper bar and mounted above the rails, substantially as shown and described. 6th. In an aerial tramway, the combination, with two parallel rails, of a flanged way for said rails, a means of support for said flanged way, a keeper bar for said rails, and a grooved incline secured to said keeper bar, said keeper bar being supported and maintained in position, substantially as shown and described. 7th. In an aerial tramway, the combination, with two parallel rails, of a flanged way for said rails, a means of support for said way, and a keeper bar for said rails, means of securing said keeper bar in position, as described, and a grooved incline attached to said keeper bar, as described, and mounted above the rails and extending downward between the rails to hold said incline in a given relation to the rails, as shown and described. 8th. In an aerial tramway, the combination, with two parallel rails, of a flanged way for said rails, means of support for said flanged way, a keeper bar for said rails, a grooved incline mounted above the rails and attached to said keeper bar, and the plate *M* under the rails connected to the incline above the rails, as and for the purpose described. 9th. In an aerial tramway, the combination, with two parallel rails, of an incline mounted above the rails and the bolts *m*, passing down between the rails connecting the incline and the plate *M*, and nearly filling the space between the rails, as and for the purpose described. 10th. In an aerial tramway, the combination, with two parallel rails, of a keeper bar for said rails, a yoke, and attachments thereto for maintaining said keeper bar in proper relation to said rails, as shown and described. 11th. In an aerial tramway, the combination, with two parallel rails, of a keeper bar for said rails, a yoke on which said keeper is mounted, and a spring to elevate said bar, as shown and described. 12th. In an aerial tramway, the combination, with two parallel rails, of a keeper bar for said rails, a yoke, said keeper secured to said yoke and elevated, as described, and a lug upon said keeper bar extending downwardly and interposed between the rails, as shown and described. 13th. In an aerial tramway, the combination, with two parallel rails, of a flanged way on which said rails rest, a keeper bar for said rails, secured substantially as described, a double grooved incline secured to two keeper bars and mounted above the rails, a flanged travelling wheel provided with a hanger arm, and a carrier suspended by said arm, substantially as shown and described. 14th. In an aerial tramway, the combination, with two parallel rails, of a grooved double incline mounted above the rails and two flanged wheels, and two hanger arms rigidly connected, as shown and described. 15th. In an aerial tramway, the combination of two compound rails formed each of two or more parallel rails supported and kept by each arm of a yoke, each arm having attached to it, as described, an axle having a flanged way for each compound rail, and having proper keepers and springs for keeper bars, two keeper bars for each arm, a grooved incline attached to each keeper bar, all members constructed substantially as shown and described, and a wheel on each side of each hanger arm, flanged as required and turning upon the connecting shaft, the hanger arms also boxed to shaft, permitting shaft to turn, if required, substantially as shown and described. 16th. In an aerial tramway, a carrier and means for supporting the same, in combination with a cable for moving the carrier and a pulley and guide rod *R* for supporting and maintaining said cable in a particular line, substantially as shown and described.

No. 38,307. Lubricant. (Lubrifiant.)

Robert Hutchison, Prestwick, County of Ayr, Scotland, 19th February, 1892; 5 years.

Claim.—A grease-like lubricant composed of lime combined with oleic, margaric, or stearic acid, or a mixture of such acids with mineral or hydrocarbon oil and with pinate of soda or of potash, the ingredients being compounded in the proportions and in the manner substantially as set forth.

No. 38,308. Method and Means for Displaying Advertisements. (*Méthode et moyen d'exhibiter les annonces.*)

Henry Heath, of Eccles, near Manchester, England, 19th February, 1892; 5 years.

Claim.—1st. As advertising media the frames *a, b, c*, adapted to be applied to lamp posts, pillars, columns and poles, in public thoroughfares, substantially as set forth and indicated. 2nd. As advertising media the polygonal frames *a, b, c*, adapted to receive plates or panels of opaque glass or other material bearing advertising announcements and to be applied to posts, pillars, columns or poles, substantially as and in the manner set forth and indicated. 3rd. The polygonal frames adapted to receive removable panels bearing advertising announcements, such frames being of a slightly tapering or pyramidal form and being adapted to be clamped upon or secured to lamp posts or to other posts, columns or poles, substantially as set forth and indicated. 4th. The combination with a lamp post, of the ornamental collars *a, b*, the grooved bars *c, c*, and the plates or panels *d, d*, with their edges fitted in such grooved bars, as shown and described.

No. 38,309. Press Shoes for Grain Drills.

(*Soulier presseur pour semoirs en lignes.*)

John M. Szarkowski, Minto, North Dakota, U.S.A., 19th February, 1892; 5 years.

Claim.—1st. A press shoe for grain and other drills, having the lower edges of the rear ends of the blades made widely divergent, while the upper edges thereof are brought closely together against the sides of the shank, the shank *B*, elliptical in cross section and narrow at its point of contact with the blade, and the spreader secured to the lower end of the shank and reaching along the lower side and between the diverging ends of the blades, substantially as set forth. 2nd. The shank, elliptical in cross section, the flattened end of which is secured between the upper edges of the rear ends of the blades and having extending from its lower end the spreader block, as set forth. 3rd. In a press shoe for grain and other drills, the combination of the blade, the shank, elliptical in cross section, and secured between the rear ends of the blades, and the spreader secured to the end of the shank and held so that the grain will be spread over the bottom of the furrow, all substantially as set forth and for the purpose named.

No. 38,310. Wick Trimmer. (*Taille-mèches.*)

Herbert H. Pearce, Toronto, Ontario, 19th February, 1892; 5 years.

Claim.—1st. As a new article of manufacture, a wick trimmer consisting of a spindle having a depression in its middle portion adapted to swing from side to side of the wick tube and across the top thereof, and during its transit remove from the wick that portion which has been charred, substantially as and for the purpose specified. 2nd. As a new article of manufacture, a wick trimmer consisting of a spindle journaled in the cone of the burner, and having a depression in its middle part, which depression is slightly curved, and is adapted to swing from side to side of the wick tube, and across the top thereof, and during its transit remove from the wick the charred portion, in combination with the cone of the burner, the wick tube and wick and a rest conveniently arranged to support the wick trimmer when not in operation, substantially as and for the purpose specified.

No. 38,311. Horse-Shoe. (*Fer à cheval.*)

William Henry Moore, Owen Sound, Ontario, Canada, 20th February, 1892; 5 years.

Claim.—1st. A horse shoe having a toe-calk set at an angle pointing outwardly and backwardly, substantially as and for the purpose specified. 2nd. A horse shoe having a toe-calk set at an angle pointing outwardly and backwardly, the outside of the shoe being made heavier than the inside. 3rd. A horse shoe having a toe-calk set at an angle pointing outwardly and backwardly, the outside of the shoe being made heavier than the inside, and its heel flared outwardly and beyond the heel-calk on the inside of the shoe.

No. 38,312. Folding Rocking Chair.

(*Fauteuil à bascul pivotant.*)

John Thornbeck, of the Village of Malvern, Ontario, Canada, 20th February, 1892; 5 years.

Claim.—1st. A folding chair, composed of a back *A*, pivoted on the cross-bars *B*, and supported by the arms *C*, pivoted on the cross-bars *D*, and each having a slot *E*, arranged to fit over the screw or pin *F*, projecting from the back *A*, substantially as and for the purpose specified. 2nd. A folding chair, composed of a back *A*, pivoted on the cross-bars *B*, and supported by the arms *C*, pivoted on the cross-bars *D*, and each having a slot *E*, arranged to fit over the screw or pin *F*, projecting from the back *A*, in combination with the rockers *G*, pivoted on the rung *H*, substantially as and for the purpose specified. 3rd. A folding chair, composed of a back *A*, pivoted on the cross-bars *B*, and supported by the arms *C*, pivoted on the cross-bars *D*, and each having a slot *E*, arranged to fit over the screw or pin *F*, projecting from the back *A*, in combination with the rocker *G*, pivoted on the rung *H* and supporting the rung *I*, to which they

are locked by a suitable locking dog, substantially as and for the purpose specified. 4th. A folding chair, composed of a back *A*, pivoted on the cross-bars *B*, and supported by the arms *C*, pivoted on the cross-bars *D*, and each having a slot *E*, arranged to fit over the screw or pin *F*, projecting from the back *A*, in combination with the rockers *G*, pivoted on the rung *H*, and supporting the rung *I*, to which they are locked by a suitable locking dog, a ground frame composed of the bars *N*, provided with brackets *O*, movably connected to the rockers *G*, by the rollers *Q*, substantially as and for the purpose specified. 5th. The combination of the rocking chair, of two bars adjustably held together and movably connected to the rockers of the said chair, substantially as and for the purpose specified; 6th. The combination with a folding chair, of a pivoted locking dog arranged to be thrown over the rung upon the rung coming in contact with the runner, substantially as and for the purpose specified. 7th. A pivoted lever *J*, provided with tails *a* and *b*, in combination with the dog *L*, arranged substantially as and for the purpose specified.

No. 38,313. Side Dresser for Swaged Saw Teeth.

(*Dressoir de côté pour dents de scies élargies.*)

Dempsey B. Hanson, Milwaukee, Wisconsin, U.S.A., 20th February, 1892; 5 years.

Claim.—1st. In a side dresser, a block or frame, oppositely moving screws for actuating the dressing dies, connected levers for revolving the screws, serrated collars on the screws, and serrations on the hubs of the levers for engagement with those of the collars, substantially as set forth. 2nd. An improved side dresser comprising a longitudinally slotted block or frame, a bar secured longitudinally within said slot by end nuts and having on its under side a shoulder or stop to engage the saw teeth dressing dies, and means for actuating the same. 3rd. An improved side dresser comprising a longitudinally slotted block or frame having two oppositely disposed sockets or channels at right angles to the slot and of greater diameter at their outer than at their inner portions, the outer portions of said sockets being internally screw threaded, oppositely disposed dies located in the smaller portions of the sockets, spiral retracting springs surrounding the dies within said smaller portions of the sockets, externally threaded die forcing screws located in the larger portions of the sockets, and actuating levers operatively connected together, substantially as set forth. 4th. In a side dresser, the combination of a block or frame and two dressing dies mounted and movable therein and arranged to operate upon opposite sides of an interposed saw tooth, said dies having plain faces to bear against the unswaged sides of the tooth to determine their approach toward each other and being beveled or cut away at their edges to afford space for and give shape to the metal of the swaged portion. 5th. In a side dresser, the combination of a block or frame adapted to hold or sustain a saw blade, two dressing dies mounted therein, and means for moving said dies simultaneously against opposite sides of an interposed saw tooth with sufficient pressure to compress the metal and to bring the tooth to proper width and form. 6th. In a side dresser, the combination of a pair of dies, each die having a plain face and a beveled edge, and means, substantially such as shown and described, for forcing the dies toward each other and against opposite sides of the interposed saw tooth simultaneously and equally. 7th. In a side dresser, the combination of two dies, each having a plain face arranged to come into contact with the unswaged portion of the interposed saw tooth and an inclined or beveled portion or face *c'* to act upon the previously swaged portions, and means for bringing the dies against opposite sides of the saw tooth simultaneously and equally. 8th. In a side dresser, the combination of a slotted block, a pair of dies mounted therein, screws for forcing the dies toward each other, an actuating lever for each screw, and a handle connecting the levers, the handle being of a length less than the space between the levers.

No. 38,314. Faucet. (*Robinet.*)

Levi Lewis Hall, Parkersburg, West Virginia, U.S.A., 20th February, 1892; 5 years.

Claim.—The herein described faucet comprising an outer tube or casing provided at its inner end with a boring bit and having a screw threaded portion intermediate of its ends, the shank of the bit being reduced intermediate of its cutting edge and the threaded portion of the casing, inlet and discharge ports in the outer and inner tubes and an operating handle in connection with the outer end of the inner tube, said handle having an interlocking engagement with the outer tube for turning the latter to bore the hole and screw the tube into the head, substantially as set forth.

No. 38,315. Combined Boiler and Toaster.

(*Bouilloire et fourchette à rôtir combinées.*)

James Arthur Varley, Toronto, Ontario, Canada, 20th February, 1892; 5 years.

Claim.—1st. A ring *A*, made to fit the pot hole of a stove and having a rack *B* connected to it, in combination with a detachable rack *D*, and cover *E*, substantially as and for the purpose specified. 2nd. A ring *A*, made to fit the pot hole of a stove, a rack *B* fixed to the said ring in which a ledge *C* is formed, in combination with a detachable rack *D*, and cover *E*, substantially as and for the purpose specified.

No. 38,316. Soap and Cheese Cutter.*(Couteur savon et fromage.)*

John Tobin Thomson, San Francisco, California, U.S.A., 20th February, 1892; 5 years.

Claim.—1st. The general combination of frame and bed F, wire cutter c, guides P, guage G, substantially as and for the purpose specified. 2nd. In a soap or cheese cutter the combination of the wire cutter, together with the eye on end and the bolt, substantially as and for the purpose specified.

No. 38,317. Bakers' Cabinet. *(Cabinet de boulanger.)*

Jessie McLaren Brophy, Montreal, Quebec, Canada, 20th February, 1892; 5 years.

Claim. The arrangement of the closed cabinet and the combination of bake board, drawers, shelves, flour box, hinged cover, and closed compartments substantially as and for the purposes hereinbefore set forth.

No. 38,318. Stovepipe. *(Tuyau de poêle.)*

John W. Littlewood, Toronto, Ontario, Canada, 20th February, 1892; 5 years.

Claim.—1st. A stovepipe length consisting of a blank cut in the usual manner, the meeting edges of which at one end are fastened together by means of a rivet, whilst the meeting edges at the opposite end are tightly brought together by means of a clasp adapted operate after the manner of a cam, which clasp when opened allows the meeting edges at this end to part to enlarge the diameter of said end of the stovepipe length to receive the closed end of the next adjacent length, and when closed to bring the said parted meeting edges tightly together and securely hold them in that position, substantially as described. 2nd. As a new article of manufacture, a stovepipe length consisting of a blank having a fold along one of its meeting edges into which fold enters the second meeting edge, said meeting edges at one end riveted together and connected at the opposite end by means of a clasp operating after the manner of a cam, and adapted when opened to allow the meeting edges at this end to part to receive the closed end of the next length, and when closed to bring the parted meeting edges tightly together, and securely hold them in their closed position, substantially as described. 3rd. As a new article of manufacture, a stovepipe length comprised of a blank cut out in the usual manner, one of the meeting edges of which is provided with a fold into which enters the second meeting edge, said meeting edges fastened together at one end by a rivet, whilst the meeting edges at the opposite end are secured by a clasp consisting of a U-shaped piece of metal, the closed end of which is connected to the stovepipe length at or near one of its meeting edges, and the free ends entering eyes formed in the coupling link, said coupling link consisting of a U-shaped piece of metal having eyes formed at or near its middle into which enter the ends of said U-shaped piece of metal, the free ends of said coupling link entering eyes secured to the length at or near the opposite meeting edge, said clasp adapted to bring the parted meeting edges tightly together and hold them securely in that position, substantially as described.

No. 38,319. Machine for Sharpening Saws.*(Machine à affûter les scies.)*

Milo Covei, Chicago, Illinois, U.S.A., 20th February, 1892; 5 years.

Claim.—1st. In a saw-sharpening machine, a pair of inclined brackets, provided with curved slots and secured to the supporting-frame, whereby the gate carrying the sharpening-wheel may be given a greater or less inclination, substantially as and for the purpose set forth. 2nd. In a saw-sharpening machine, the combination of the two brackets, provided with curved slots as described, and rigidly secured to the supporting-frame, the inclined guides adjustably attached to said brackets, and the emery-wheel gate, whereby the degree of inclination of said gate may be varied to bring the sharpening-wheel in contact with the saw-teeth at any desired angle, substantially as and for the purpose set forth. 3rd. In a saw-sharpening machine, the combination of a pair of inclined guides and the adjustable screw-rods connecting said guides, substantially as set forth. 4th. In a saw-sharpening machine, the combination of the emery-wheel gate, the rectangular frame, attached thereto, the companion bars, adjustably connected, the lever 28, the roller journaled between the ends thereof, the cam-wheel, and the shaft, upon which the same is mounted, substantially as and for the purpose set forth. 5th. In a saw-sharpening machine, the combination of lever 28, hand-lever 36, shaft 37, provided with a suitable bearing in the frame bracket 39, and parol 40, whereby the sharpening-wheel gate may be raised up by hand and locked in that position, substantially as set forth. 6th. In a saw-sharpening machine, the combination of lever 28, bracket 39, and the adjusting screw-bolt 42, substantially as set forth. 7th. In a saw-sharpening machine, the combination of the sharpening-wheel gate, rod 43, pivoted at one end to said gate, angular lever 44, the lower part of said rod extending down through said lever, and the set-nuts engaging with the threaded end of said rod, and the feed-finger, whereby the latter is lifted up out of engagement with the saw-teeth when the gate is raised by hand, substantially as set forth. 8th. In a saw-sharpening machine, the combination of plate 49, cross-bar 50, to which said plate is adjustably secured, set-screw 52, and stop 53, mounted on

said plate, substantially as set forth. 9th. In a saw-sharpening machine, the combination of the feed-arm and its rock-shaft, the feed-finger, attached to the upper end of said arm, connecting-rod 56, bearing-pin 57, bearing-nut 58, rotating-box 59, and counter-shaft 32, upon which said box is mounted, substantially as set forth. 10th. In a saw-sharpening machine, the combination of the bearing-pin 57, bearing-nut 58, in which said pin is inserted, the adjusting-screw, and a rotating journal-box, substantially as set forth. 11th. In a saw-sharpening machine, the combination of bracket 63, slide 64, provided with lug 66, the adjusting hand-screw 67, clamping-plate 70, and spring 73, provided with a handle attachment, substantially as set forth. 12th. In a saw-sharpening machine, the combination with the main frame, of vertical bars 76 and 77, pivoted at their lower ends to said frame, the companion adjusting rods 79, connecting the upper part of said bars with the frame and the band-pulleys mounted on top of said bars, substantially as set forth.

No. 38,320. Tag Wiring and Bundling Machines.*(Machine à lier et à assurer les étiquettes avec un fil métallique.)*

Albert Rodgers Tiffany and Wesley Young, both of Dayton, Ohio, U. S. A., 22nd February, 1892; 5 years.

Claim.—1st. In a tag wiring machine, in combination with the wire feeding and cutting mechanism, the looping-fork R, and the hollow twisting head S, and the mechanism for reciprocating said looping-fork to place the wire around the tag, substantially as described. 2nd. In a tag-wiring machine, the combination of the reciprocating looping-fork R, with the wire-feeding mechanism, consisting substantially of the jaws 12 and 13, operated by the pitman 20, and driving mechanism from the main shaft, whereby the wire is grasped and pulled forward into position in front of the looping-fork R, substantially as specified. 3rd. In a tag-wiring machine, the reciprocating looping-fork R, in combination with the jaws 12 and 13, and mechanism for reciprocating the same, the cutting-knife 26, and the mechanism for reciprocating the same at the end of the stroke of the feeding jaws, substantially as specified. 4th. In a tag-wiring machine, the combination of the looping-fork R, and the mechanism for reciprocating the same, the hollow twisting head S, with the cam-jaws 42 and 43, and the mechanism for operating said looping-fork to feed the wire forward over the tag, and the mechanism for clamping the jaws 42 and 43, for twisting the wire by a revolution of the head S, substantially as herein set forth. 5th. In a tag-wiring machine, the combination of an upright hopper J, for containing a stack of superimposed tags, a reciprocating slide L, moving beneath the hopper and acting to engage and move a tag forward from the lower end of the hopper, the reciprocating looping-fork R, for catching the wire, the hollow twisting head S, through which the looping-fork passes, the wire feeding jaws 12 and 13, and operating mechanism, substantially as described. 6th. In a tag-wiring machine, the combination of an upright hopper J, for containing a stack of superimposed tags, the slide L, moving beneath the hopper and acting to engage and move a tag forward from the lower end of the hopper, the looping-fork R, the hollow twisting head S, and means for reciprocating the slide and looping-fork and rotating the twisting head, substantially as described. 7th. In a tag-wiring machine, the hollow twisting head S, provided with vibrating jaws 42 and 43, a clamp-ring 44, and the mechanism for moving the clamping-ring and driving the twisting head, substantially as specified. 8th. In a tag-wiring machine, the combination of the reciprocating looping-fork R, provided with an eye for receiving and holding the slat, with the wire-holder 30, and mechanism for reciprocating the latter to engage and hold the wire fed forward by the looping-fork, substantially as described. 9th. In a tag-wiring machine, the combination of the looping-fork R, provided with an eye for receiving and holding the slat, with means for moving the fork forward to carry the wire over the tag, substantially as described. 10th. In a tag-wiring machine, the combination of the twisting mechanism, of the reciprocating fork R, provided with an eye in rear of its slotted or forked portion for receiving and holding the slat which is passed through said eye, substantially as described. 11th. In a tag-wiring machine having the tag feeding, the wire looping and twisting mechanism for twisting a strand of wire round a tag, the tag marking mechanism interposed between the tag feeding and the tag wiring mechanism, whereby the tags are fed forward, marked and wired, substantially as specified. 12th. In a tag-wiring machine having tag-feeding mechanism and tag-wiring mechanism for twisting the wire round each individual tag, a second tag-feeding mechanism, in combination with the binding pocket and the mechanism for twisting strands of wire round a series of tags forming the same into bales, substantially as specified. 13th. In combination with tag-wiring mechanism, a series of feeding rolls 75 adapted to receive the wired tag and carry the same forward and deliver the same to the tag feeding mechanism which deposits the said tags serially in a binding pocket and mechanism for wiring together a series of said tags in the binding pocket, substantially as specified. 14th. The combination of the twisting spindle 88, carrying two strands of wire, the binding pocket 81, tag feeding mechanism and the spindle driving mechanism operated automatically and intermittently to twist together a series of tags into a link or bundle, substantially as specified. 15th. The combination with the tag-wiring mechanism, of the packing shaft 84, the cam J, for intermittently operating said shaft, the binding fingers 82 and 83, between which the tags are received, means for operating said binding fingers,

the binding pocket 81, and means for reciprocating the lower binding fingers to press and drop the tag into the binding pocket, substantially as specified. 16th. The combination of tag wiring mechanism, the binding pocket 81, the binding fingers 82, 83, the shaft 84, the incline 85, the spring 86, the clutches 87 and the twisting spindle 88, substantially as specified.

No. 38,321. Die for Cutting off and Pointing Pieces of Wire. (*Matrice pour couper et pointer des morceaux de fil de fer.*)

American Screw Company, assignees of Charles D. Rogers, all of Providence, Rhode Island, U. S. A., 22nd February, 1892; 15 years.

Claim.—1st. A cutting-off die having its working face or end provided with a point-forming recess and further having a projecting tongue, as *d'*, substantially as described and for the purpose set forth. 2nd. In a machine for cutting continuous wire into short lengths, the combination with a guide tube, arranged to receive the wire, having a groove or recess, as *c*, formed in its face, of a pair of suitably mounted cutting-off dies provided with a point-forming recess and a projecting tongue, constructed, arranged and operating substantially as hereinbefore described and for the purpose set forth. 3rd. In a machine for cutting wire into lengths, the combination with a guide-tube having a groove *c*, formed in its face, of a mounted die provided with a point-forming recess and a tongue adapted to work in said groove, a reversely arranged die provided with a similar point-forming recess in yielding contact with the wire and a stop for limiting the dies movement, substantially as hereinbefore described. 4th. The improvement substantially as hereinbefore described in cutting off pieces of wire, the same consisting, first, in feeding the wire ahead the desired distance, next, severing or shearing the piece and moving it laterally thereby producing a groove across the adjacent end of the standing wire, and then, shearing and compressing the corresponding end of the piece of severed wire to form a point. 5th. The improvement substantially as hereinbefore described in producing screw eyes from a continuous piece of wire, consisting first, in feeding the wire ahead the desired distance; second, shearing a piece therefrom and moving it laterally, thus forming a concave groove across the end of the standing wire; third, shearing or pinching off the surplus metal from the corresponding end of the piece of wire to form a point; fourth, forming the screw-eye blank by lending a portion of the wire to form an eye *e*, the grooved end fitting and over-lapping the shank, and finally, rolling an enlarged screw-thread upon the shank. 6th. The cutting-off die hereinbefore described, having its working face or end provided with a tapering point-forming recess having sharpened edges and a projecting tongue arranged substantially in line with the axis of said recess, for the purpose set forth.

No. 38,322. Process of Spinning and Welding Metals.

(*Procédé de filage et soudage des métaux.*)

New Process Welding and Spinning Company, assignees of James Hall Bevington, Chicago, Illinois, U. S. A., 22nd February, 1892; 5 years.

Claim.—1st. The method of forming or spinning metal by forcing it into or through a die of harder metal, revolving at a high rate of speed, whereby the softer metal is heated by the friction between the parts and spun and formed into shape corresponding with the die, substantially as described. 2nd. The method of drawing and forming tubes into different shapes and sizes forcing them into a die of the required shape of harder metal and revolving at a high rate of speed, substantially as described. 3rd. The method of welding tubes, solid metal rods, wires, &c., the same consisting in bringing the ends together in contact with each other within a die of harder metal and then rapidly revolving the latter about the former and in contact with the two abutting ends, substantially as described.

No. 38,323. Apparatus for Manufacturing Tubes by Electrolysis. (*Appareil pour fabriquer des tubes par l'électrolyse.*)

Elmore's American and Canadian Patent Copper Depositing Company of London, England, assignees of Francis Edward Elmore and Alexander Stanley Elmore, both of Spring Grove, Hunslet, Leeds, England, 22nd February, 1892; 5 years.

Claim.—1st. A mandril for electrolytical deposit of tubes, consisting of a metal tube coated with fusible metal applied and polished by means of a roller, substantially as herein described. 2nd. A mandril consisting of a metal tube coated with fusible material, such as paraffin wax, which is applied and polished by means of a roller, is pricked through with numerous holes, and is covered with conducting substance, such as plumbago, substantially as described. 3rd. A mandril consisting of a metal tube coated with fusible material, such as paraffin wax mixed with material soluble in water, such as common salt, this mixture being applied and polished by means of a roller, substantially as described. 4th. A mandril consisting of a metal tube perforated with numerous holes closed watertight at the end, and coated with gellatinous or gummy material mixed with conducting powder, such as plumbago, substantially as and for the purpose set forth. 5th. The herein described method of loosening the deposited tube from the mandril by rolling with pres-

sure the deposit when it is thin, so as somewhat to stretch it. 6th. The method of loosening the deposited tube from a thin tubular mandril by contraction of the mandril, resulting from reduction of the pressure within it, substantially as herein described.

No. 38,324. Screw Driver. (*Tourne-vis.*)

Edward A. Eggert, Benjamin F. Watson, and Max J. Gese, all of Buffalo, New York, U. S. A., assignees of Walter Adelbert Church, Binghamton, New York, U. S. A., 22nd February, 1892; 5 years.

Claim.—1st. In a screw driver, the combination of a helically grooved spindle, its enclosing tube B, and two pairs of jaws carried by said tube, with the surrounding tube D, having its lower end adapted to bear upon one pair of jaws, substantially as described. 2nd. In a screw driver, the combination of its central spindle having a collar *a'* at one end and a screw projecting radially therefrom, the enclosing tube B, having a longitudinal groove for the reception of said screw, jaws carried by said tube, and means, as described, for retaining said jaws in engagement with the spindle, substantially as described. 3rd. The combination of the helically-grooved spindle of a screw driver, its enclosing tube B, jaws carried by said tube, and projecting screw *g* to actuate said tube, with the tube D, having the extended segment *d* and the cap E', substantially as and for the purpose described.

No. 38,325. Earth Closet. (*Siège à la terre sèche.*)

Hamilton Augustus Jukes, Winnipeg, Manitoba, Canada, 22nd February, 1892; 5 years.

Claim.—The door of closet when closed fitting close up against lug *m* on bucket C, forcing pails into proper position, substantially as and for the purpose hereinbefore set forth.

No. 38,326. Oscillating Engine.

(*Machine à cylindre oscillant.*)

Julian Moss, Detroit, Michigan, U. S. A., 22nd February, 1892; 5 years.

Claim.—1st. An oscillating engine having two pistons, a valve between said pistons and a rod connecting said pistons and passing through the valve, substantially as described. 2nd. An oscillating engine, having two pistons, a reversing valve between said pistons, and a rod connecting said pistons, passing through an aperture in said valve having enlarged ends to permit the shifting of the valve, substantially as described. 3rd. The combination in an oscillating engine, of two pistons connected with a crank, a reversing valve between the pistons, and the slotted lever P connected to the valve, substantially as described. 4th. The combination of the valve box C, the valve H set therein, the two sections of the cylinder secured thereto, the pistons working in said sections, a piston rod passing through said valve, a shaft connected with the piston rod, and suitable passages for the inlet and exhaust, substantially as described. 5th. The combination with an oscillating cylinder, having two pistons working therein, of a valve box between said pistons, a valve working in said valve box, and a removable trunion attached to said valve box to allow of the insertion of the valve in the valve box, substantially as described. 6th. The combination with an oscillating engine cylinder working on trunions, of a valve box, a valve working therein, a connection with the valve passing through one of the trunions, glands closing the ends of the trunions, and steam and exhaust pipes entering said glands, substantially as described.

No. 38,327. Stovepipe and Collar Fastener.

(*Tuyau de poêle et attache de collet.*)

John J. Travis and Henri G. Ide, both of Oxford, Michigan, U. S. A., 22nd February, 1892; 5 years.

Claim.—1st. In combination, a stovepipe, a collar located thereupon an exterior locking plate provided with an elongated slot intermediate its ends, rigidly secured at one end to said collar, a tie wire attached to the opposite end of said locking plate, an interior rigid locking rod having the ends upturned, one of said ends being threaded and passed through said pipe and the elongated slot in said locking plate, and a nut engaged on the threaded extremity of said locking rod outside said plate for clamping and holding said interior locking rod, and said exterior locking plate in place against the intermediate pipe, said locking rod having an adjustable relation to the pipe and to said locking plate, substantially as described. 2nd. In a stovepipe and collar fastener, the combination with a length of stovepipe having a hole in its upper side near one end, a collar on the pipe between the hole and the end nearest thereto, an exterior locking plate secured at one end to the collar, and provided intermediate its ends with a longitudinal slot registering with the hole through the pipe, a tie wire attached to the outer end of said plate and adapted to be connected with the pipe beyond the joint between said length and the remainder of the stovepipe, a rigid locking rod within the pipe, the ends of which are bent at substantially right angles thereto, and one of which ends extends beyond the end of the pipe, and is adapted to engage with the interior of the chimney, and the other end is screw threaded and projects up through the hole in the pipe and the slot of the locking plate, a nut upon the end of the rod within the pipe adapted to properly adjust the angle of the end of the rod which engages with the chimney, and nut upon the end of the rod outside of the plate for clamping the parts together, substantially as described. 3rd. In combination, a stove-

pipe, a collar located thereupon, an exterior locking plate provided with an elongated slot intermediate, its ends rigidly secured at one end to said collar, an interior rigid locking rod having the ends upturned, one of said ends being threaded and passed through said pipe and the elongated slot in said locking plate, and a nut engaged on the threaded extremity of said locking rod outside said plate for clamping and holding said interior locking rod, and said external locking plate in place against the intermediate pipe, substantially as described.

No. 38,328. Key Fastener. (Arrêt-clef.)

John J. Travis and Henry G. Ide, both of Oxford, Michigan, U.S.A., 22nd February, 1892; 5 years.

Claim.—1st. The combination with a key of a rib sleeved upon the stem of the key, the forward extremity of the rib of the sleeve constructed to enter the key-way of a lock, substantially as described. 2nd. The combination with a key of a rib sleeved upon the stem of the key, said sleeve constructed with a shoulder *c*¹, and the rib thereof with an extension *c*, forward of said shoulder, substantially as described. 3rd. The combination with a key of a rib sleeved upon the stem of the key, said stem provided with an ear piece jointly engaged with its rear extremity to lock upon the rear end of the ribbed sleeve, substantially as described. 4th. The combination with a key of a rib sleeved upon the stem of the key, an ear piece having a jointed engagement with the rear end of said stem to lock upon the rear end of said ribbed sleeve, and a locking device to hold the ear piece in engagement with the ribbed sleeve, substantially as described. 5th. The combination with a key of a sleeve *C*, located upon the stem of the key and provided with a rib *C*¹, constructed with front and rear extensions *c*¹, *c*², and ear piece having a jointed engagement with the rear end of the stem, said ear piece recessed or slotted to receive the rear extension *c*², of the rib and hold the key from turning, substantially as described. 6th. The combination with a lock and a key thereof of a rib engaged with the key, to enter the key way of the lock and prevent the key from turning when in locked position, substantially as described. 7th. The combination with a lock of a key, a rib having a stationary engagement with the lock, and means of engaging the key with the rib to hold the key from turning when out of alignment with the key way of the lock, substantially as described. 8th. The combination with a key provided with an ear of a sleeve engaged with the key stem and means to engage said sleeve and ear to hold the key from turning, substantially as described.

No. 38,329. Method of Manufacturing Gas.

(Méthode de fabrication du gaz.)

Charles Henry Wilder, Boston, Massachusetts, and Luke Augustus Wilder, Chicago, Illinois, both in U.S.A., assignees of Treat Timothy Prosser, Lynn, Massachusetts, U.S.A., 22nd February, 1892; 15 years.

Claim.—1st. In the manufacture of gas from hydrocarbon oils, the method or process herein described of purifying the oil and feeding it to a vaporizing retort, which consists in heating the oil by contact with a body of heated liquid subject to hydrostatic pressure, substantially as set forth. 2nd. The method of process herein described of manufacturing gas from hydrocarbon oils, which consists in heating the oil by direct contact with a body of heated liquid, forcing the heated oil to a vaporizing retort by hydrostatic pressure on the body of heated water, and mixing heated atmospheric air with the oil-vapor, substantially as set forth. 3rd. In an apparatus for the manufacture of gas, the combination with a vaporizing retort, and an air-pipe extending thereinto, of an oil feeding water tank having a pipe connection at its top portion with the interior of the vaporizing retort, a heater for heating the body of water in the tank, a pipe for delivering the oil upon the surface of the heated water, and a pipe for containing a column of water to subject the body of heated water to hydrostatic pressure for feeding the oil, substantially as described. 4. In an apparatus for the manufacture of gas, the retorts lined internally with a mixture of plumbago and molasses, substantially as and for the purpose described. 5th. An apparatus for the manufacture of gas, consisting of a furnace structure containing a vaporizing retort, a furnace structure containing an air and vapor mixing retort, a tube connection between the adjacent ends of the said retorts, an oil supply pipe extending into the vaporizing retort and delivering the oil in a heated condition thereinto and an air supply pipe extending into the vaporizing retort for delivering heated air into the vaporized oil, substantially as described. 6th. An apparatus for the manufacture of gas, consisting of a vaporizing retort, an air and vapor mixing retort, a tube connection between the adjacent ends of the said retorts, an oil supply pipe extending into the vaporizing retort for delivering the oil in a heated condition thereinto, an oil tank with the top of which the oil supply pipe connects, a water pipe entering the lower end of the oil tank and delivering water therein to force oil by hydrostatic pressure through the oil supply pipe, and an air supply pipe extending through the vaporizing retort and terminating in the tube connection between the two retorts for delivering heated air into the vaporized oil in transit through the tube connection to the mixing retort, substantially as described. 7th. An apparatus for the manufacture of gas, consisting of a furnace structure containing a vaporizing retort, a furnace structure containing an air and vapor mixing

retort, a tube connection between the adjacent ends of the said retorts, an oil supply pipe entering the vaporizing retort for delivering the oil in a heated condition thereinto, an oil tank with the top portion of which the oil pipe connects, a water pipe entering the lower end portion of the oil tank to deliver water therein and to force the oil by hydrostatic pressure through the oil supply pipe into the vaporizing retort, and an air supply pipe for delivering heated air into the oil vapor in transit to the air and vapor mixing retort, substantially as described. 8th. An apparatus for the manufacture of gas, consisting of a vaporizing retort having its bottom wall coated or lined with plumbago, an air and vapor mixing retort having a tube connection with one end of the vaporizing retort, an oil supply pipe extending into the vaporizing retort and delivering the oil in a heated condition upon the coating or lining of plumbago, an air supply pipe for delivering heated air to the oil vapor in transit to the air and vapor mixing retort, substantially as described. 9th. An apparatus for the manufacture of gas, consisting of a furnace structure containing a vaporizing retort, a furnace structure containing an air and oil vapor mixing retort provided interiorly with a series of separated diaphragms formed with alternating orifices for the tortuous circuit of the air and vapor, a tube connection between the adjacent ends of the said retorts, an oil supply pipe entering the vaporizing retort and delivering the oil in a heated condition thereinto, and an air supply pipe arranged within the vaporizing retort for delivering the heated air into the oil vapor in transit to the air and vapor mixing retort, substantially as described. 10th. An apparatus for the manufacture of gas, consisting of a furnace structure containing a vaporizing retort, a furnace structure containing an air and vapor mixing retort, a tube connection between the adjacent ends of the said retorts, a series of separated diaphragms arranged within the air and vapor mixing retorts, and provided alternately with orifices for the tortuous circuit of the oil and vapor, an oil supply pipe extending into the vaporizing retort, and arranged to deliver the oil in a heated condition thereinto, and an air supply pipe extending through the vaporizing retort and terminating within the tube connection between the retorts for delivering heated air to the oil vapor in transit through the tube connection, substantially as described. 11th. An apparatus for the manufacture of gas, consisting of a furnace structure containing a vaporizing retort, a furnace structure containing an air and vapor mixing retort having a tube connection with one end of the vaporizing retort, a furnace structure containing a gas reheating retort, having a tube connection with the air and vapor mixing retort at the end thereof, opposite that which connects with the vaporizing retort, and arranged to deliver the oil in a heated condition thereinto, and an air supply pipe extending through the vaporizing retort, and arranged to deliver heated air to the oil vapor in transit to the air and vapor mixing retort, substantially as described.

No. 38,330. Reversible Disc Harrow.

(Hersc à disque réversible.)

Jay Spencer Corbin, Prescott, Ontario, Canada, 22nd February, 1892; 5 years.

Claim.—1st. In a reversible disc harrow, the combination of a divided beam, the parts being adapted to be bolted together at or near the tongue and capable of lateral extension and contraction, as and for the purpose specified. 2nd. In a reversible disc harrow, the combination of a guide rigidly attached to the tongue or frame and adapted to hold both parts of a divided beam capable of lateral extension and contraction, in a constant position diagonal to the frame, substantially as described and specified. 3rd. In a reversible disc harrow, the combination of a divided and adjustable diagonal beam provided with hooks at each end thereof, and adapted to engage with loops or eyes formed on and depending from the under side of the journal boxes on the gang axles, substantially as described and specified. 4th. In a disc harrow, the combination of gang axle *J*, and hub *N*, with shoulder *I*, formed thereon, and so shaped as to form with the journal box *E*, a circular recess or space for the series of friction balls *k*, which are adapted to receive the direct and transverse strains, substantially as described and specified. 5th. In a reversible disc harrow, the combination of a tongue, a divided beam capable of lateral expansion and contraction, two disc gangs, and means for maintaining one gang in advance of the other in both the "direct" and "reversed" positions, substantially as specified. 6th. In a reversible disc harrow, the combination of a divided and adjustable beam *A*, *A*¹, the hooks *c*, and loops *d*, on journal boxes *E*, the gang axles *J*, and the disc gangs *K*, *K*¹, maintained in position one in advance of the other, the long connecting rods *F*, the short connecting rods *G*, the crooked slide bar *H*, pivotally attached to adjusting lever *I*, substantially as specified. 7th. In a disc harrow, the combination of a lever, a slide bar having a rising and falling motion when actuated by a lever, a cross beam with hooks upon ends and gang axle journal boxes having loops on their underneath sides, substantially as specified. 8th. In a disc harrow, the combination of a cross beam and frame, two disc gangs hinged to said beam and frame at points below their axles and a slide bar having a rising and falling motion, as and for the purpose specified. 9th. In a disc harrow, a beam composed of two parts attached to each other at or near the tongue and extending thence to the journal boxes of the disc gangs to which they are connected by a universal hinge joint, substantially as specified. 10th. In a disc harrow, a journal box hinged to the frame and cross beam at a point below

the journal box and means for preventing the twisting of said journal box by transverse draft strains, substantially as specified. 11th. In a disc harrow, a journal box provided with a series of friction balls and means for distributing the transverse pressure upon said balls equally at one and the same time, substantially as specified.

No. 38,331. Water Engine. (*Pompe rotative.*)

Henry Jerger, Norwood, South Australia, 22nd February, 1892; 5 years.

Claim.—1st. The use of a pair of actuating tanks, one at each end of an oscillating lever beam hinged or suspended and locked and unlocked for filling and emptying by suitable mechanism preferably, in the manner substantially as shown and described. 2nd. The use of a hanger such as that comprised in the parts H¹, H² and H³, for the purpose of retaining a lever actuating tank in upper position after it has received a supply of water which would otherwise be sufficient to counterbalance the weight of the other end of the lever beam and the work connected therewith. 3rd. The apparatus and mechanism, including the above, substantially as shown and described, whereby a tank suspended on a lever is allowed to fill with water and on becoming full, or as full as may be required, the said apparatus by the automatic action of the ball float is unlocked, thus releasing the tank and allowing it to descend. 4th. The device and apparatus for admitting the working water from a supply tank to one or other of the actuating tanks immediately upon each tank coming to its top position on its lock, and for closing the supply immediately the tank is unlocked, substantially as shown and described. 5th. The combination and arrangement of lever beam C¹, C², supply tank E, the pump rods F¹, F², the actuating tanks D¹, D², the locking apparatus shown in Figures 9, 10 and 11, substantially as and for the purposes described. 6th. The use of one actuating tank at one end of the lever beam, with a counterpoise weight at the other end in lieu of the other tank, as and for the purposes described.

No. 38,332. Electric Soldering Iron.

(*Fers électriques à souder.*)

Willard M. Miner, Plainfield, New Jersey, U.S.A., 22nd February, 1892; 5 years.

Claim.—1st. The combination, with the soldering iron, of a heat resistance included in an electric circuit, said resistance being located on the outside of the head of the iron, for the purpose set forth. 2nd. The combination, with a soldering iron, of a heating resistance included in an electric circuit, said resistance being located on the outside of the head of the iron and surrounding the same, for the purpose described. 3rd. The combination, with a soldering iron, of a heating resistance included in an electric circuit, said resistance surrounding the head of the iron, and a shell for confining the heat inclosing the resistance and the head of the iron. 4th. A soldering iron having a head provided with a reduced portion or shank which is surrounded by a heating resistance included in an electric circuit, and a shell placed around the reduced portion to retain the heat and impart to the head a symmetrical appearance. 5th. The combination, with the head of a soldering iron having a coating of heat retaining material, of a heating resistance included in an electric circuit surrounding the same. 6th. The combination, with the soldering iron, of a coil of wire forming a heating resistance and surrounding the head thereof.

No. 38,333. Swedger for Saws. (*Fer à tourner.*)

Peter Payette, Penetanguishene, Ontario, Canada, 24th February, 1892; 5 years.

Claim.—1st. A clamp designed to hold a saw, in combination with two rollers arranged in the clamps in such a manner that they may be made to act upon and swedge the point of the saw's tooth. 2nd. A spindle D, provided with a handle E, and screwed into the clamp A, against a longitudinally movable spindle G, designed to act against the surface of the saw, and press it against the toothed projection H, in combination with rollers I and J, one of which is provided with a handle K, substantially as and for the purpose specified. 3rd. A handle K, fixed to one of the rollers I or J, in combination with the adjustable stop L, arranged substantially as and for the purpose specified.

No. 38,334. Means for Securing Persons from Losses by Bad Debts. (*Moyen de protéger les personnes contre les pertes par mauvaises dettes.*)

Levy Maybaum, Newark, New Jersey, U.S.A., 24th February, 1892; 5 years.

Claim.—1st. The means for securing merchants and others from excessive losses by bad debts, which consist of a sheet provided with separate spaces and suitable headings, substantially as described, for the name of the assurer, the name of the assured, the percentage or amount beyond which assurance is given, the class or classes of persons as to rating, capital, or otherwise, in respect to whom said losses are guaranteed against, and the percentage of said capital or the amount which said losses must not exceed. 2nd. The means for securing merchants and others from excessive losses by bad debts, which consists of a sheet bearing the name of the assurer, and provided with separate spaces and suitable headings, substantially as described, for the name of the assured, the percentage or amount

beyond which assurance is given, the class or classes of persons as to rating, capital, or otherwise, in respect to whom said losses are guaranteed against.

No. 38,335. Art or Process of Manufacturing Phosphoric Acid from Phosphatic Material. (*Art ou procédé de fabrication d'acide phosphorique des matières phosphatiques.*)

Charles Glaser, Baltimore, Maryland, U.S.A., 24th February, 1892; 5 years.

Claim.—As a new and useful improvement in the art of manufacturing phosphoric acid, first diluting sulphuric acid with phosphoric acid (instead of with water) and then treating with successive charges of phosphatic material with sulphuric acid diluted with phosphoric acid of increasing degrees, by the system of applying the phosphoric acid derived from each charge as a diluent to the sulphuric acid used in treating the succeeding charge, substantially as hereinbefore described.

No. 38,336. Weather-Strip. (*Bourrelet de porte.*)

Harvey W. Ogg, Orrich, Missouri, U.S.A., 24th February, 1892; 5 years.

Claim.—A weather-strip comprising the upper section designed to be secured to a door, the lower section hinged to the upper section and adapted to close against a door-sill, the spring secured to the upper section and engaging the lower section, and the casing constructed of sheet metal and having its lower portion curved and covering the spring and the connection of the sections, and having its upper edge bent upon itself and forming a flange to provide a recess or groove to receive the upper edge of the upper section, the casing being designed to be secured to the upper section by the same means which secures the weather-strip to a door, substantially as described.

No. 38,337. Spike. (*Chevillette.*)

Alexander Clifford Trotter and Algernon Granville, both of Montreal, Quebec, Canada, 24th February, 1892; 5 years.

Claim.—A spike having a groove or way formed in it and a rod or nail resting therein, substantially as and for the purposes set forth.

No. 38,338. Pencil. (*Crayon.*)

Frederick Elijah Blaisdell, Philadelphia, Pennsylvania, U.S.A., 24th February, 1892; 5 years.

Claim. 1st. A pencil having its marking lead or crayon inclosed in a roll of flexible material, substantially as shown and described. 2nd. A pencil having its marking lead or crayon inclosed in a roll composed of a sheet of flexible material weakened at intervals substantially as shown and described. 3rd. A pencil having its marking lead or crayon inclosed in a roll composed of a sheet of flexible material bearing weakened lines arranged diagonal to the axis of the roll, the marking lead or crayon being secured to the roll, substantially as and for the purposes set forth. 4th. A pencil having its marking lead or crayon inclosed in a covering from which sections in the form of a conical helix may be removed one by one so as to uncover the marking lead or crayon section by section, substantially as shown and described. 5th. A pencil having its marking lead or crayon inclosed in a roll composed of a sheet of flexible material bearing weakened lines arranged diagonal to the axis of the roll along which the sheet may be separated, the first strip to be torn from the roll being wider at the outer than at the inner end, substantially as and for the purposes set forth. 6th. A pencil having its marking lead or crayon inclosed in a roll composed of a sheet of flexible material bearing weakened lines arranged diagonal to the axis of the roll, along which the sheet may be separated, the outer edge of the sheet being secured to the roll, substantially as shown and described. 7th. A pencil having its marking lead or crayon inclosed in a roll composed of a sheet of flexible material bearing weakened lines arranged diagonal to the axis of the roll, the outer edge of the sheet being secured to the roll and being provided with weakened points between the diagonal weakened lines, adjacent to such edge, substantially as shown and described.

No. 38,339. Check Hook. (*Crochet de sellette.*)

Harry Eugene Kelly, Niagara Falls, New York, U.S.A., 24th February, 1892; 5 years.

Claim.—A check hook comprising a screw-threaded shank, a solid arm projecting upwardly therefrom and having a recess in its lower portion in combination with a hook for the check-rein, having its heel pivoted in said recess, the hook when in its normal position extending forwardly from its pivot and thence upwardly and around with its nose in contact with the top of the arm to close the hook, and adapted to be swung backward until the nose extends behind the arm to open the same, as described.

No. 38,340. Wrench. (*Cle à écrou.*)

Daniel Hovey Carpenter, Orlando, Florida, U.S.A., 24th February, 1892; 5 years.

Claim.—1st. A wrench having a jaw provided with one or more transverse notches or grooves, and a fixed or movable rest whose active or grasping face is eccentric relatively to the jaw, and between which jaw and the rest the object to be acted upon is grasped, substantially as described. 2nd. A wrench having a jaw provided with a transverse notch or groove of sufficient size and depth to receive within itself an angle or corner of the object to be moved and to engage the sides adjacent to such angle or corner, combined with a rest for an opposed side of such object, substantially as described. 3rd. A wrench having a handle, a jaw socket, revoluble nut in such socket, a jaw having a screw-threaded shank engaged by such nut, a hook-shaped end to such jaw having a transverse curvilinear notch, and an eccentric rest constructed with a nut-engaging face, substantially as described. 4th. A wrench having a handle, a jaw socket, a revoluble nut in such socket, a jaw having a screw-threaded shank engaged by such nut, a hook-shaped end on such jaw, having a transverse curvilinear notch and also a dentated or roughened portion, and a pivoted, spring, fixed rest having part of its active face smooth or plain and part of it dentated or roughened, substantially as described. 5th. A wrench having a jaw provided with integral gripping portions, independent of and separate from one another, for engaging respectively angular and curvilinear objects, and a rest also having integral gripping portions, which are also independent of and separate from one another and cooperating with the complementary portions of the jaw for engaging respectively angular and curvilinear objects, substantially as described. 6th. A wrench having a jaw and a rest, each provided with integral but distinct gripping faces for nuts and pipes, the pipe grip of the jaw being dentated and having its forward tooth longer than the others, substantially as described.

No. 341. Turbine. (*Turbines.*)

William Henry Elmer, Berlin, Wisconsin, U.S.A., 24th February, 1892; 5 years.

Claim.—1st. The combination of a casing, a wheel enclosed therein, the gate-rings and gates, the angle-levers pivoted upon the top of the casing at diametrical points, links *c*¹, pivotally connecting the outer ends of the radial arms of the said angle-levers to the upper gate-ring, these links extending in opposite directions, a rod *cs*, connecting the parallel arms of the angle-levers, and a vertical operating shaft *d*, formed by an extension of one of the pivots of the angle-levers, as and for the purposes described. 2nd. The combination of a vertical cylinder *A*, set upon the floor of the flume, over the opening in the same, and provided with an opening closed by a removable door, an open frame *B*, secured in the lower part of the cylinder *A*, a wheel-casing mounted on top of the cylinder, and a wheel-shaft stepped in the frame *B* and carrying a wheel, the said wheel extending from the wheel-casing into the cylinder *A*, and having its lower end above the floor of the flume, as and for the purposes described. 3rd. The combination of a shaft, the conical hubs *g*¹, keyed on this shaft a suitable distance apart and having their adjacent faces concaved, vertical flat blades *g*, secured between these hubs, these blades being provided with lateral tangential extensions *g*¹¹ on the lower portions of their vertical edges, and a ring *h*, surrounding the wheel and secured to the vertical edges of the blades, substantially as described. 4th. The combination of a shaft, the conical hubs *g*¹, keyed on this shaft a suitable distance apart and having their adjacent faces concaved, and vertical flat blades *g*, secured between these hubs, these blades being provided with lateral tangential extensions *g*¹¹ on the lower portions of their lower edges, substantially as described.

No. 38,342. Bicycle Lock. (*Enrayage pour bicycles.*)

Cornelius James Brosnan, Springfield, Massachusetts, U.S.A., 24th February, 1892; 5 years.

Claim.—1st. In a lock for a bicycle, in combination a lock body having therein a bolt way and a socket, and supporting and attachment devices for mounting said body on the bicycle, a bolt movable endwise in said way and provided with a catch-lug which is extended partially across the socket, and having the thumb-lug extended to the exterior of the lock-body, a member adapted to have a rotational movement in said socket, and having an abutment portion which but partially fills the socket, and which may be turned to impede the catch-lug or to permit the longitudinal movement thereof, locking devices for maintaining the said member against its rotational movement, and a spring for effecting the rotational movement of said member at the time of the disengagement of its locking device, and of the locking projection of the bolt, and the retracting spring for the bolt, substantially as described. 2nd. The combination, with the two part clip, one member thereof having a supporting casing, for a lock body, provided with a bayonet joint slot on its under side, of a lock body having the parallel holes *h* and *i*, with the uniting slot 14, and the slot 12, and having the holes *m m* therein, and the spring-pressed pins, the tumbler bar set for rotation in said hole *h*, having the narrowed extremity *j*¹, and the pin holes and tumbler pins therein, the tumbler bar rotating spring, and the key slot, the bolt endwise movable in the hole *i*, having the catch-lug *g*², extended through said slot 14, and partially cross said hole *h*, the bolt also

having a thumb-lug extended through the slot 12, and said casing slot, and the bolt retracting spring arranged for operation, substantially as described. 3rd. The combination with the fork-leg of a bicycle of a clip engaging same, and having a lock body with a bolt way, and a bolt therein which is movable in a straight line at right angles to the length of the fork-leg, and locking devices for holding the bolt in its projected position, for the purpose set forth.

No. 38,343. Waggon. (*Wagon.*)

Hermidas Quenville, Township of McKin, Ontario, Canada, 24th February, 1892; 5 years.

Claim.—1st. In a waggon or vehicle and in combination, the front floor or slats, springs *A* attached thereto extending upwardly rearwardly and slightly curved, to near the front edge of the seat, thence along the underside of the said seat to near the rear edge of the same, thence downward, rearward and slightly curved, to the rear floor or front ends of the rear slats, and the rear floor or slats, substantially as and for the purpose hereinbefore set forth. 2nd. In combination, front floor or slats having plate *C* across the end thereof, springs *A*, seats secured to springs *A*, rear floor or slats having plate *C* across the end thereof, and spring *D*, substantially as and for the purpose hereinbefore set forth. 3rd. In combination, front floor or slats, spring *D* slightly curved upwards under the seat, and forked at both ends and secured to the front and rear floors or slats *B*, and rear floors or slats, substantially as and for the purpose hereinbefore set forth.

No. 38,344. Packing for Stuffing-Boxes.

(*Garniture pour boites à clapets.*)

Hanlet Edwin Forrest, New York, N.Y., U.S.A., 24th February, 1892; 5 years.

Claim.—The combination, with the stuffing-box, the piston-rod, and the packing, of the valve-ring at the end of the packing, the seating having one face upon which the valve-ring has a sliding engagement, and its opposite face toward the end of the stuffing-box adjacent to the cylinder head being beveled, so as to recede from its seat as it extends outwardly from the piston-rod and form a space for cement or permanent packing, and its face toward the valve-ring being of substantially the same width as the adjacent face of the valve-ring, the outer margin of its said upper bearing face being spaced from the inner wall of the stuffing-box, substantially as set forth.

No. 38,345. Load Binder. (*Chaîne d'embrelage des charges.*)

Joseph Henry Johnson, Bradford, Pennsylvania, U.S.A., 24th February, 1892; 5 years.

Claim.—1st. A device for taking up the slack in girts, consisting of a lever having a claw at one end and a clevice journaled therein, consisting of side bars and a sliding coupling jaw, adapted to receive and retain a chain, mounted thereon, as set forth. 2nd. A device for taking up the slack in girts, consisting of a lever having a claw at one end and a clevice consisting of side bars, and a sliding coupling jaw, adapted to receive and retain a chain, and springs inserted upon said side bars between the coupling jaw and the free end of said bars, as set forth. 3rd. The combination of a lever having a claw at one end, a clevice journaled thereto and provided with a yielding coupling jaw. 4th. The combination with the girt, of a lever having a claw at one end, guards upon its opposite end, and clevices journaled thereto, and provided with a yielding coupling jaw.

No. 38,346. Fireproof Floor. (*Plancher incombustible.*)

Thomas A. Lee, Kansas, Missouri, U.S.A., 24th February, 1892; 5 years.

Claim.—1st. In fireproof floors and roofs, a course of separate blocks united together and having a cavity in each block extending the length of the course, and a tension rod cemented within said cavities and to the said blocks, substantially as and for the purpose described. 2nd. In fire-proof floors and roofs composed of courses of separate blocks united together, and having registering cavities in the case of said block extending the length of each course, the combination of two adjacent courses having meeting cavities, and a tension rod cemented within said meeting cavities, substantially as and for the purpose described. 3rd. In fireproof floors and roofs composed of courses of separate blocks united together, and having a cavity in the base of each block extending a length of a course, a tension rod having a cement engaging surface cemented within the cavities of said blocks and to said blocks in each course, substantially as and for the purpose described. 4th. In fireproof floors and roofs composed of courses of separate blocks in contiguity, and a cavity in the base of each block registering with each other in the length of each course, of a tension rod cemented within the said registering cavities, suitable carrying supports upon which the courses rest at each end, and the means substantially as described for uniting the contiguous sides of the adjacent courses, whereby the strength of one course is imparted to another course continuously throughout the length of the carrying supports, substantially as described. 5th. In fireproof floors and roofs composed of courses of separate blocks united together and having a cavity in the base of each block, registering with each other in the length of said course, of a tension rod

cemented within said cavities, and a vertical dowel uniting said blocks together, substantially as described. 6th. In fireproof floors and roofs composed of courses of blocks united together and having a cavity in the base of each block extending the length of said course, tension rods cemented within said cavities to said blocks, and a link connecting said rods together, substantially as described. 7th. In fireproof floors and roofs composed of courses of blocks united together and having a cavity in the base of each block extending the length of the course, and grooves extending in an upward direction in the sides of said cavity and said blocks, a tension rod having a cement engaging surface cemented within said cavity and united with grooves in said cavity, substantially as described. 8th. In fireproof floors and roofs composed of courses of separate blocks united together, having a cavity in the base of each block and extending the length of the course, the combination of a tension rod cemented within said cavities, and provided with screw threaded end portions within said cavities, and provided with screw threaded end portions and suitable clamping nuts, for the purpose described. 9th. In fireproof floors and roofs composed of courses of separate blocks united together, having a cavity in the base of each block extending the length of each course, the combination of a tension rod cemented within said cavities, and provided with screw threaded nuts and washers between said nuts and blocks, substantially as and for the purpose described. 10th. In fireproof floors and roofs composed of courses of separate blocks united together, having a cavity in the base of each block extending the length of the course, the combination of tension rods within the cavities of said blocks, suitable carrying supports upon which the courses rest at each end, clamping rods connected with said supports at one end, and clamped against the inner end of said end blocks at the other, substantially as described. 11th. In fireproof floors and roofs composed of courses of separate blocks united together and having a tension rod in the base of and extending the length of said course, the combination with hollow end blocks in said course having suitable supports therefor, and partitions within the sides of said blocks, of clamping rods having one end connected with said supports, and the other end screw threaded and extending within the hollow of said end blocks, and a clamping washer thereon bearing against the inner end of said partitions in said end block, and a nut on said end of said rod, for the purpose described.

No. 38,347. Time Stamp. (Etampe.)

Robert H. Thompson, New York, and Henry D. Morris, Brooklyn, assignees of Charles Harris Shaw, Brooklyn, all in the State of New York, U. S. A., 24th February, 1892; 5 years.

Claim.—1st. A stamp comprising a casing, a support for an endless type band, or type bands, the said casing having an opening through which the type band or bands may be reached, and guides on the support, substantially as specified. 2nd. A stamp comprising a casing, a compressible support carried by said casing, type bands on said support and register marks on the support, substantially as specified. 3rd. A stamp comprising a casing, a compressible type band support mounted in said casing, type bands thereon, guide ribs on the support and register marks formed in the ribs, substantially as specified. 4th. A stamp comprising a downwardly movable casing carrying a time mechanism, an endless time band moved by said time mechanism, other endless type bands, and a compressible support for said last named type bands, substantially as specified. 5th. In a stamp, the combination with time mechanism of an endless band moved substantially continuous by said time mechanism, and bearing letters, figures or characters to indicate the time of day, other endless bands bearing letters, figures, or characters and a compressible support for said last named bands, substantially as specified. 6th. In a stamp, the combination with a casing of an elastically-expanded and compressible support for a type band or type bands, and a type band or type bands in said support, said support being adapted for compression with the fingers for slackening the band or bands, substantially as set forth, whereby said support may be compressed simultaneously with the manipulation of the band or bands for shifting, substantially as specified. 7th. In a time stamp, the combination with the base and the uprights thereon, of a casing carrying time mechanism and printing mechanism, the said casing having a swinging connection with the uprights and returning mechanism for the swinging casing located above the base, substantially as specified. 8th. In a time stamp, the combination with the base and the uprights thereon, of a frame having pivotal connection with the uprights, a casing for printing mechanism carried by said frame, a rock bar having journal bearings in the uprights, a rod extending from the rock-bar through a hole in said frame, and a spring surrounding the rod between the rock-bar and frame, substantially as specified. 9th. In a stamp, the combination with the base and uprights, of a frame fulcrumed to said uprights and carrying a casing for printing mechanism, one end of said frame serving as an operating handle, and the other end having connection with a returning spring supported from the uprights, substantially as specified. 10th. In a stamp, the combination with a base and uprights thereon, of a frame fulcrumed to said uprights and carrying a casing for printing mechanism, a rock-bar having journal bearings in said uprights, a rod extending from the rock-bar loosely through a hole in the frame, a spring surrounding the rod between the rock-bar and frame, and an inking roller carried by said frame, substantially as specified.

No. 38,348. Saw-Set. (Tourne à gauche.)

John McIntosh, Port Elgin, and Moses Bricker, Listowel, both in Ontario, Canada, 24th February, 1892; 5 years.

Claim.—1st. A saw-set comprising a frame having a recess in its bottom, a stationary jaw forming a part of one side of said recess, a cam pivoted to the frame above the recess and playing through the same to co-act with the stationary jaw, means for operating the said cam and means for holding the saw in the recess, substantially as described. 2nd. The combination with a frame having pins or lugs on its sides, a screw mounted on the frame and a gauge carried by said screw, and having depending side portions provided with slots engaging the pins or lugs on the frame, substantially as described. 3rd. In a saw-set, the combination of a swinging jaw pivotally secured to the frame work, having its meeting face hardened and inclined to form one part of the die, the opposite end fitted with a cam operated by a lever pivotally secured to said framework, a stationary jaw forming part of the framework and having its meeting face inclined and hardened to form the second die, in combination with a means for holding the saw in position consisting of an opposing surface, holding a bolt operated by a lever, substantially as described. 4th. In a saw-set, the combination of a swinging jaw pivotally secured to the framework, having its meeting face inclined and hardened and fitted with a cam, a lever to operate said cam, a stationary jaw located in and forming part of the framework and having its meeting face inclined and hardened to correspond to the inclination of the meeting face of the swinging jaw, a holding bolt located in said framework, a lever to operate said holding bolt, and an opposing surface between which and the locking bolt the saw is held, and a means for regulating the gauge of the set, substantially as described. 5th. In a saw-set, the combination of a swinging jaw pivotally secured to the framework, a lever for operating said swinging jaw, a stationary jaw located in and forming part of the said framework, the meeting faces of said jaws inclined and hardened to form the die, the holding bolt located in said framework, a lever to operate said holding bolt, and opposing surface between which and the holding bolt the saw is firmly held, a gauge to regulate the set of the teeth, substantially as described.

No. 38,349. Clothes Line. (Ligne d'étendage.)

Solomon Smith, Ravenna, and Lucien Rawden, Windsor, both in Ohio, U. S. A., 24th February, 1892; 5 years.

Claim.—1st. A clothes line comprising the following elements:—An endless line, grooved sheave wheels for supporting the ends of the line, right and left hand threaded brackets for the respective sheave wheels, bails supported in the apertured ends of the brackets and having the said sheave wheels journaled between their free ends, the sheave wheel at the receiving or inner end of the line having a series of transverse openings through its rim, a locking pin connected with the bail and adapted to pass through a set of the series of openings and across the groove therein, and over the line, and a travelling stop permanently connected with one portion of the line and adapted to lock the line on the outer pulley, substantially as set forth. 2nd. The combination, with an endless line and grooved sheave wheels for supporting the line at its ends, the sheave wheel at the inner end of the line having a series of openings in its rim, of a locking pin adapted to be thrust through a set of the openings in the rim of the said wheel and extend across the groove therein and over the line, substantially as described, for the purpose specified.

No. 38,350. Automatic Railway Switch.

(Aiguille automatique de chemin de fer.)

Joseph R. Matthews, Macon, Georgia, U. S. A., 25th February, 1892; 5 years.

Claim.—1st. The combination of the rails of the main and side tracks with the switch rails C, D, a pivoted lever placed between them, and a spring for connecting the end of the lever with the rail D, a spring F for opening the switch, and a hand lever for operating the switch, the free ends of the switch rails C, D being made to move in opposite directions, substantially as shown. 2nd. The combination of the switch rail C, having a triangular-shaped block secured to or formed upon one end, the pivoted lever I, spring K, switch rail D, spring F, and the operating lever for moving both of the switch rails with the rails of the main and the side tracks, substantially as described. 3rd. The combination of the two switch rails loosely connected together and made to move in opposite directions with the staple or catch, a spring-actuated rod for engaging with the staple or catch, and the spring upon which the movable end of the switch rail rests, substantially as set forth. 4th. The combination of one of the rails of the side track having a rising and falling movement at one end, a connecting plate, the switch rail provided with a projection which extends through the connecting plate, the catch or staple, a spring-actuated rod for catching in the staple or catch, a spring placed under the ends of the two rails, and a lever for moving the two switch rails, which are loosely connected together, substantially as specified.

No. 38,351. Duplicate Memorandum Book or Sale Slip. (*Agendus, calepins, etc.*)

Wilson Morton, Toronto, Ontario, Canada, 25th February, 1892; 5 years.

Claim.—1st. A duplicate memorandum book or sale slip consisting of a series of sale slips and their duplicates, the back of each of said sale slips being provided with a transferring composition by means of which the characters recorded on the sale slip are recorded on its duplicate, substantially as described. 2nd. A duplicate memorandum book or sale slip consisting of a series of sale slips and their duplicates, the back of each sale slip provided with a transferring composition by means of which the characters recorded on the sale slip are simultaneously recorded on its duplicate, and a rest adapted to be interposed between the duplicate of the sale slip in use and the remainder of the book, substantially as described.

No. 38,352. Galvanic Battery. (*Batterie galvanique.*)

Walter Ambus Crowds, Chicago, Illinois, U.S.A., 25th February, 1892; 5 years.

Claim.—1st. In an electric battery, the combination with a battery-jar and a non-conducting porous partition dividing it into two chambers for the respective electrolytes, of a conducting porous partition arranged against and co-operating with the non-conducting partition, whereby the thickness and resistance of the latter may be reduced without increasing the osmotic mixing of the electrolytes. 2nd. In an electric battery, the combination with a battery-jar and a non-conducting porous partition dividing it into two chambers for the respective electrolytes, of a positive electrode in one of said chambers and a negative electrode in the other, consisting of a conducting porous partition arranged against and co-operating with the non-conducting partition in separating the electrolytes. 3rd. In a two-fluid battery, the porous partition consisting of a plate of porous non-conducting material and a plate of porous carbon, arranged together to co-operate in separating the electrolytes. 4th. In an electric battery, the combination with a battery-jar and a non-conducting porous partition dividing it into two chambers for the respective electrolytes, of a positive electrode in one of said chambers and a negative electrode in the other, consisting of a plate of porous carbon arranged against and co-operating with the non-conducting partition, and provided with chambers or passages additional to its porous interstices for admitting the electrolyte in a pre-determined volume through the carbon and into contact with the non-conducting plate, whereby the electrolytic circulation may be increased to any desired extent beyond the capacity of the natural porosity of the carbon. 5th. In a two-fluid battery, the porous partition consisting of a plate of porous non-conducting material and a plate of porous carbon arranged against it, and formed to admit a circulation of a thin stream or film of the electrolyte between it and the non-conducting plate. 6th. In a two-fluid battery, the porous partition consisting of a plate of porous non-conducting material and a plate of porous carbon arranged against it, having perforations through it and grooves or chambers on its side next the non-conducting plate to admit a circulation of the electrolyte between them. 7th. In a two-fluid battery, the porous partition consisting of a plate of porous non-conducting material, and a negative electrode consisting of a plate of porous carbon arranged against it and formed to admit a stream or film of the electrolyte to circulate between it and the non-conducting plate.

No. 38,353. Dry Kiln Furnace. (*Four à secher.*)

William Ketcham, Dallas, Texas, U. S. A., 25th February, 1892; 5 years.

Claim.—1st. In a dry-kiln, the combination of a series of furnaces alternating with a series of heating or radiating drums parallel to and on a plane above the furnace, the ends of the drum extending through the walls of the kiln and having movable caps thereon with lateral valved flue connections between the drums, the openings of said flue connections being at such an inclination as to register with the open ends of the drums, as and for the purpose set forth. 2nd. In a dry-kiln, the combination of a series of furnaces connected with a flue beneath and at right angles to the furnaces alternating with a series of heating or radiating drums on a plane above and parallel to the furnaces, lateral valved flue connections between and their openings registering with the open ends of said drums, flue connections between the flue beneath the furnaces and drums, and valved smoke-flues opening into the kiln beneath the drying-chamber from one of the end drums, substantially as and for the purpose set forth. 3rd. In a dry-kiln, the combination, with the furnaces, of radiating end drums D, F, on a plane above and connected with the furnaces through a flue beneath and at right angles thereto, and a central drum E, located between the end drums, having one of its ends connected with the end drums by lateral valved flues registering with the openings in the ends of the drums and having at its opposite end a draft-flue H, the central drum having no direct connection with the furnaces, as and for the purpose set forth.

No. 38,354. Dust Guard for Car Axle Boxes.

(*Garde-poussière pour boîtes à graisse des chars.*)

John A. White, assignee of Abe L. Cushman, both of Concord, New Hampshire, U. S. A., 25th February, 1892; 5 years.

Claim.—A dust guard composed of two blocks A and B, and provided with springs in such a manner as to cause a longitudinal movement of the said blocks to take up the wear of the same, and which may be held together by any means suitable for that purpose, all substantially as set forth and described.

No. 38,355. Tuning Pin for Piano-Fortes.

(*Chevilles de piano.*)

The Ivers & Pond Piano Company, Boston, assignees of William Henry Ivers, Dedham, all of Massachusetts, U. S. A., 25th February, 1892; 15 years.

Claim.—1st. As a new article of manufacture, a tuning-pin formed of an integral length of metal with suitable cross-section, and having a flexure or elbow, to create two arms, one of which contacts with the pin-block, and the other sustains the tension of the string, substantially as stated. 2nd. In a piano-forte, a tuning pin composed of two portions or arms integrally united, but angularly disposed, one to contact with the pin-block, the other parallel with or obliquely disposed above said pin-block, and means secured to the latter arm to regulate the tension of the string, substantially as specified. 3rd. An L-shaped tuning-pin, as described, in combination with a pin-block having a recess formed in it to receive one arm of the tuning-pin, the said recess being elongated to allow sliding movement of the tuning-pin bodily in a plane coincident, or nearly so, with the longitudinal axis of the string, substantially as set forth. 4th. The combination, with a piano-forte frame, a flange thereupon and a pin-block having a series of recesses, of a series of strings, and a series of integral removable tuning-pins formed with an elbow to create two arms, one of which contacts with the pin-block, the other arm being parallel with or inclined to the face of the pin-block and screw-threaded to engage a nut resting against the flange of the frame, substantially as specified. 5th. In combination with a piano-forte, a series of strings, and a pin-block having a series of elongated recesses, a series of removable tuning-pins adapted to slide in the recesses of the pin-block, said tuning-pins being bent to form two arms, one to contact with the pin-block, and the other parallel with or inclined to the surface of the pin-block, the string being secured at or near the point of flexure, and means attached to the tuning-pin by which tension of the string is regulated, substantially as stated.

No. 38,356. Machine for Producing Metal Lathing.

(*Appareil pour faire le lattis métallique.*)

Walter Whitfield Bostwick, assignee of Harley Alpheus Stone, both of New York, N. Y., U. S. A., 25th February, 1892; 5 years.

Claim.—1st. In a machine for making metal lath, a roll comprising a series of disks having ribbers upon their peripheries, and cutters arranged in spaces between the discs near the circumferences thereof, substantially as set forth. 2nd. In a machine for making metal lath, a roll comprising a mandril, a series of discs having ribbers upon their peripheries, circular cutters arranged in spaces between the discs near the circumferences thereof, and washers also in said spaces, substantially as set forth. 3rd. In a machine for making metal lath, a roll comprising a series of discs having ribbers upon their peripheries, and cutters supported on pins in each pair of adjacent discs in the space between them, and near the circumferences thereof, substantially as set forth. 4th. In a machine for making metal lath, a roll comprising a mandril, a series of discs having ribbers upon their peripheries, and cutters supported on pins in each pair of adjacent discs in the space between them and near the circumferences thereof, and a washer in said space, substantially as set forth. 5th. In a machine for making metal lath, a roll comprising a mandril, a series of discs having grooved peripheries, and a washer in the space between each adjacent pair of discs, said discs being composite as described, that is to say the parts immediately surrounding the mandril being of wrought iron, and the outer parts or rims of steel welded thereto and suitably hardened, substantially as set forth. 6th. In a machine for making metal lath, a composite disc, the inner part of whose area is of wrought iron and the outer part of hardened steel, substantially as set forth. 7th. In a machine for making metal lath, a pair of rolls each comprising a series of disks clamped on mandrels and constituting together male and female dies, combined with spacing washers, and cutters supported by one roll and adapted to enter the spaces existing between the disks of the other roll, substantially as set forth. 8th. In a machine for making metal lath, a pair of rolls constituting together male and female dies, combined with a series of strippers, substantially as and for the purpose specified. 9th. In a machine for making metal lath, a pair of rolls each comprising a series of discs clamped on mandrels and constituting together male and female dies, combined with spacing washers, cutters supported by one roll and adapted to enter the spaces existing between the disc of the other roll, and series of strippers arranged on opposite sides of the rolls, substantially as and for the purpose specified.

No. 38,357. Saw-Swage. (*Machin à étamper les scies.*)

John Hanchett, Big Rapids, Michigan, U.S.A., 25th February, 1892; 5 years.

Claim.—1st. A saw-swage comprising the block A, provided with a recess B, having an inclined bottom B¹, the rectangular anvil-die

H resting on said bottom and having rounded ends, a transverse screw I crossing the recess B and supporting the said die opposite said inclined bottom, the screw J bearing at its inner end on the outer rounded end of said die, and the longitudinally adjustable shaft E extending transversely through the block and having swage-die D adjacent to the inner rounded end of the anvil-die, and provided with an operating lever or handle F, substantially as set forth.

2nd. A saw-swage comprising the block A, having a recess B, and the adjustable-die H, the longitudinally adjustable shaft E, extending through the block, having at one projecting end a series of annular grooves E', and formed with an elongated swage-die D between its ends of greater length than the width of the recess B, and the slotted adjustable plate G on the block, and engaging one of the annular recesses with one end, substantially as set forth.

No. 38,358. Manufacture of Compound Plates or Slabs of Cement, Plaster and like material. (*Fabrication de composé de plaques de ciment, plâtre et matières semblables.*)

Emile Dupont, Brussels, Belgium, 25th February, 1892; 5 years.

Claim.—For manufacturing light, thin and solid ceramic plates or slabs, the consolidation of one or two layers of plaster, cement, etc., by means of card board to which the ceramic material adheres by simple absorption, compression, perforation, or pegging, substantially as and for the purposes set forth.

No. 38,359. Cheese Press. (*Presse à fromage.*)

Charles Richardson and William Webster, both of St. Mary's, Ontario, Canada, 25th February, 1892; 5 years.

Claim.—1st. The combination of spiral springs *c*, with block *d*, case *f* and head *a*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the spiral spring *e* and the block *d*, case *f*, and head *a*, of the frame C, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, with the spiral springs *c*, block *d*, case *f*, head *a* and frame *c*, of gutter *h*, substantially as and for the purpose hereinbefore set forth.

No. 38,360. Holder for Shoe and Button Fasteners.

(*Porte-attache pour boutons de chaussures.*)

Alexander Grace Wilkins, Meadville, Pennsylvania, U.S.A., 25th February, 1892; 5 years.

Claim.—1st. A device for packing button-fasteners, consisting of a reel and a tube placed on said reel and adapted to have fasteners inserted in the periphery thereof, substantially as set forth. 2nd. A device for packing button-fasteners, consisting of a reel composed of rods or wires, a fixed and a removable head and a tube placed over the rods or wires, and held thereon by the heads, substantially as set forth. 3rd. A device for packing button-fasteners, consisting of a reel composed of a pair of heads having holes therein, and rods held in said holes, and a paste board tubular holder held on said rod between the heads, substantially as set forth. 4th. A device for packing button-fasteners, consisting of a frame, a reel revolvably supported thereon, said reel being made in detachable parts, and a tube or holder mounted on the reel and held thereon by the heads, substantially as set forth. 5th. A button-fastener package comprising an elongated tube having perforations arranged in rows lengthwise the tube, and button-fasteners inserted in said perforations with their points within the tube and their heads overlapping, substantially as set forth.

No. 38,361. Car Coupler. (*Attelage de chars.*)

Charles Augustus Pooley, Buffalo, N. Y., U. S. A., 26th February, 1892; 5 years.

Claim.—1st. A car-coupler comprising a head, a swinging coupling-jaw and a swinging pawl for locking the jaw, in combination with provisions on the head actuated by said parts and constructed when said pawl is swung out of the locking position to swing said jaw toward the open position and when said jaw is swung closed to swing said pawl into engagement therewith. 2nd. A car-coupler comprising a head, a swinging coupling-jaw and a swinging pawl for locking the jaw, in combination with a lever fulcrumed in said head, projecting into the paths of travel of said jaw and pawl, and constructed when said pawl is unlocked to be actuated thereby and to move said pawl. 3rd. A car-coupler comprising a head, a swinging coupling-jaw, and a swinging pawl for locking the jaw, in combination with a lever fulcrumed in said head, projecting into the paths of travel of said jaw and pawl, and constructed to be moved by the pawl when unlocking and by the jaw when closing, and provisions for limiting the swing of said lever. 4th. A car-coupler comprising a head, a swinging coupling-jaw, and a swinging pawl for locking the jaw, in combination with a lever fulcrumed in said head, projecting into the paths of travel of said jaw and pawl, and constructed to be moved by the pawl when unlocking and by the jaw when closing, and abutting shoulders on said head and lever for limiting the swing of said lever. 5th. A car-coupler comprising a head, a swinging coupling-jaw having a recessed locking arm, and a lock for locking the jaw, in combination with a lever mounted in said head, entering the recess in said locking arm at one end and extending rearwardly of said lock at the other end, said lever constructed to be moved by said lock and to swing said jaw. 6th. The combination of the draw-

head A, the coupling-jaw B, the locking pawl C, and the lever E, pivoted to the draw-head and co-operating with both said jaw B and said pawl C, substantially as set forth, whereby when said pawl is operated it swings said lever, which in turn throws said coupling-jaw to its open position. 7th. In a car-coupler, the combination, with the head A, coupling-jaw B, and locking pawl C, pivoted at *h*, of the lever E, pivoted at *j*, and having arm *l* extending back of the pawl and arm *h* extending back of the jaw, said lever constructed when the pawl is unlocked to move the jaw open and when the jaw is closed to move the pawl into engagement therewith.

No. 38,362. Life Preserver. (*Appareil de sauvetage.*)

Alois Zadak, of 13 Keckskuniti-utga, Budapest, Hungary, 26th February, 1892; 5 years.

Claim.—1st. A life preserver for floating or sustaining persons in the water which consists of air-tight air bags B B, C C, suitably shaped to and adapted to be worn with the various articles of clothing, said bags being made to lie approximately flat when not in use, but which may be inflated with air or other suitable gas when emergency arises, by means of an air admission pipe or pipes, substantially as described. 2nd. In a life preserver, the combination of the air bags B B and C C, suitably shaped to the various articles of clothing, and adapted to be permanently worn therewith, the belt A also adapted to serve as an air bag, and the air admission pipes and cocks D E communicating with said air bags, whereby said bags may be inflated in emergency with air or other gas, substantially as described.

No. 38,363. Combined Soot Door, Ventilator and Check Draft for Chimney Apertures. (*Porte pour la suie, ventilateur et régulateur de tirage combinés pour les cheminées.*)

William Orme McRobie, Winnipeg, Manitoba, Canada, 26th February, 1892; 5 years.

Claim.—1st. A combined soot door, check draft and ventilator for chimney apertures, consisting of a collar A, having an exterior flange B, a door C, hung to fall horizontally, and provided with a stop bracket H, and side flanges or checks D, and perforations E, and a rotary damper F, having perforations G, coinciding with perforations in the door, as set forth. 2nd. A soot door, comprising a collar A, having a surrounding flange B, and a door C, having side flanges or checks D, and hung to said collar to fall horizontally, as set forth.

No. 38,364. Cartridge Loader. (*Appareil pour charger les cartouches.*)

George Benjamin Jacobs, Parral, Chiguahua, Mexico, 26th February, 1892; 15 years.

Claim.—1st. In a cartridge-loading machine, the combination of rotating magazines containing the materials with which the shells are to be loaded, directing chutes below for conveying said materials, and a rotating holder for the shells adapted to bring each shell into communication with the several chutes to receive the materials, substantially as herein described. 2nd. In a cartridge-loading machine, the combination of a rotating holder for carrying the shells, rotating-magazines above for carrying the materials with which the shells are to be loaded, and intervening fixed directing chutes for conveying the contents of said magazines to the shells, substantially as herein described. 3rd. In a cartridge-loading machine, the combination of rotating-magazines containing the materials with which the shells are to be loaded, directing-chutes for delivering said materials, reciprocating plungers or rammers, and a rotary shell-holder adapted by its movement to bring each shell successively into communication with the directing chutes and under the rammers or plungers, substantially as herein described. 4th. In a cartridge-loading machine, the combination of rotating magazines containing the materials with which the shells are to be loaded, fixed directing-chutes with which said magazines communicate as they rotate, reciprocating plungers, and a rotary holder for the shells, adapted to carry the shells successively into communication with the fixed chutes and under the rammers or plungers, substantially as herein described. 5th. In a cartridge-loading machine, the combination of a reciprocating shaft, rammers or plungers carried thereby, rotating magazines containing the materials with which the shells are to be loaded, directing-chutes communicating with said magazines, and a rotary shell-holder adapted to carry its shells successively into communication with the directing chutes and under the rammers or plungers, substantially as herein described. 6th. In a cartridge-loading machine, the combination of a reciprocating shaft, rammers or plungers carried thereby, rotating magazines containing the materials with which the shells are to be loaded, fixed chutes communicating with said magazines, and a rotary shell-holder adapted to carry its shells successively into communication with the directing-chutes and under the rammers or plungers, substantially as herein described. 7th. In a cartridge-loading machine, the combination of the vertically-reciprocating shaft, the rammers or plungers carried thereby, the shell-holder, and the means for rotating said holder to carry its shells under the several rammers or plungers, consisting of the series of separated tappet-lugs on the periphery of the shell-holder and the cam carried by the shaft and having the yielding spring, said cam operating between said lugs, substantially as herein described. 8th. In a cartridge-loading machine, the combination of the vertically reciprocating shaft, the plungers or rammers carried

thereby, the shell-holder, and the means for rotating it, consisting of the series of separated tappet-lugs on the periphery of the shell-holder, the plate P carried by the shaft, and the cam carried by the plate and having the spring on its face operating between the lugs of the shell-holder, substantially as herein described. 9th. In a cartridge-loading machine, the combination of rotating magazines for containing the material with which the shells are to be loaded, the vertically reciprocating shaft, and power transmitting connections between said shaft and the magazines, whereby the latter are rotated, substantially as herein described. 10th. In a cartridge-loading machine, the combination of the rotary material-magazines, the vertically reciprocating shaft, and the means for rotating said magazines, consisting of the series of tappet lugs carried by the magazine, and a cam or cams carried by the reciprocating shaft and having the spring operating between the lugs, substantially as herein described. 11th. In a cartridge-loading machine and in combination with the separated tappet-lugs on the periphery of a rotary part, the reciprocating cam having an inclined edge and a straight edge, and the yielding spring on the inclined edge and having a projecting end, substantially as herein described. 12th. In a cartridge-loading machine, the combination of the vertically reciprocating shaft, the plungers or rammers carried thereby, the rotary material magazines, the rotary shell-holder, and power connections whereby the movement of the shaft transmits a rotary movement to the magazines and shell-holder, substantially as herein described. 13th. In a cartridge-loading machine, the combination of the vertically reciprocating shaft, the rammers or plungers carried thereby, the rotary material magazines, the rotary shell-holder, the intervening fixed delivery chutes, and power transmitting connections whereby the movement of the shaft transmits a rotary movement to the magazines and shell-holder, substantially as herein described. 14th. In a cartridge-loading machine, the combination of a fixed plate, a series of connected open ended tubes mounted and adapted to rotate upon said plate, openings in the plate over which the tubes are successively brought to deliver their contents, fixed directing chutes under the plate and communicating with the opening, and means for operating the same, substantially as herein described. 15th. In a cartridge-loading machine, the combination of the lower and upper fixed plates, the openings in the upper plate, the rotating shell-holder on the lower plate, the rotating series of magazines on the upper plate, consisting of open ended tubes, and the intervening fixed chutes communicating with the openings in the upper plate, substantially as herein described. 16th. In a cartridge-loading machine, the combination of the fixed plates C and D, the vertically reciprocating shaft passing through said plates, rammers or plungers carried by said shaft, the rotating shell-holder consisting of a series of tubes mounted upon the lower plate, the rotating annular series of material magazines mounted on the upper plate and intervening fixed directing chutes, substantially as herein described. 17th. In a cartridge-loading machine, the combination of the fixed plates C and D, having openings, the reciprocating shaft passing through said plates, rammers or plungers carried by said shaft, the rotating shell-holder consisting of a series of open-ended tubes mounted on the lower plates, the rotating annular series of material magazines mounted on the upper plate, intervening fixed directing-chutes communicating with the openings in the upper plate, and power connections between the reciprocating shaft and the shell-holder and material magazines, whereby the latter are rotated, substantially as herein described. 18th. In a cartridge-loading machine, the combination of the inner and outer concentric magazine tubes, means for supporting and rotating the same, and a powder magazine suitably supported above said tubes, substantially as herein described. 19th. In a cartridge-loading machine, the rotating series of magazine tubes, consisting of the separate annular series of tubes L, M and N in concentric series, in combination with means for rotating the same, substantially as herein described. 20th. In a cartridge-loading machine, the concentric series of magazine tubes L, M and N and the fixed powder magazine between the series of tubes L and the adjacent series of tubes M, substantially as herein described. 21st. In a cartridge-loading machine, the concentric series of magazine tubes M and N, connected together, in combination with the means for rotating them simultaneously, consisting of the ring on the inner surfaces of the tubes N, having the separated lugs, and the vertically movable cam with its spring operating between said lugs, substantially as herein described. 22nd. In a cartridge-loading machine, the combination of the rotary series of tubes forming the material magazines, said tubes having apertures or openings in their lower portions, and stationary cut-off plates over which said openings pass to regulate the feed of the contents of the tubes, substantially as herein described. 23rd. In a cartridge-loading machine, the rotating series of tubes forming the material magazine, said tubes having openings at their lower portions, and vertically adjustable stationary cut-off plates over which said openings pass to regulate the feed of the material, substantially as herein described. 24th. In a cartridge-loading machine, the combination of a shell-holder, a shell-magazine above, a directing-chute Q communicating with said magazine, and a vertically movable arm for receiving the shell from the chute and raising it into the shell-holder, substantially as herein described. 25. In a cartridge-loading machine, the combination of the shell-holder having an open lower end, the spring rests q^3 projecting under said end, and the vertically movable arm for raising the shell through the spring rests into the shell-holder, substantially as herein described. 26th. In a

cartridge-loading machine, the combination of the shell-holder, the directing-chute for the shells, the vertically movable arm for receiving said shell and raising it into the shell-holder, and the vertically movable gate for closing and opening the directing-chute, substantially as herein described. 27th. In a cartridge-loading machine, the combination of the shell-holder, the directing-chute for the shells, the hopper q^1 for receiving the shells, the arm for supporting them, and the vertically movable shaft A, carrying said arms, substantially as herein described. 28th. In a cartridge-loading machine, the combination of the rotary shell-holder having appended tubes, the spring rests q^2 , over which said tubes are successively carried, the directing-chute for the shells, the receiving hopper, the arm for supporting the shell, the vertically movable shaft, the plate P carried by the shaft and supporting the arm, and the gate or flange of said plate for closing and opening the directing-chute, substantially as herein described. 29th. In a cartridge-loading machine, the combination of the fixed plate C, having the opening c^2 , a rotary shell-holder on said plate and adapted to bring its shells successively over the opening c^2 , the vertically reciprocating shaft A, and the decapping plunger F, carried by said shaft, substantially as herein described. 30th. In a cartridge-loading machine, the combination of the fixed plate C, having the groove c^3 , the slide bar in such groove and the spring controlled lever e^6 operating said bar, the rotary shell-holder upon plate C, having tappet-lugs for operating the lever and slide bar, the series of shell tubes K, and cap magazines k , of said holder adapted to cross the groove c^3 , and a plunger operating through plate C, to force the cap into the shell, substantially as herein described. 31st. In a cartridge-loading machine, the combination of the fixed plate C, having the groove c^3 , the slide bar in said groove and the spring controlled lever e^6 , operating the slide bar, the rotary shell-holder with tappet-lugs for operating the lever, the series of shell tubes K, and cap magazines k , of said holder adapted to cross the groove c^3 , the plunger in place C, under the cap groove, the vertically movable shaft A, the plate P, carried by said shaft, and the contact screw carried by the plate P, and adapted to operate the plunger to force a cap into each succeeding shell, substantially as herein described. 32nd. In a cartridge-loading machine, the combination of the powder magazine having the discharge pipe, the measuring cup on the lower end of the pipe, the alternately acting cut-off plates traversing said cup, the vertical turn rod carrying said plates, and the means for operating the turn rod consisting of the spring controlled arm o^7 thereof, the vertically movable rod o^8 , and the cam o^9 on said rod, having an inclined face with spring o^{10} , and a guide flange o^{11} , operating against the arm of the turn rod, substantially as herein described. 33rd. In a cartridge-loading machine and in combination with the powder magazine and its discharge pipe, the telescopic measuring cup on its lower end, the turn rod o^1 , the upper cut-off plate fixed on said rod, and the lower cut-off plate adjustable upon said rod, substantially as herein described. 34th. In a cartridge-loading machine, the combination of the vertically movable shaft A, the head a^1 , carried by its upper end, a wad rammer carried by said head, a rotary series of shell carrying tubes adapted to be brought successively in line with the wad rammer, and a spring controlled wad-chute to form a guide for the wad, substantially as herein described. 35th. In a cartridge-loading machine, the shell-holder and the reciprocating wad-rammer, in combination with the swinging spring controlled wad-chute having spring fingers at its lower end bent in different directions to enter the shell and to pass outside of it to form a guide for the wad as the rammer presses it into the shell, substantially as herein described. 36th. In a cartridge-loading machine, the combination of the bullet rammer, the directing-chute for the bullets and the two part spring controlled hopper at the lower end of the chute and embracing the rammer, substantially as herein described. 37th. In a cartridge-loading machine, the combination of the reciprocating bullet-rammer having the spring controlled presser pin in its lower end, the directing-chute U for the bullets, and the spring controlled two part hopper at the lower end of the chute and embracing the bullet-rammer, substantially as herein described. 38th. In a cartridge-loading machine, the combination of the vertically adjustable shaft A, the discharge plunger I, carried by said shaft, and the rotary shell holder adapted to carry its several shells successively into alignment with the rammer, whereby the cartridges are discharged, substantially as herein described. 39th. In a cartridge-loading machine, the loading cylinder or shell-holder consisting of an upper and a lower plate and a double series of concentric tubes carried by and between said plates, substantially as herein described. 40th. In a cartridge-loading machine, the loading cylinder or shell-holder consisting of an upper and a lower plate, the series of shell tubes between the plates, and a series of smaller cap-tubes carried by the plates and located outside the shell tubes, substantially as herein described. 41st. In a cartridge-loading machine, the loading cylinder or shell-holder having an upper and a lower plate carrying between them a series of tubes, each plate being made in halves and connected by cross clips j , and bolts j^1 , substantially as herein described.

No. 38,365. Steam and Cold Water Packing. (*Composition pour servir de garniture à la vapeur et l'eau froide.*)

Isaac Hendy Culp, Hamilton, Ontario, Canada, 26th February, 1892; 5 years.

Claim. A metallic steam and cold water packing, consisting of tin foil, plumbago or graphite and oil, substantially as and for the purpose specified.

No. 38,366. Washing Machine. (*Machine à blanchir.*)

Leonard Stapleton, Listowell, Ontario, Canada, 27th February, 1892; 5 years.

Claim.—The combination of washer A, and the upright stem B, with handle E, and tops and braces C D F G, substantially as and for the purposes hereinbefore set forth.

No. 38,367. Dry Closet. (*Latrines sèches.*)

Thomas Buckenham Anderton Chamberlain, Toronto, Ontario, Canada, 27th February, 1892; 5 years.

Claim.—1st. In a dry closet or commode, a flexible bag or receptacle G, made of material impervious to both water and air, and situated beneath the hole in the seat, as and for the purpose specified. 2nd. The combination, with the seat of a dry closet or commode, of the metal ring secured beneath the seat around the hole and having hooks attached to the same, and the bag or receptacle secured in position at the top on the hooks, as and for the purpose specified. 3rd. The combination, with the seat of a dry closet or commode, of a metal ring secured beneath the seat around the hole and having hooks attached to the same, the bag or receptacle secured in position at the top on the hooks, and the cord or wire tightly secured around the bag over the metal ring, as and for the purpose specified. 4th. The combination, with a seat of a dry closet or commode having a bag or receptacle attached beneath the hole in the seat, of the box J, located beneath the other end of the seat and having the hole K, communicating therewith, as and for the purpose specified. 5th. The combination, with the seat of a dry closet or commode having a bag or receptacle attached beneath the hole in the seat, of the door I located at the end of the commode, as and for the purpose specified. 6th. The combination, with the seat of a dry closet or commode having a bag or receptacle attached beneath the hole in the seat, of the supplemental hinged seat C, having a small hole *c* made in it, as and for the purpose specified.

No. 38,368. Automatic Railway Signal.

(*Signal automatique de chemin de fer.*)

Frank Robinson, Bangor, Maine, U.S.A., 27th February, 1892; 5 years.

Claim.—1st. The herein device described for automatically returning mechanism to position after position changed, consisting of two hollow bulbs mounted opposite each other upon a centre at an inclination with the horizontal and turning upon a centre shaft, the bulb which is lowermost in original position being partially filled with liquid (preferably non-freezing) and the two bulbs being connected with each other by two drainage tubes respectively above and below the centre shaft and geared at the centre, or otherwise connected with a partial revolution, with the mechanism which throws the bulbs and is to be reversed by the operation of the bulbs, the drainage tube which is uppermost in first position being fitted with a graduating cock or other device for regulating the flow of the liquid when said tube is lowermost. 2nd. The herein described device for automatically returning mechanism to position after position changed, consisting of two hollow bulbs mounted opposite each other upon a centre at an inclination with the horizontal and turning upon a centre shaft, the bulb which is lowermost in original position being partially filled with liquid (preferably non-freezing) and the two bulbs being connected with each other by two drainage tubes respectively above and below the centre shaft, and geared at the centre, or otherwise connected for a partial revolution, with the mechanism which throws the bulbs and is to be reversed by the operation of the bulbs, the drainage tube which is uppermost in first or safety position being of lesser diameter than the other tube. 3rd. The herein described automatic railway signal, consisting of the combination of a tripping device so placed with reference to the railway track as to be operated by the passage of a railway carriage; a railway signal shaft and signal connected with and turned and operated by said tripping device; and two hollow bulbs mounted opposite each other upon a centre at an inclination with the horizontal and turning upon a centre shaft, the bulb which is lowermost in original position being partially filled with liquid (preferably non-freezing) and the two bulbs being connected with each other by two drainage tubes respectively above and below the centre shaft and geared at the centre, or otherwise connected for a partial revolution, with the mechanism which throws the bulbs and is to be reversed by the operation of the bulbs, the drainage tube which is uppermost in first or safety position being fitted with a graduating cock or other device for regulating the flow of the liquid when said tube is lowermost. 4th. The herein described automatic railway signal, consisting of the combination of a tripping device so placed with reference to the railway track as to be operated by the passage of a railway carriage; a railway signal shaft and signal connected with and turned and operated by said tripping device; two hollow bulbs mounted opposite each other upon a centre at an inclination with the horizontal and turning upon a centre shaft, the bulb which is lowermost in original or safety position being partially filled with liquid (preferably non-freezing) and the two bulbs being connected with each other by two drainage tubes respectively above and below the centre shaft and geared at the centre, or otherwise connected for a partial revolution, with the mechanism which throws the bulbs and is to be reversed by the operation of the bulbs, the drainage tube which is uppermost in first or safety position being fitted with

a graduating cock or other device for regulating the flow of the liquid when said tube is lowermost; stops so placed as to confine the revolution of said bulbs within desired limits; a weighted centrifugal clutch so placed and pivoted upon the centre between said bulbs as temporarily to engage with a notch or catch point upon the centre shaft when the bulbs are in danger position; and a weight attached to the bulb which is lowermost in the safety position. 5th. In a railway signal, the combination of a signal shaft and signal, a device operated by the passage of the cars for tripping the signal shaft, and a spring so placed as to interpose between the wheels of the cars and that part of the tripping device which receives the actuating power. 6th. In the herein described device for automatically returning mechanism to position after position changed, the combination of a centrifugal clutch having a loaded butt, said clutch being loosely pivoted to the turning centre, and a notch or jaw upon some part of the stationary centre shaft adapted to receive and momentarily engage with said clutch.

No. 38,369. Window Jack. (*Cric pour chassis.*)

Douglas Alexander Thurston, Toronto, Ontario, Canada, 27th February, 1892; 5 years.

Claim.—1st. In a window jack, the combination of a frame, a seat, and a back supported from said frame, substantially as described. 2nd. In a window jack, the combination of a frame, a stationary support, and movable clutches adapted to embrace the window frame on both sides of said support, substantially as described. 3rd. In a window jack, the combination of a frame, the stationary support B, the movable supports C, C, provided with hooks for clutching the window stool, and the movable support D, adapted to rest on and embrace the window sill, substantially as described. 4th. In a window jack, the combination of a frame, the stationary support B, the sliding supports C, C, provided with the hooks *c*, and the sliding support D, provided with the adjustable supporting blocks *d*⁴, substantially as described. 5th. In a window jack, the combination of a frame, the stationary supports B, the sliding supports C, C, provided with the hooks *c*, screw shaft, worm gear, and rack and pinion for operating said supports C, C, and the sliding support D, with the screw shaft for operating it, substantially as described. 6th. In a window jack, the strut G, substantially as described. 7th. In a window jack, the strut G, and means for adjusting it, substantially as described. 8th. In combination with a window jack, rail supports *a*, substantially as described. 9th. In a window jack, the combination of a seat, a frame provided with means for clutching the window frame, substantially as described. 10th. In a window jack, the combination of a seat, a frame provided with clutches for engaging the window, and means for operating said clutches, substantially as described. 11th. In a window jack, the combination of a seat, a frame provided with clutches for engaging the window, and a screw shaft for operating said clutches, substantially as described.

No. 38,370. Lamp. (*Lampe.*)

Alfred Ellis Harris, London, England, 27th February, 1892; 5 years.

Claim.—1st. A lamp burner comprising a metal frame adapted to fit the burner-tube and formed at its upper end in accordance with the shape of flame desired, the said frame being wound with wire, and having the space contained by the frame and wires filled with absorbent material, substantially as described. 2nd. In a lamp having a burner of the kind hereinbefore referred to, a tube for conveying oil to the burner, and a valve for controlling the passage of oil through the said tube, substantially as described. 3rd. In a lamp, the reservoir of which is below the burner, a compressible reservoir having a pipe extending to the burner, substantially as described.

No. 38,371. Process of Tanning Hides.

(*Procédé pour tanner les peaux.*)

Tilmon L. Crafton, Sidney, Arkansas, U.S.A., 27th February, 1892; 5 years.

Claim.—1st. The process for tanning hides, which consists in first immersing the hides in a mixture consisting of fifteen gallons of water, six quarts slaked lime, six quarts ashes, and one pound of soda; second, removing the lime from the hides by immersing them in a bate consisting of twenty gallons of soft water, one peck of wheat bran, two gallons of buttermilk, one half pound of acetic acid (six per cent.) or strong vinegar, and three pounds of salt, and, third, submerging them in a tan orge consisting of fifteen gallons of water, ten pounds of gambier, four pounds of salt, three pounds of saltpetre, and one pound of acetic acid (six per cent.) or strong vinegar. 2nd. The process of tanning hides, which consists in first immersing the hides in a mixture consisting of fifteen gallons of water, six quarts of slaked lime, six quarts of ashes, and one pound of soda; second, removing the lime from the hides by immersing them in a bate consisting of twenty gallons of soft water, one peck of wheat bran, two gallons of buttermilk, one-half pound of acetic acid (six per cent.) or strong vinegar, and three pounds of salt, and, third, submerging them in a tan ooze consisting of fifteen gallons of water, ten pounds of gambier, four pounds of salt, three pounds of saltpetre, one pound of acetic acid (six per cent.) or one-half gallon strong vinegar, and five pounds of hemlock or five gallons strong bark ooze.

No. 38,372. Electrical Exchange. (*Echange électrique.*)

The Strowger Automatic Telephone Exchange, Chicago, Illinois, assignee of Almon B. Strowger, Kansas City, Missouri, all in U. S. A., 29th February, 1892; 5 years.

Claim.—1st. In a system of telephone, telegraph, or other electrical exchange, the combination, with a series of wires leading to the different stations in the system and having their ends insulated and held in curved rows, of a contact-needle supported at the axis of the rows, mechanism for moving the needle from row to row, mechanism for moving the needle along the rows, magnets for actuating said mechanism, and wires led from a sub-station for conducting electricity to energize the said magnets, substantially as set forth. 2nd. In a system of electrical exchange, the combination, with an insulating-cylinder, a system of wires having their ends extending to the inside of the cylinder, and a rotary and longitudinally-movable rod located at the axis of the cylinder, of a contact-needle attached to the rod, levers for moving the rod longitudinally, levers for rotating the rod, magnets for actuating the levers, and means for energizing the magnets at pleasure, substantially as set forth. 3rd. In a system of electrical exchange, the combination, with an insulating curved surface, a system of wires having their ends extending to and through said surface to the concave surface thereof, and a rotary and longitudinally-movable rod located at the axis of curvature, of a contact-needle fastened to the rod, levers for moving the rods longitudinally, levers for rotating the rod, magnets for vibrating the lever, and means for energizing the magnets at pleasure, substantially as set forth. 4th. In a system of electrical exchange, the combination, with an insulating-cylinder, a system of wires having their ends extending to the inside of the cylinder, and a rotary and longitudinally-movable rod located at the axis of the cylinder, of a sleeved arm fastened to the rod, a contact-needle, levers for moving the rod longitudinally, levers for rotating the rod, magnets for actuating the levers, means for pressing the needle outwardly, and means for energizing the magnet at pleasure, substantially as set forth. 5th. In combination, the set of wires having their ends secured in a cylinder, the cylinder, the rod at the axis of the cylinder, the pieces fastened to the rod, the levers provided with pawls pivoted thereto for actuating the rod, the magnets for actuating the levers, the magnets for actuating the pawls, the keys at the sub-station, and the wires connecting the keys with the actuating-magnets, substantially as set forth.

No. 38,373. Method of Electric Welding.

(*Mode de soudage électrique.*)

The Thomson International Electric Welding Company, Boston, assignee of Elihu Thomson, Swampscott, all in Massachusetts, U. S. A., 29th February, 1892; 5 years.

Claim.—The herein described method of electric welding, which consists in the repeated alternate application of a heating electric current and pressure to the object to be welded.

No. 38,374. Device for Tying Bags, &c.

(*Appareil pour attacher les sacs, &c.*)

Madison Clark Kimball and Charles Lewis Pattison, both of Elkland, Pennsylvania, U. S. A., 29th February, 1892; 5 years.

Claim.—The bag or package fastener consisting of the double binding cord and the link or clasp having its side curved outward in opposite directions at the centre forming seats or bearings for the said cord, said cord being passed before doubling through said link or clasp, substantially as set forth.

No. 38,375. Band Saw Mill. (*Scierie à ruban.*)

The Waterous Engine Works Company, assignee of James Thompson Milne, all of Brantford, Ontario, Canada, 29th February, 1892; 5 years.

Claim.—1st. A band-saw frame consisting of a triangular base plate A, rigidly connected to a triangular top plate B, by vertical columns C, substantially as and for the purpose specified. 2nd. A band-saw frame consisting of a triangular base plate A, rigidly connected to a triangular top plate B, by vertical columns C, the shaft of the lower band-saw pulley G, being carried in bearings formed in a bracket D, pivoted and vertically adjusted upon the bottom of the base plate A, substantially as and for the purpose specified. 3rd. The saw pulley shaft F, journaled in bearings on the bracket D, which is pivoted at one end on the lug a, formed on the bottom of the base plate A, the other end of the bracket D, extending between lugs b, formed on the bottom of the base plate A, in combination with the clevis H, pivoted on the bracket D, a shank extending through the base plate A, and provided with a suitable nut, a set screw I, being screwed through the base plate A, to press against the top of the bracket D, substantially as and for the purpose specified. 4th. The discs K, and L, fixed to the shaft F, in combination with the bevelled friction pulley M, fixed to the shaft N, and the friction disk O, fixed to the shaft P, substantially as and for the purpose specified. 5th. The bevelled friction pulley M, fixed to the shaft N, and held in contact with the face of the disc K, in combination with the friction pulley N', fixed to the shaft N, and arranged to engage with the friction pulley Q, fixed to the adjustable shaft O', substantially as and for the purpose specified. 6th. The friction

disk O, fixed to the shaft P, and held against the face of the disk L, a friction pinion Q, fixed to the shaft P, in combination with the friction pulley Q', fixed to the adjustable shaft O', on the opposite end of which is fixed a spur pinion P', arranged to mesh with the spur wheel M', which operates the rope driving gear of the carriage L', substantially as and for the purpose specified. 7th. The friction disc O, held against the disk L, and fixed to the sleeve 46, longitudinally adjustable upon the shaft P, in combination with the pinion 47, operated by the shaft 43, and arranged to engage with a rack formed on the sleeve 46, substantially as and for the purpose specified. 3rd. The shaft P, journaled in the bracket 49, and held in position by a bolt 50, passing through an elongated hole in the said bracket 49, in combination with the spring 51, acting against the bracket 49, so as to force the periphery of the friction disc O, against the face of the friction disc L, substantially as and for the purpose specified. 9th. A triangular frame R, provided with bearing-boxes S T and U, to fit on the vertical columns C and V, a rod W being pivoted on top of the frame R, in combination with a nut X, provided with a suitable handle and screwed on to the rod W, a spring cushion Y arranged to support the nut X, substantially as and for the purpose specified. 10th. A triangular frame R, provided with bearing-boxes S, T and U, to fit on to the vertical columns C and V, a rod W being pivoted on to the top of the frame R, a nut X screwed on to the rod W, and supported by the spring cushion Y, resting on the short arm of the pivoted lever Z, in combination with the saw pivoted lever Z, connected to the lever 2, pivoted on the bar 3, and provided with an adjustable pulley 4, substantially as and for the purpose specified. 11th. The bearing-boxes 6, pivoted at d, and supporting the saw pulley axle 7, in combination with the screwed spindle 10, supported by a lug 11, formed on the frame R, and arranged to vertically adjust the bearing-box bracket 6, for the purpose of levelling the axle 7, substantially as and for the purpose specified. 12th. An eccentric 15 journaled on the column C', a lever 16 connected to the said eccentric and by the rod 17, a lever 18 pivoted to the frame R, and operated by the spindle 19, in combination with bars 21, located on each side of the eccentric 15, and secured to the frame R, as shown, substantially as and for the purpose specified. 13th. A saw guide 22, journaled on the vertical column C, and supported by the cord 27, which is carried around a drum 28, fixed to the spindle 25, and is held tightly on the said drum by the weight 30, in combination with the friction disc 26, fixed to the adjustable spindle 25, the pivoted lever 24, being connected at one end to the spindle 25, and at its other end to the rod 23, substantially as and for the purpose specified. 14th. The rope or cable 31, with both ends connected as described to the ratchet wheel 52, suitably carried on the carriage L', the said rope being carried around groove pulleys 33, located one at each end of the saw-carriage track 34, and around groove pulleys 36, fixed to the spur wheel M', which meshes with the spur pinion p', substantially as and for the purpose specified. 15th. An arm 39, provided with a hub where it is journaled on the axle 37, a cam groove being cut around the said hub and into which the pin 40 is fitted, in combination with the foot 44, connected to the arm 39, and actuated by the spring 45, so as to elastically hold it in contact with the rail 53, substantially as and for the purpose specified. 16th. A band-saw pulley G, having a continuous web extending from the rim to the hub, the said hub being formed on one side only of the said web so that the bearing-box of the shaft of the said pulley shall be inside of the saw strain, substantially as and for the purpose specified.

No. 38,376. Secondary Battery. (*Pile secondaire*)

The Standard Electric Company, assignee of Albert Blake Dick, Chicago, Illinois, an assignee of Charles Henry Logan, Detroit, Michigan, all in U. S. A., 29th February, 1892; 5 years.

Claim.—1st. In a secondary battery, battery-plates having receptacles for the active material, said receptacles being placed in substantially vertical positions and slotted or perforated to permit the admission and circulation of the electrolyte through and around the said active material or material to be made active, whereby the material contained in said receptacles is prevented from being washed or jarred out of said receptacles, and at the same time the said material and also the material of which the plate is formed are both permitted to expand and contract independently of each other and without disruption of their contact, substantially as described. 2nd. In a secondary battery, plates of lead or other suitable material, provided with vertical tubular receptacles or recesses for containing the active material or material to be made active, said tubular recesses being provided with slots along their faces, substantially as and for the purpose described. 3rd. In a secondary battery, plates of lead or other suitable material, provided with suitable binding-posts, and in connection therewith a suitable conducting-bar and means for forming connections between the said plates and the conducting-bar by means of three-way dovetail or draw joints so constructed as to draw the parts firmly together as they are interlocked, substantially as described. 4th. In a secondary battery, a conducting-bar having arranged upon its under side three-way dovetail recesses adapted to receive corresponding male portions of dovetail joints upon the binding-posts of the battery-plates, substantially as described. 5th. In a secondary battery, a conducting-bar having at one or both ends dovetail or other draw-joint connections or splices formed in lines substantially parallel with said conducting-bar, by

means of which the sections of said conducting-bar to be united together are made to interlock, and in connection therewith suitable means for binding the parts together at the joints to afford a perfect contact, substantially as described. 6th. In a secondary battery, a conducting-bar having upon its under side dovetail or three-way connections with the binding-post of the several plates and at one or both of its ends, combination V-shaped and dovetail splices formed substantially parallel with said conducting-bar, by means of which the parts to be united are made to interlock, said splices being surrounded by a ring or other suitable binding device to give perfect contact between all parts of the joint to be united, substantially as and for the purposes described. 7th. In a secondary battery, a conducting-bar having suitable dovetail connections, with the battery plates and having at one or both of its ends one or more longitudinal slots to receive the wire or other conductor, the sides of the conducting-bars being tapered more or less at this point, and in connection therewith a suitable ring or collar adapted to move longitudinally upon the conducting-bar to bind the divided end of the conducting-bar upon the wire or other conductor, substantially as described. 8th. In a secondary battery, a rack or frame for holding the battery-plates in position, said rack or frame being provided with suitable cushions

for holding the rack or frame in an elastic but firm manner within the cell, substantially as described. 9th. In a secondary battery, a rack or frame to hold the plates, said rack or frame being constructed of arched pieces held together in any suitable manner, and so constructed and arranged that all the weight of the plates and material shall be sustained by the strongest portion of the cell, said rack or frame being also cushioned to allow full freedom for the cell to expand while in use, substantially as and for the purpose described. 10th. In a secondary battery, a rack or frame to hold the battery-plates, said rack being supported upon the bottom of the cell by suitable elastic cushions, and having cushions or balls of rubber attached to the corners of the rack and adapted to engage the sides or ends of the cell, substantially as described. 11th. The combination, in a secondary battery, of plates of lead or other material, having tubular recesses for the active material or material to be made active, suitable conducting-bars connected by dovetail or other similar connections to the said plates, and having suitable connections, as herein described, for the accompanying cells, and a rack or frame to support the plates in position, said rack or frame having a cushioned engagement with the cell, substantially as and for the purpose described.

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

2468. WILLIAM T. BAER and JAMES F. CUMMINGS, 2nd five years of No. 26,067, from the 26th day of February, 1892. Improvements on medicated electric belts, 2nd February, 1892.
2469. ANDREW FLICK, 2nd five years of No. 25,900, from the 2nd day of February 1892. Improvements in machines for Catching Lobsters, 2nd February, 1892.
2470. THE GRIP PRINTING and PUBLISHING COMPANY, 3rd five years of No. 14,182, from the 15th day of February, 1892. Improvements on Copying Books, 2nd February, 1892.
2471. THE WILCOMB MANUFACTURING COMPANY, 2nd five years of No. 26,040, from the 17th day of February, 1892. Improvements in Knitting machines, 3rd February, 1892.
2472. E. B. DUFORT, 3rd five years of No. 14,119, from the 6th day of February 1892. Improvements on Feather Renovators, 6th February 1892.
- 2472½. DOUGALD HARVEY ROBERTS, 2nd five years of No. 26,464, from the 7th day of February, 1892. Improvements in Water Gauges for Steam boilers. 8th February, 1892.
2473. JOSEPH ALEXANDER MUMFORD, 2nd five years of No. 25,962, from the 10th day of February, 1892. Improvements in Steam Boilers, 9th February, 1892.
2474. RICHARD CLARKSON SCOTT, 2nd five years of No. 26,033, from the 17th day of February 1892. Compound for making Drinks, 9th February, 1892.
2475. JOSEPH TAYLOR CRAW, 2nd five years of No. 25,959, from the 10th day of February 1892. Improvements in Paper Boxes, 9th February, 1892.
2476. WILLIAM BLAINE MACK, 2nd five years of No. 26,116, from the 28th day of February, 1892. Improvements on Elevated Railroad Tracks and Trucks therefor, 9th February, 1892.
2477. MICHAEL GARLAND, 2nd five years of No. 25,969, from the 10th day of February, 1892. Improvements in Double and Gang Edgers, 10th February, 1892.
2478. THE AMERICAN WATCH CASE COMPANY, 2nd five years of No. 26,059, from the 25th day of February, 1892. Improvements in Watch Cases, 10th February, 1892.
2479. WILLIAM R. LYLE, 2nd five years of No. 25,978, from the 12th day of February 1892. Improvements on Storm Doors, 10th February 1892.
2480. THE STANDARD MACHINERY COMPANY, 2nd five years of No. 25,983, from the 12th day of February, 1892. Improvements in Rip Saw Machines, 11th February, 1892.
2481. CHARLES ALONZO MERRILL and MICHAEL GARLAND, 2nd five years of No. 25,982, from the 12th day of February, 1892. Improvements in Gang Edgers, 11th February, 1892.
2482. J. O. WISNER SON & Co., 2nd five years of No. 26,049, from the 8th day of October, 1893. Improvements in Spring Hoes, 11th February, 1892.
2483. JULIUS REINHART DRODZEWSKI and JOHN KOLB, 2nd five years of No. 26,079, from the 28th day of February, 1892. Improvements in Steam Pipe Connections between Railway Cars, 11th February, 1892.
2484. HOMER LEE, 3rd five years of No. 14,176, from the 13th day of February, 1892. Improvements on Plate Printing Machines, 12th February, 1892.
2485. ALFRED DAVID BENJAMIN, 3rd five Years of No. 14,302, from the 28th day of February, 1892. Improvements on Boilers for Cooking Grains and Farinaceous Food, 15th February, 1892.
2486. JOHN REECE, 3rd five years of No. 14,682, from the 27th day of April, 1892. Improvements on Button Hole Sewing Machines, 15th February 1892.
2487. THE INTERNATIONAL POSTAL SUPPLY COMPANY, 2nd five years of No. 26,061, from the 25th day of February, 1892. Improvements in Mail Marking Apparatus, 15th February 1892.
2488. ERNEST KORTING, 2nd and 3rd five years of No. 38,206, from the 3rd day of February, 1897. Improvements in Water Jet Condensers, 16th February, 1892.
2489. FREDERICK SETTLE BARFF and GEORGE BOWER, 3rd five years of No. 14,442, from the 18th day of March, 1892. Improvements on Furnaces employed in effecting the Protection of Iron and Steel Surfaces, 17th February, 1892.
2490. HIRAM DAVID BINKLEY, 2nd five years of No. 26,093, from the 28th day of February, 1892. Improvements in Potato Diggers, 17th February, 1892.
2491. ERNST KORTING, 2nd and 3rd five years of No. 38,218, from the 4th day of February, 1897. Improvements in Steam and Vacuum Pumps, 18th February, 1892.
2492. ROBERT HITCHCOCK, 2nd five years of No. 26,297, from the 21st day of March 1892. Improvement in forced Draft Lamps, 19th February, 1892.
2493. ROBERT McCOLLUM FRYER, 2nd five years of No. 26,051, from the 24th day of February, 1892. Improvements in the construction of Vessels for Marine Purposes, 20th February, 1892.
2494. ROBERT McCOLLUM FRYER, 2nd five years of No. 26,106, from the 28th day of February, 1892. Improvements in the Construction of Iron Ships, 20th February, 1892.
2495. WILLIAM HENRY NICHOLS, GEORGE HENRY NICHOLS and JOHN BROWN FRANCIS HERRSHOFF, 2nd and 3rd five years of No. 26,119, from the 7th day of March, 1892. Improvements on the Process of making pure Sulphuric Acid and Strong Sulphuric Acid in one continuous operation, 23rd February 1892.
2496. CYRUS CRABBS, 2nd five years of No. 26,798, from the 1st day of June, 1892. Improvement in Fences, 23rd February, 1892.
2497. WILLIAM FRANCIS COOK, 3rd five years of No. 14,402, from the 13th day of March, 1892. Improvements on Door Knob Alarms, 23rd February, 1892.
2498. HURDMAN PECK & Co., 2nd five years of No. 26,270, from the 17th day of March, 1892. Improvements in Key Buttons for Pianos and Similar Instruments, 26th February, 1892.
2499. EUGENE SCHAAL, 2nd five years of No. 26,069, from the 26th day of February, 1892. Improvements in the Manufacture of Artificial Copals, 26th February, 1892.
2500. CHARLES HORACE HAWLEY, 2nd five years of No. 26,100, from the 28th day of February, 1892. Improvements in Centrifugal Pumps, 27th February 1892.

TRADE MARKS

Entered during the month of February, 1892, at the Department of Agriculture—

Copyright and Trade Mark Branch.

4232. JOHN THOMAS LYONS, of Montreal, Que. A Medicinal Preparation for the Cure of Neuralgia and like affections, 1st February, 1892.
4233. WILLIAM H. WILLIAMSON, of Toronto, Ont. Dress Shields, 5th February, 1892.
4234. S. DAVIS & SONS, of Montreal, Que. Cigars, Cigarettes and Tobaccos, 6th February, 1892.
4235. THE MALENA CO., of Warriors' Mark, County of Huntingdon, State of Pennsylvania, U.S.A. Salve or Ointment, 8th February, 1892.
4236. GEORGE LIGHTBOUND AND SILAS HUXLEY, of Montreal, Que., doing business under the name and style of the TAMILKANDE TEA COMPANY. Teas, 8th February, 1892.
4237. FREDERICK KING & CO., Ltd., of 3-6 Camomile St., London, England. Substances and Preparations of Soup for human food, 9th February, 1892.
4238. THE CANADA SCREW CO., of Hamilton, Ont. Wood Screws, Tire Bolts, Stove Bolts, Machine Screws, Taps, Rivets, Wire, &c., 9th February, 1892.
4239. CHARLES LOUIS GOLDSMITH, of Toronto, Ont. Cigars, 11th February, 1892.
4240. THE MASSEY-HARRIS CO., Ltd., of Toronto, Ont. Seeding Machines and Cultivators, 11th February, 1892.
4241. THE MASSEY-HARRIS CO., Ltd., of Toronto, Ont. General Trade Mark, 11th February, 1892.
4242. ALEXANDER JARDINE, of Toronto, Ont., trading under the firm name of the Pure Gold Manufacturing Co. Soap, 11th February, 1892.
4243. ALEXANDER JARDINE, of Toronto, Ont., trading under the firm name of the Pure Gold Manufacturing Co. Flavouring Extracts, 11th February, 1892.
4244. WILLIAM FREDERICK JACKSON, of Brockville, Ont. Medicine (Dr. Howard's Blood Purifier), 12th February, 1892.
4245. WILLIAM FREDERICK JACKSON, of Brockville, Ont. Medicine (Dr. Howard's Seven Spices), 12th February, 1892.
4246. HENRY WALSH, of Montreal, Que. Self-Raising Flour, 18th February, 1892.
4247. KÖLLER BROTHERS, of Solingen, Germany. Cutlery, 22nd February, 1892.
4248. A. S. & W. H. MASTERMAN, of Montreal, Que. Pork, Hams, Bacon and Lard, and such compounds as Head Cheese, 22nd February, 1892.
4249. ALFRED SPALDING PATTERSON, of Winnipeg, Man. Harrows or Cultivating Implements of any description, 22nd February, 1892.
4250. ALBERT A. PERRY, of Côte St. Antoine, Que. Baking Powder, 27th February, 1892.
4251. JOHN DICKINSON & CO., Ltd., of 65 Old Bailey, London, England. Paper and Stationery, 27th February, 1892.
4252. JOHN DICKINSON & CO., Ltd., of 65 Old Bailey, London, England, Paper and Stationery, 27th February, 1892.
4253. SAMUEL ALLSOPP & SONS, Ltd., of Burton-on-Trent, England. Beer, 27th February, 1892.
4254. LINCOLN BENNETT & CO., of Sackville St., Piccadilly, London, England. Hats, Caps and Helmets, 27th February.
4255. SMITH & WESSON, of Springfield, Mass, U.S.A. Revolving Firearms, 29th February, 1892.
4256. FOSTER, HILSON & CO., of New York, N.Y., U.S.A. Cigars, 29th February, 1892.

COPYRIGHTS

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

6298. THE FARMERS AND TRADERS CREDIT SYSTEM BOOK. The Toronto Blank Form Co., Toronto, Ont., 1st February, 1892.
6299. THE PUBLIC SCHOOL DRAWING COURSE, Nos. 1 TO 6. Designed and arranged by J. H. McFaul, M.D. The Canada Publishing Co. (L'd.), Toronto, Ont., 2nd February, 1892.
6300. CARTES ECONOMIQUES DE LA PROVINCE DE QUÉBEC. (ROADWAYS.) Pierre Jobidon, Montreal, Que., 3rd February, 1892.
6301. MAP OF THE PHOSPHATE DISTRICT, OTTAWA COUNTY, QUEBEC, 125 CHAINS TO 1 INCH, by Edward J. Rainboth, C. E., D. and P. L. Surveyor, Ottawa, Ont., 3rd February, 1892.
6302. THE MOUNTBANKS. Comic Opera in two Acts. Words by W. S. Gilbert, Music by Alfred Cellier. (Libretto.) Chappell & Co., London, England, 4th February, 1892.
6303. THE PEOPLE'S WANT CARD. A Convenient Medium between the Newspaper and the Advertiser. William Edward Caiger, Toronto, Ont., 5th February, 1892.
6304. THE TORONTO DIRECTORY, 1892. Might's Directory Company, Toronto, Ont., 5th February, 1892.
6305. BUNDY'S IMPROVED RAPID INDEX. David Wm. Bundy, Toronto, Ont., 8th February, 1892.
6306. BELL TELEPHONE COMPANY OF CANADA, HAMILTON AND DUNDAS EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, JANUARY, 1892. The Bell Telephone Company of Canada, Montreal, Que., 10th February, 1892.
6307. COMPOUND INTEREST TABLES WITH RULE FOR SIMPLE INTEREST. J. Prendergast Armstrong, Township of Clarendon, County of Pontiac, Que., 10th February, 1892.
6308. THE WESTERN WORLD, VOL. 3, No. 23, JAN., 1892. Acton Burrows, Winnipeg, Man., 11th February, 1892.
6309. CANADA OUR HOME. A Patriotic Song and Chorus by Dun Cameron, arranged by Cosens Wilfrid. Dun Cameron, Montreal, Que., 12th February, 1892.
6310. THE CAMELIA. Morceau de salon for the piano-forte. By Wm. Smallwood. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 12th February, 1892.
6311. STAR OF LOVE. Waltz by Florence Fare. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 12th February, 1892.
6312. MAP OF THE DOMINION OF CANADA. Canadian Series. The Map and School Supply Co., Toronto, Ont., 12th February, 1892.
6313. MOTHER BUNCH POLKA, by Barry Handel. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 13th February, 1892.
6314. THE HARP THAT ONCE THRO' TARA'S HALLS. IRISH MELODY. SOUVENIRS CHARMANTS No. 5. For the Piano-forte, by Boyton Smith. The Anglo-Canadian Music Publishers' Association, (L'd.), London, England, 13th February, 1892.
6315. PUT A PENNY IN THE SLOT. Duet from "The Mountbanks." Words by W. S. Gilbert, Music by Alfred Cellier. Chappell & Co., London, England, 15th February, 1892.
6316. HIGH JERRY HO! Song (with chorus) from "The Mountbanks." Words by W. S. Gilbert, Music by Alfred Cellier. Chappell & Co., London, England, 15th February, 1892.

6317. WHISPERING BREEZE. Song from "The Mountebanks." Words by W. S. Gilbert, Music by Alfred Cellier. Chappell & Co., London, England, 15th February, 1892.
6318. LE ROMAN DE ROU, (Temporary copyright) which is now being preliminarily published in separate articles in "The Orillia Packet," Orillia, Ont. Chas. Mason, Springbank, Hull, England, 16th February, 1892.
6319. CÆSAR'S BELLUM GALLICUM. BOOKS III AND IV, WITH INTRODUCTORY NOTICES, NOTES, COMPLETE VOCABULARY AND A SERIES OF EXERCISES FOR RETRANSLATION, by John Henderson, M. A. The Copp, Clark Co. (L'd.), Toronto, Ont., 17th February, 1892.
6320. ILLUSTRATED QUEBEC. The Gibraltar and Tourists' Mecca of America, &c., with a Glance at its Picturesque Environs, by G. Mercer Adam. John McConniff, Montreal, Que., 17th February, 1892.
6321. KEEN'S MAP OF KOOTENAY, B. C. Scale 12 miles to 1 inch. John Keen, Victoria, B. C., 19th February, 1892.
6322. KEEN'S MAP OF THE KASLO AND SLOCAN MINING DISTRICT., Scale, 2 miles to 1 inch. John Keen, Victoria, B. C., 19th February, 1892.
6323. PAINTING REPRESENTING THE QUEEN OF ENGLAND ASCENDING TO HEAVEN, &c., as per application. Rev. James W. Gibson, Fairbank, Ont., 19th February, 1892.
6324. THE CANADIAN QUEEN GALOP. By H. H. Godfrey. The Queen Publishing Co., Toronto, Ont., 19th February, 1892.
6325. ADELAIDE WALTZ. By Eros Andrew. The Anglo-Canadian Music Publishers' Association (L'd.), London, England, 19th February, 1892.
6326. NOT LOST, BUT GONE BEFORE. (Song.) Words by H. L. D'Arcy Jaxone, Music by H. R. Shelley. The Anglo-Canadian Music Publishers' Association (L'd.), London, England, 19th February, 1892.
6327. NIGHTINGALE SONG. Words by H. T. Trehear. Arranged by Chas. Bohmer. Whaley, Royce & Co., Toronto, Ont., 20th February, 1892.
6328. HOUSTON'S MANUAL, ORDINARY LIFE AND ENDOWMENT RATES OF ALL CANADIAN, BRITISH AND FOREIGN LIFE COMPANIES, working actively in Canada. J. D. Houston, Cornwall, Ont., 22nd February, 1892.
6329. THE FOAMING BILLOWS. Waltz by H. H. Godfrey. A. & S. Nordheimer, Toronto, Ont., 23rd February, 1892.
6330. THE SUMMER GIRL. (Schottische.) By Ernest E. Leigh. A. & S. Nordheimer, Toronto, Ont., 23rd February, 1892.
6331. TYNDALE'S CREAM SETTER AND BUTTER MOULDS. (Photo.) Geo. Tyndale, Toronto, Ont., 24th February, 1892.
6332. A WARNING, or THE HARRY MAN. (Engraving.) T. G. Wilson, Toronto, Ont., 24th February, 1892.
6333. A LOVE TALE. Romance without words for Piano, by H. H. Godfrey. A. & S. Nordheimer, Toronto, Ont., 25th February, 1892.
6334. ABIDE WITH ME. For Soprano, Violoncelle and Piano. By Angelo M. Read. Op. 2. The Anglo-Canadian Music Publishers' Association (L'd.), London, England, 27th February, 1892.
6335. TA RA RA BOOM. (Polka.) By A. L. E. D. The Anglo-Canadian Music Publishers' Association (L'd.), London, England, 27th February, 1892.
6336. WHISPERED LOVE. (Military Schottische.) By A. M. Zimm, Sydney Ashdown, Toronto, Ont., 27th February, 1892.
6337. ARE THE CHILDREN IN? (Hymn with music.) David A. Whyte, Brantford, Ont., 29th February, 1892.
6338. YEAR BOOK AND CLERGY LIST OF THE CHURCH OF ENGLAND IN THE DOMINION OF CANADA, 1892. Joseph Perry Clougher, Toronto, Ont., 29th February, 1892.

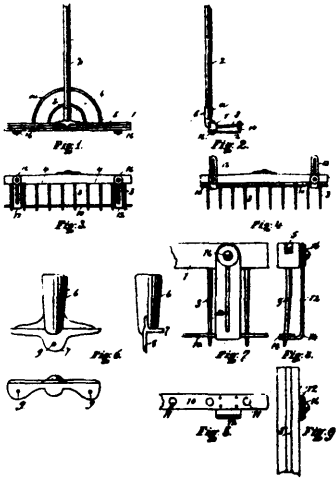
THE CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

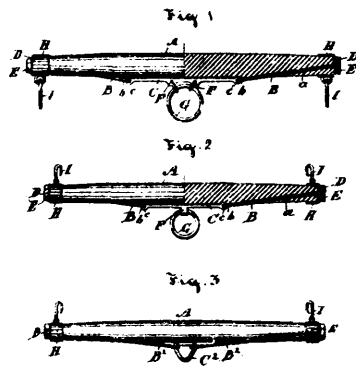
Vol. XX.

FEBRUARY, 1892.

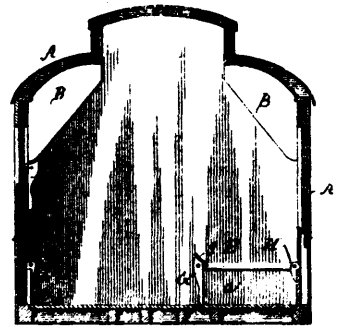
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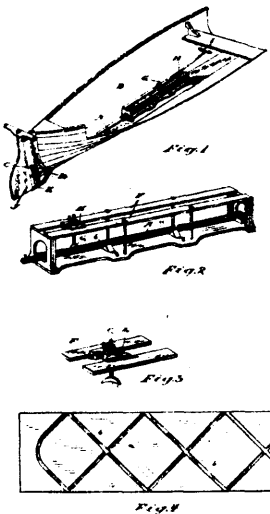
38174 Knox's Hand Rake.



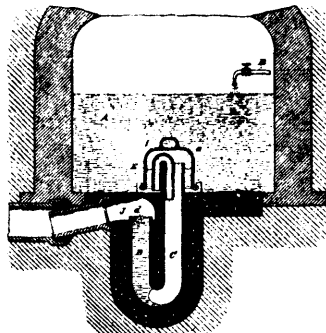
38175 Connolly's Whiffetree and Neck Yoke.



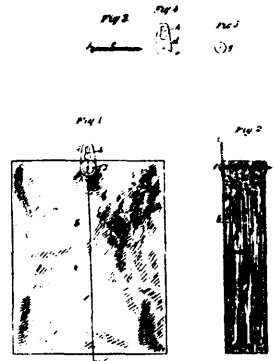
38176 Thorp's Parlor and Sleeping Car.



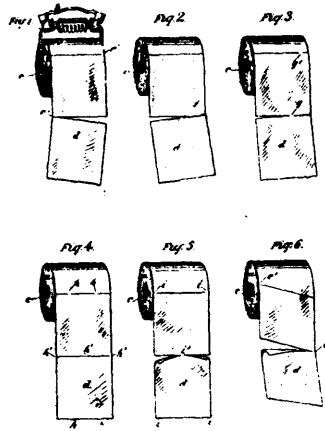
38177 Allen's Propelling Power.



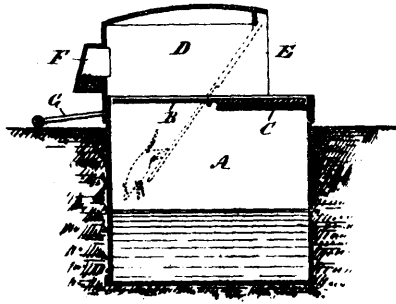
38179 Miller, Mayer, Post and Berry's Siphon Discharge Flush Tank and Analogous Apparatus.



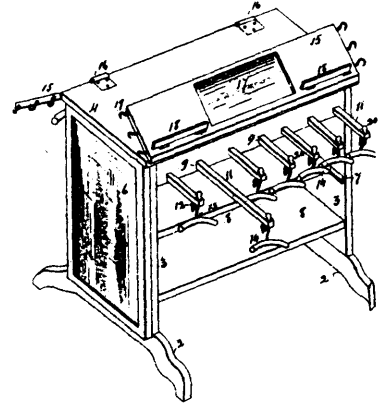
38180 Wheeler's Toilet Paper Fixtures.



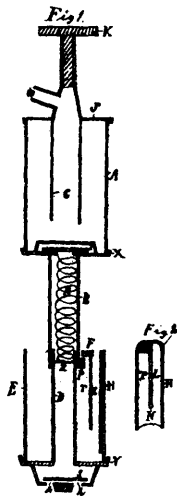
38181 Wheeler's Wrapping or Toilet Paper Rolls.



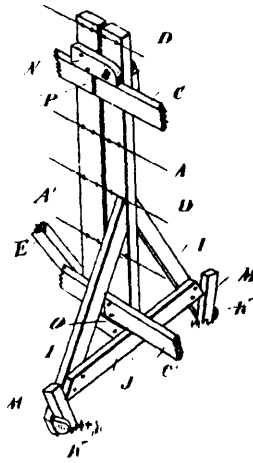
38182 Gilchrist's Gopher Trap.



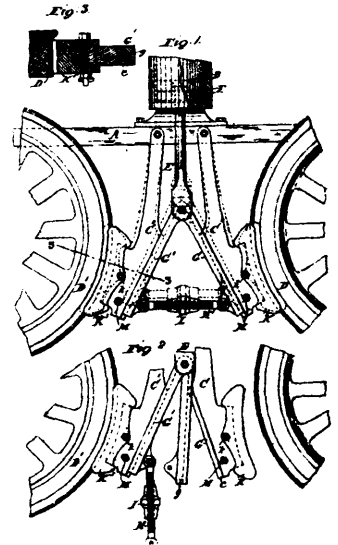
38183 Morrison's Counter and Display Rack for Wearing Apparel.



38184 Brooke's Portable Force Pump.

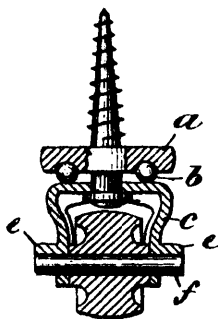


38185 Fenner's Fence Post.

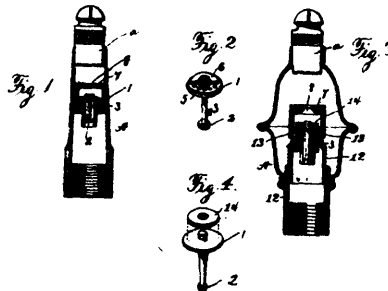


38186 Duncan's Car Brake.

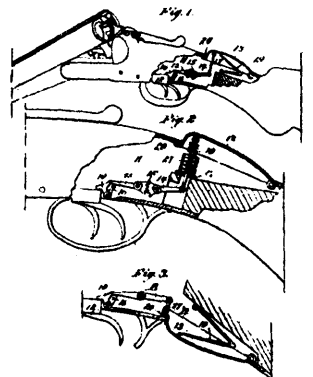
Fig. 1.



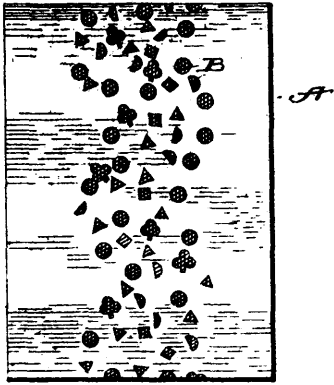
38187 Hoffman's Caster.



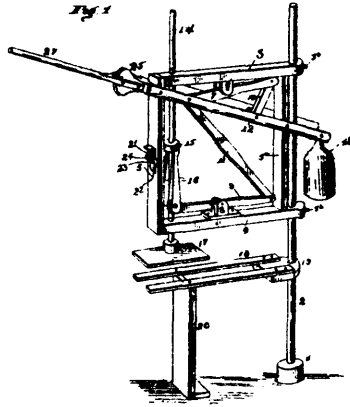
38188 Boore's Gas Regulator or Governor.



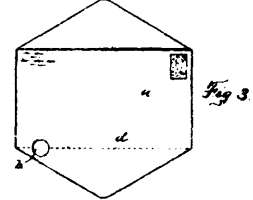
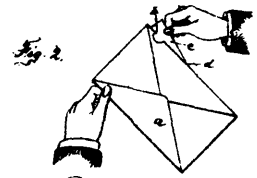
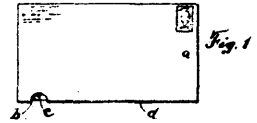
38189 Jenkins' Safety Catch for Gun Triggers.



38190 Macdonough's Distinctive Paper.



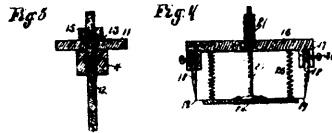
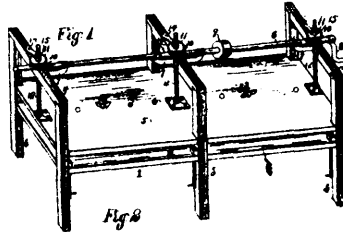
38191 Keenan's Molding Machine.



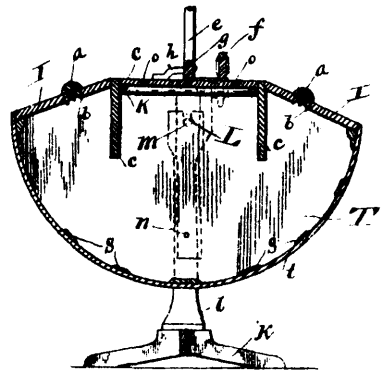
38192 Flynn's Envelope.



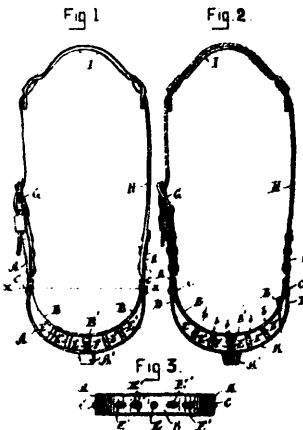
38193 Gosselin's Hydraulic Motor.



38194 Grossman's Machine for Cutting Cloth.



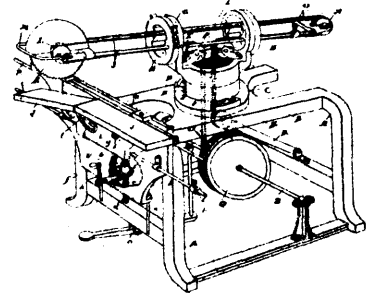
38195 Dowling's Washing Machine.



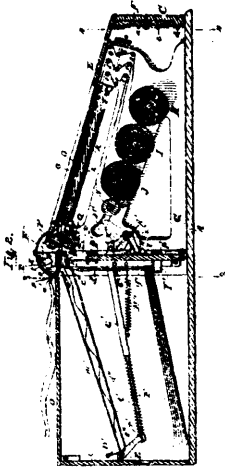
38196 Christesen's Apparatus for Preventing Horses from Cribbing.



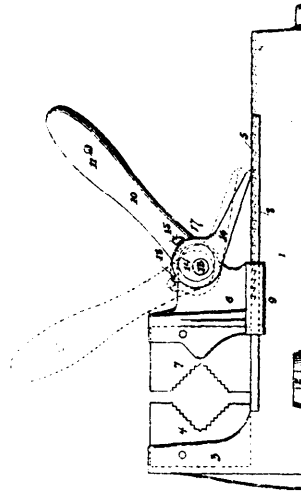
38197 Thompson's Inking Attachment for Job Printing Presses.



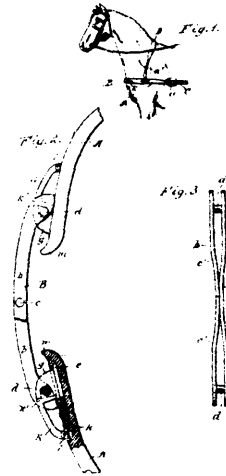
38198 Phillipe's Mitring Machine.



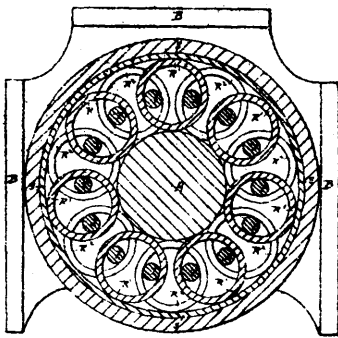
38199 Thies, Weinman, Euchenhofer and Kinnard's Autographic Register.



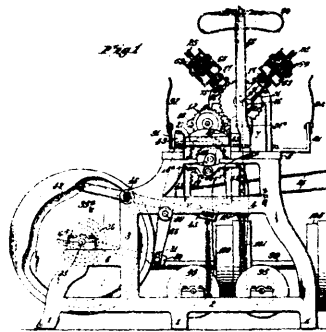
38200 Cash's Vice.



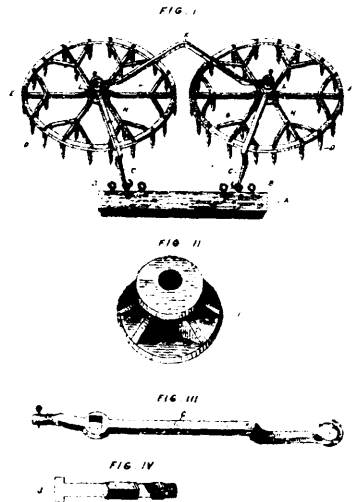
38201 Fisher's Breast Collar.



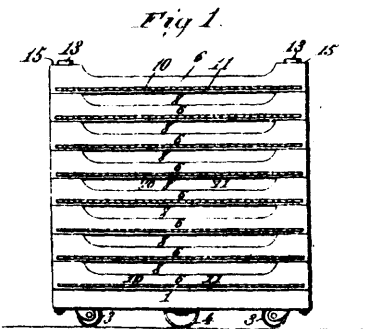
38202 Meneely's Roller Bearing.



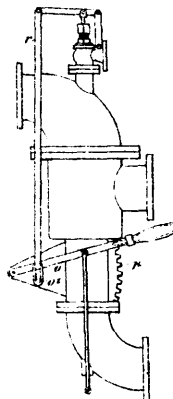
38203 Rishell's Mechanism for Forming Wire Strands.



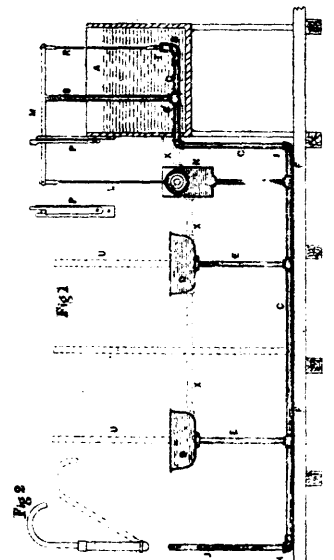
38204 King's Rotary Harrow.



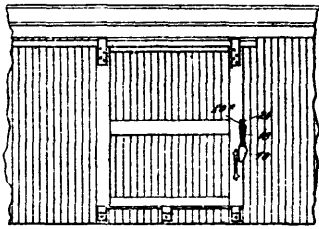
38205 Mark's Tobacco Drier.



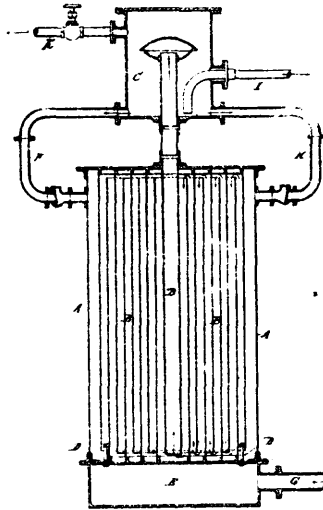
38206 Korting's Water Jet Condenser.



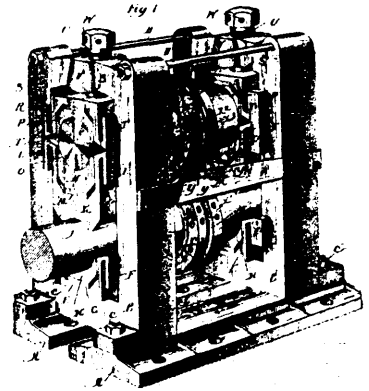
38207 Allis' Apparatus for Watering Stock.



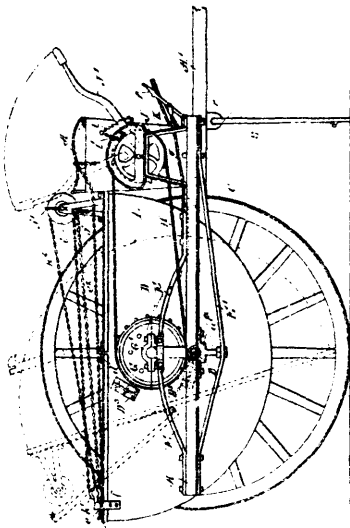
38208 Sturtevant's Car Seal.



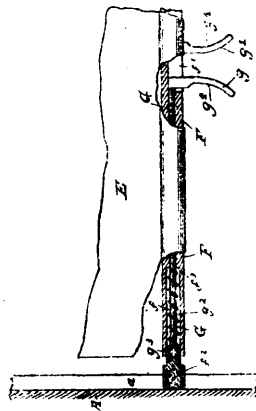
38209 Gamage's Apparatus for Liquefying Vapors and Gases.



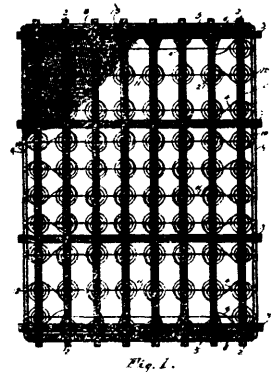
38210 Kirsch's Roll for Making Table Cutlery.



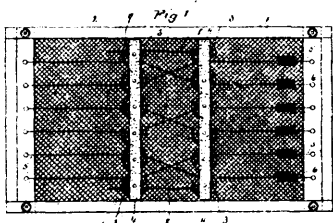
38211 Flanigan's Dumping Cart.



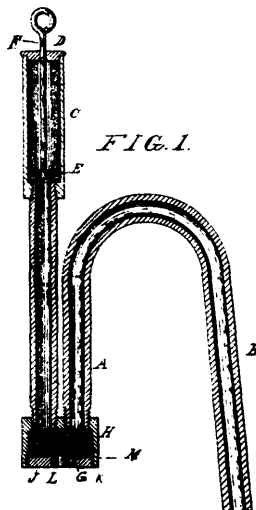
38212 Hall's Holding Device for Spring Actuated Shades.



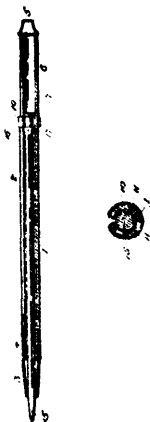
38213 Murray's Spring Mattress.



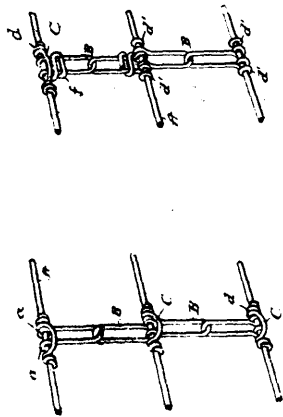
38214 Hunt's Bed Bottom of Springs.



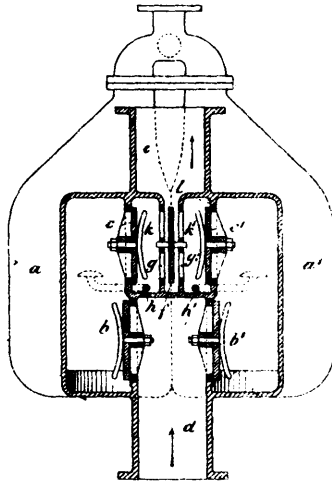
38215 Bowser's Portable Siphon.



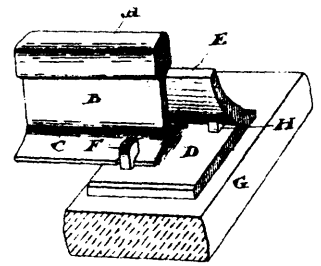
38216 Climenson's Holder for Pencils and Crayons.



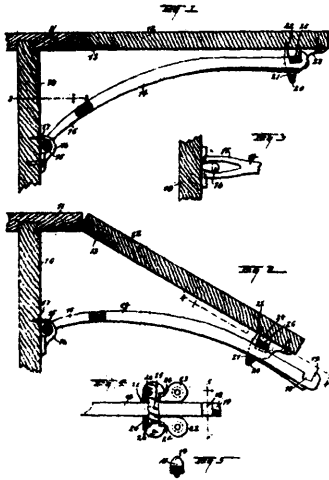
38317 Hollinger's Wire Fence.



38318 Korting's Steam and Vacuum Pump.



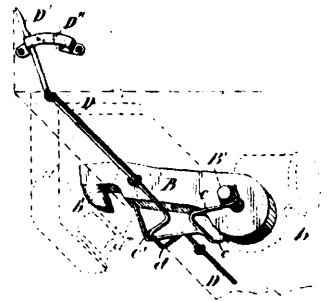
38319 Davies' Railway Rail Chair.



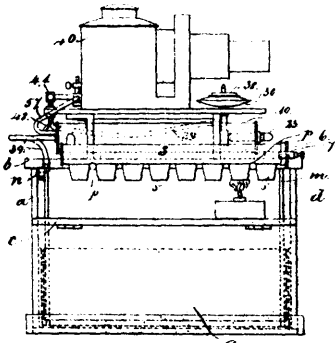
38320 Olson's Support for Table Leaves.



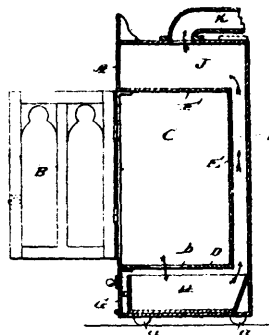
38321 Everson's Attachment for Inkstands.



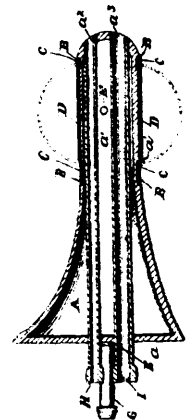
38322 Graveline's Car Coupler.



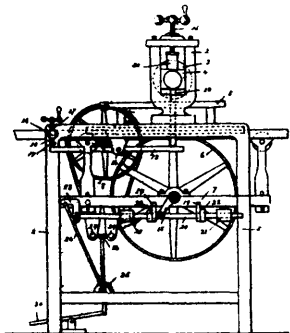
38323 Prowse's Oxy-calcium Light.



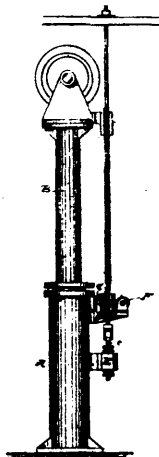
38324 Cottier's Wardrobe.



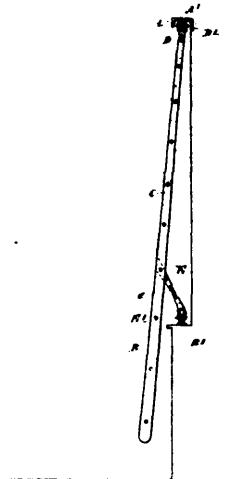
38325 Trott's Vaginal Syringe.



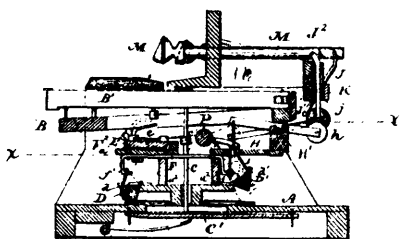
38236 Daley's Reversing Mechanism for Ironing Machines.



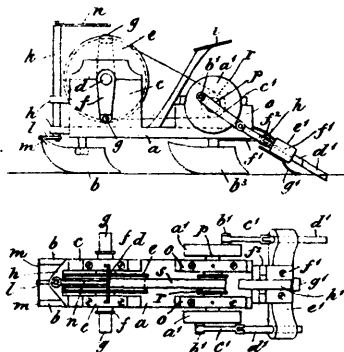
38237 Parkin's Valve Gear for Fluid Rams and Pistons.



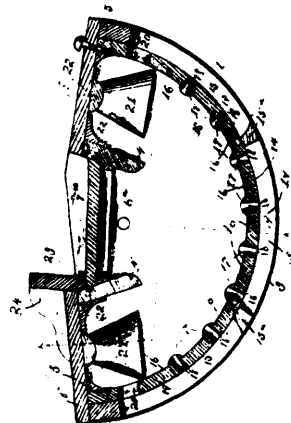
38238 Sincennes' Safety Rolling Step Ladder.



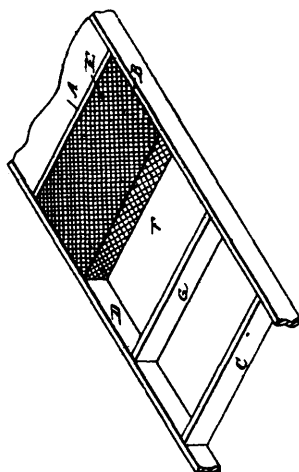
38239 Boynton's Organ Stop Action.



38230 Houle's Vehicle.



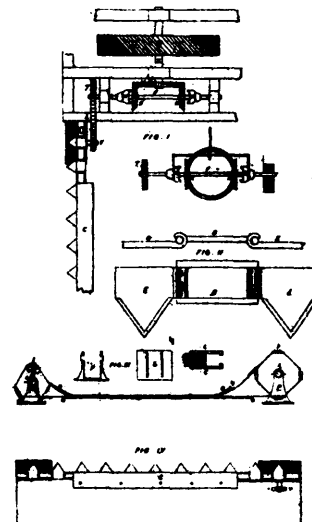
38231 Casler's Washing Machine.



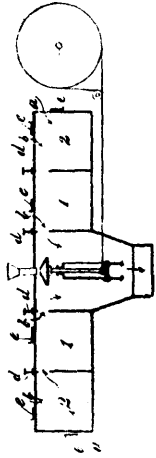
38232 Guellich's Method of Laying Artificial Stone.



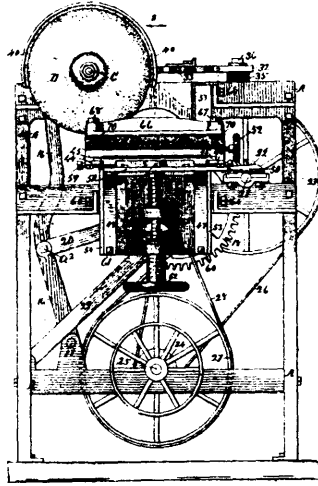
38233 Cook's Nut Lock.



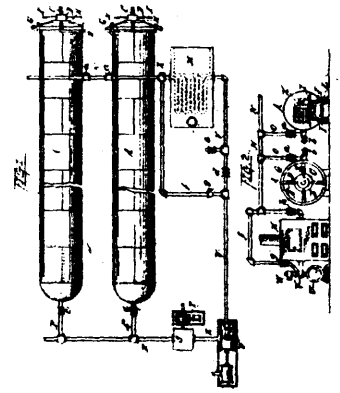
38235 McQueen's Knife for Binders, &c.



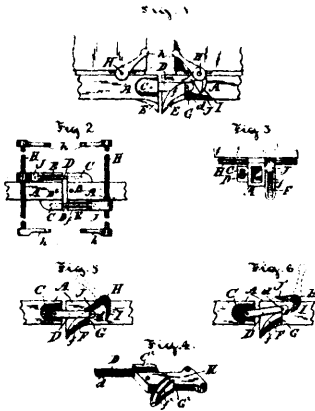
38236 Pape and Henneberg's Separator for Granular Matter.



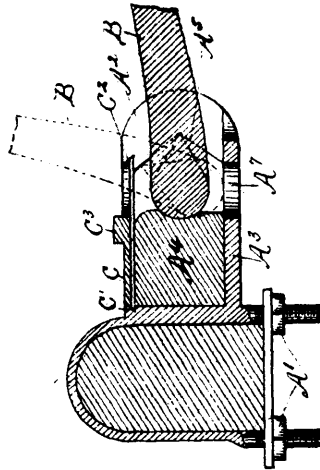
38237 Covel's Saw Dressing Machine.



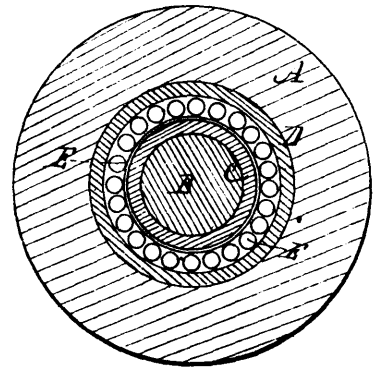
38238 Howard's Method of Drying and Vulcanizing Wood.



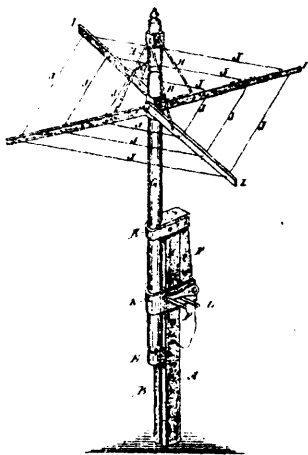
38239 Leduc's Car Coupler.



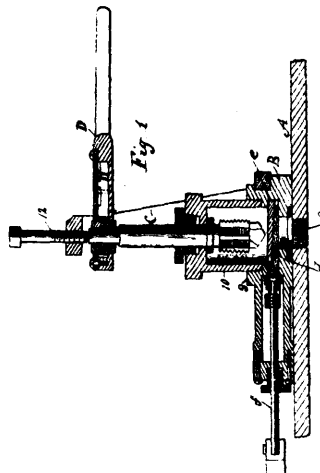
38240 Ferguson's Thill Coupler.



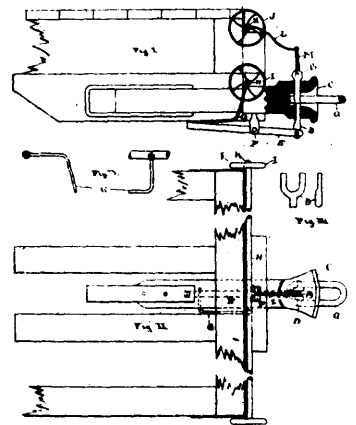
38241 Williams' Antifriction Bearings for Journals and Axles.



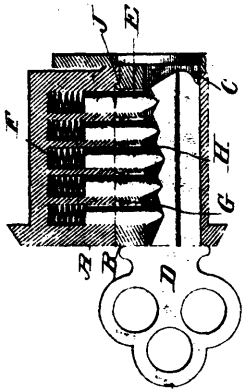
38242 Cross' Clothes Drier.



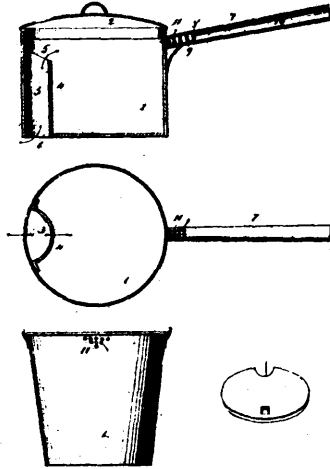
38243 Madden's Device for Tapping Mains.



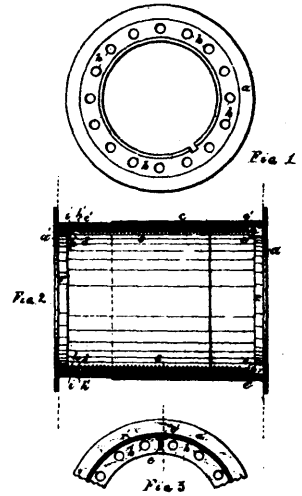
38244 Jones and Bell's Coupling Apparatus for Railway Cars.



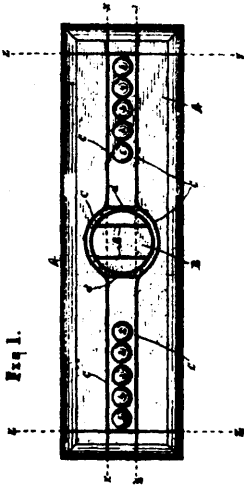
38345 Taylor's Lock.



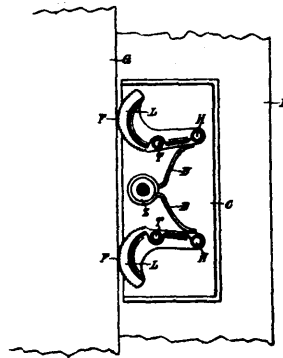
38346 Wiley's Kitchen Utensil.



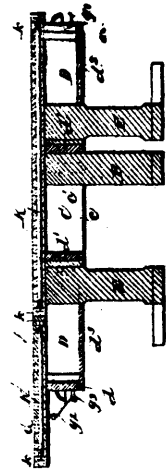
38347 Cheney's Stovepipe Thimble.



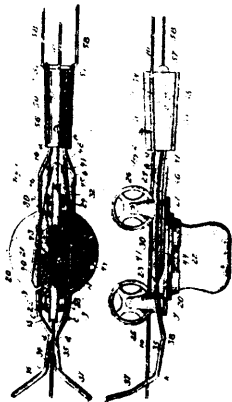
38348 Devine's Game.



38349 Alteman, Macdonald and Grant's Sash Lock.



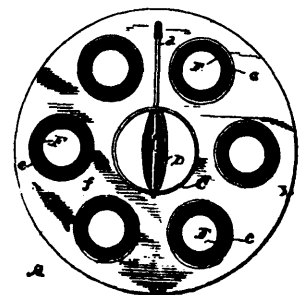
38350 Cobhan's Extension Table.



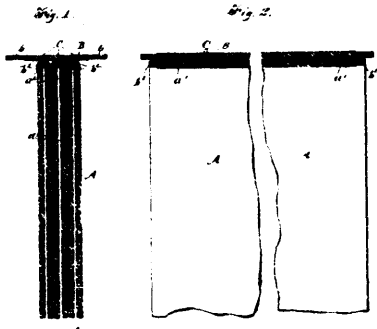
38351 Bailey's Store Service Apparatus.



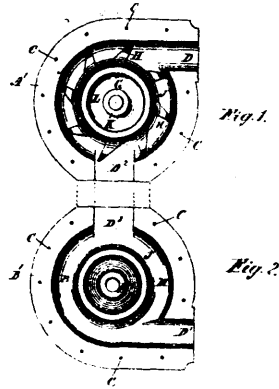
38352 Van Pelts Whiffletree.



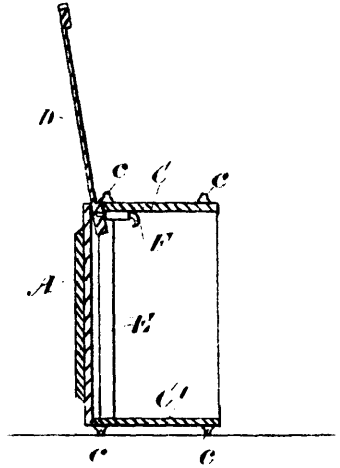
38353 Whiting's Hot Air Drums.



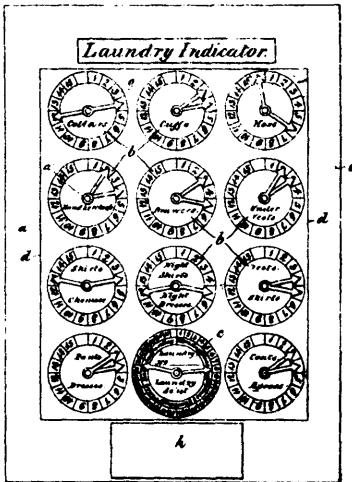
38254 Workman's Method of Binding Books.



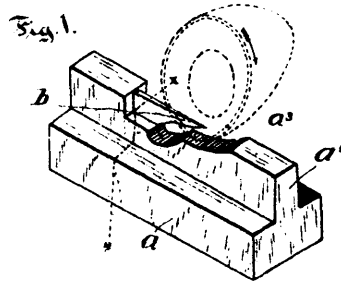
38255 Wade's Water Motor Wheel.



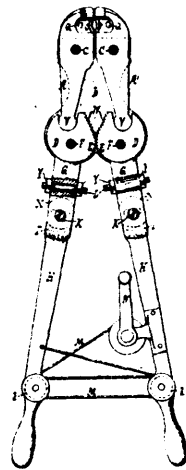
38256 Jenking's Sewing Machine Cover.



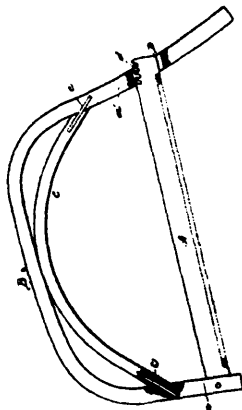
38257 Turner's Laundry Indicator.



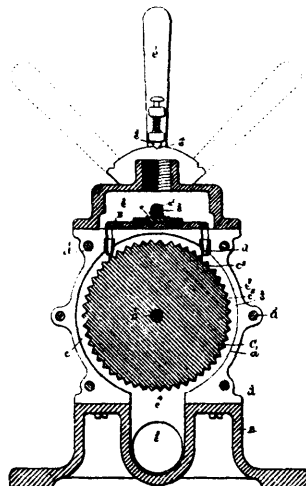
38258 Jewett's Device for Opening Hot Boiled Eggs.



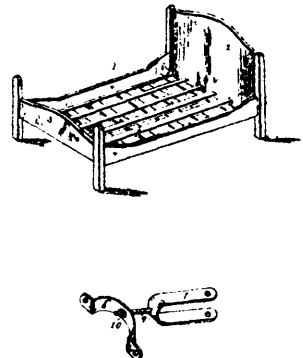
38259 Helwig's Bolt and Rivet Cutter.



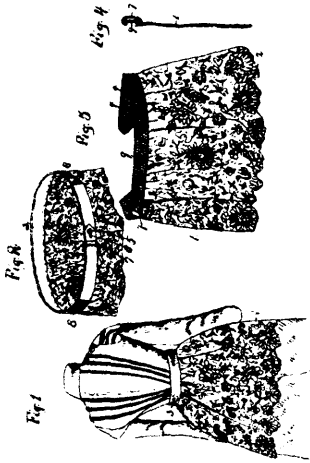
38260 Stepler's Bucksaw.



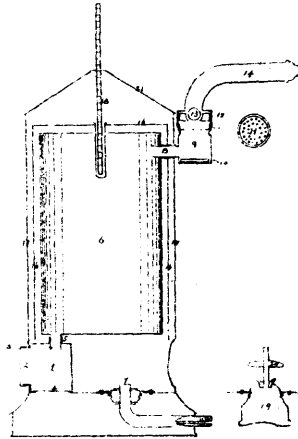
38261 Kubach's Rotary Engine.



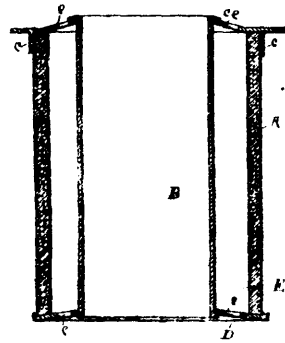
38262 Lightfoot's Bed Bottom and Brace.



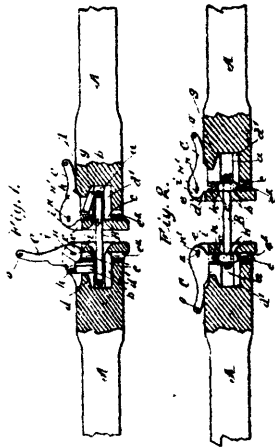
38263 Mearns's Blouse and Belt.



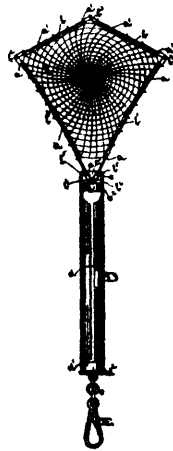
38264 Woodward's Inhaler.



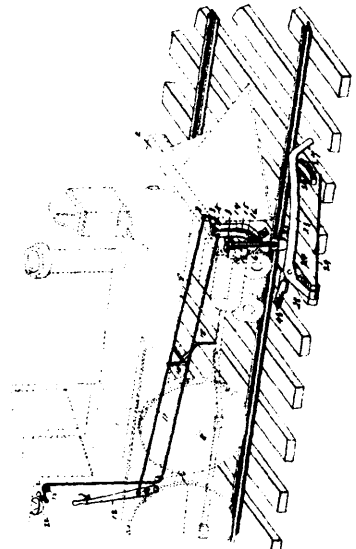
38265 Fahey's Stovepipe Thimble.



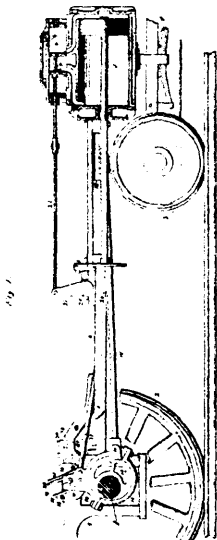
38266 Trine's Car Coupler.



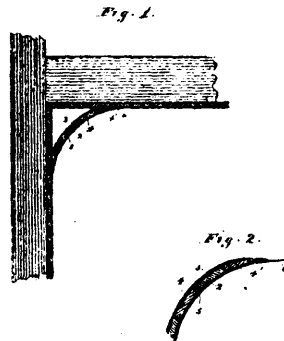
38267 Hebard's Landing Net.



38268 Shoecraft's Signal for Railways.



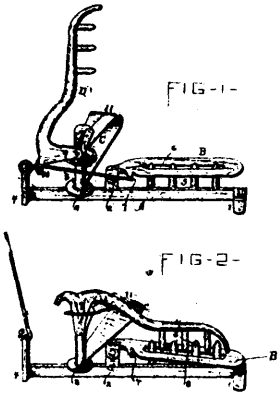
38269 Woolf and Pables' Valve Gear for Engines.



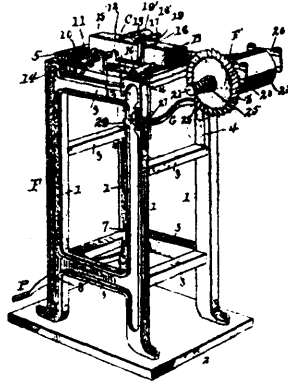
38270 Mayhew's Cove.



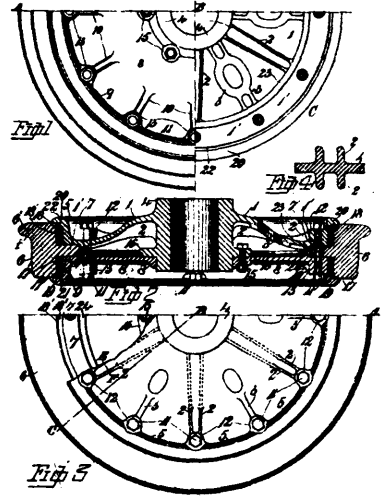
38271 Craig's Shoe Tie Fastener.



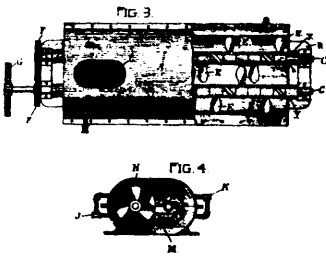
38273 Trumble's Animal Trap.



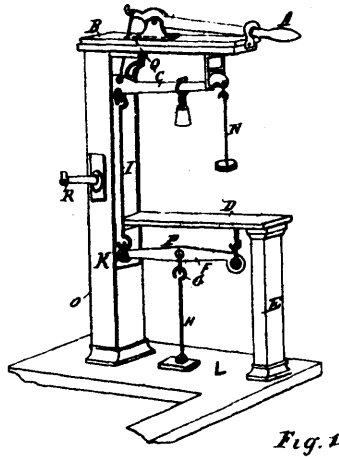
38274 Mayer's Sharpener for Bush Hammers.



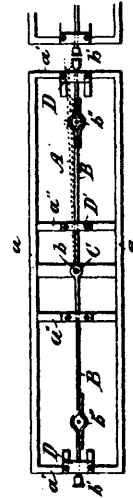
38275 Haugh's Cushioned Car Wheel.



38276 Meakin's Machine for Reducing Bituminous Rock.



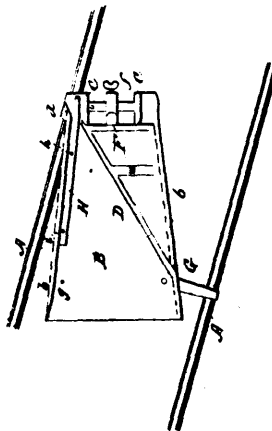
38277 Milne's Dormant Warehouse Scales.



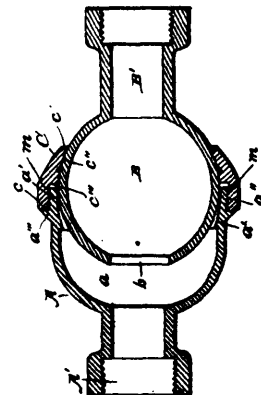
38278 Baril's Method of Connecting Railway Cars.



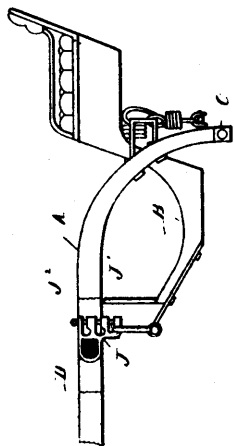
38279 Curran's Swimming Equipment.



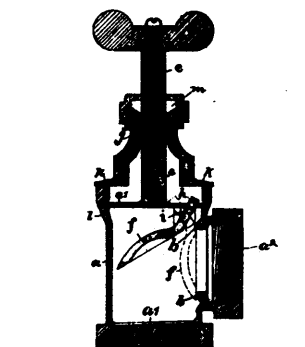
38280 Donnelly's Car Replacer.



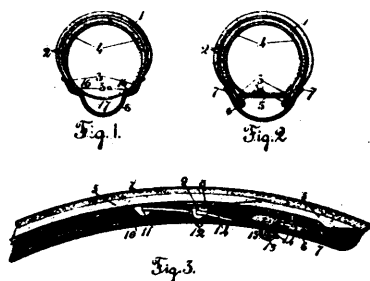
38281 Moran's Joint Coupling.



38282 Scott's Road Cart.



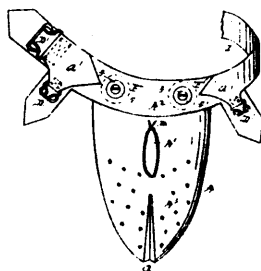
38283 Mackay's Valve.



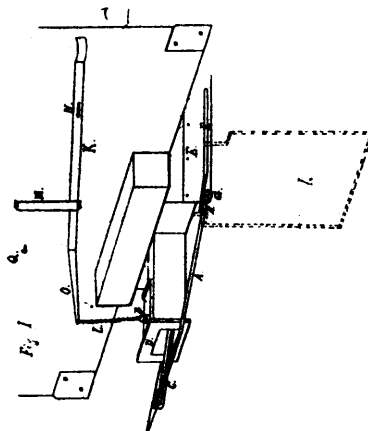
38284 Fane and Lavender's Tire for Bicycles.



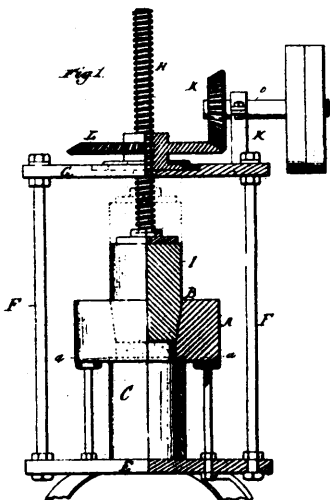
38285 Baggaley's Tiles, Porcelain, Earthenware, &c.



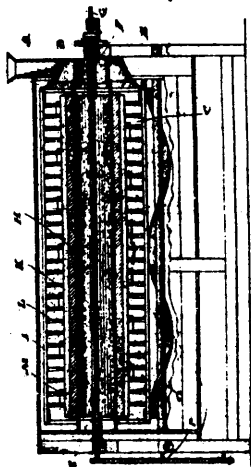
38286 Chambers' Suspensory Bandage.



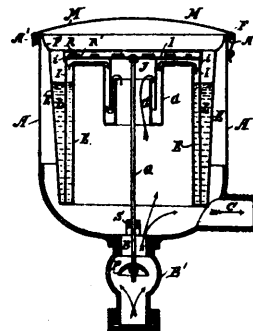
38287 Kennedy's Car Coupler.



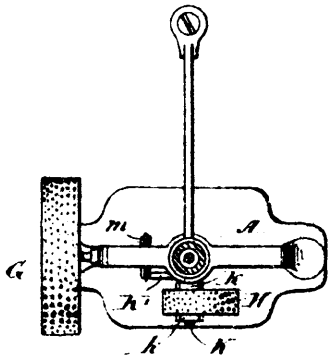
38288 DuBois' Method of Seasoning Hub Blocks.



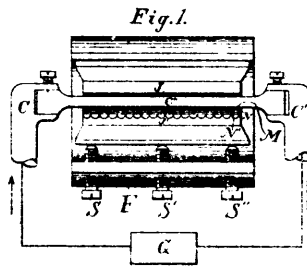
38289 Barter's Flour Bolt.



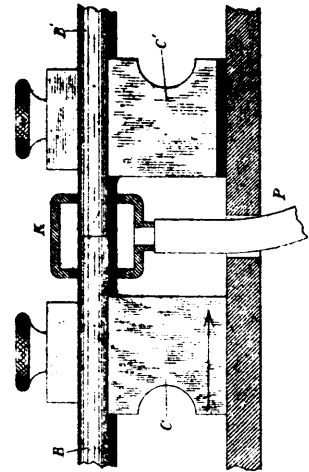
38290 Amick's Gas Regulator.



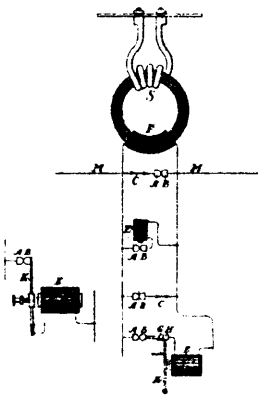
38291 Berry's Boot Cleaning Apparatus.



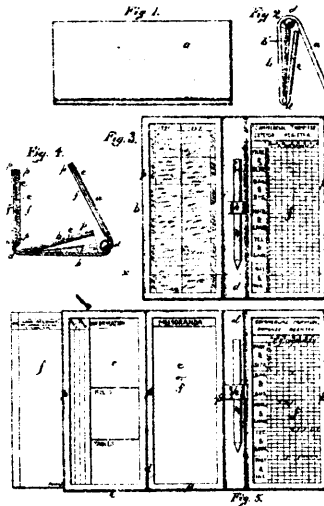
38292 Thomson's Apparatus for Electric Soldering and Cementing.



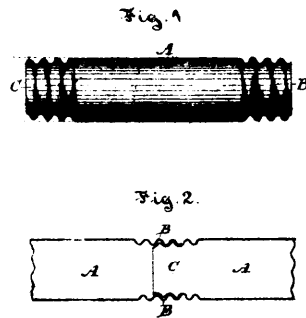
38293 Thomson's Method of Working Metals by Electricity.



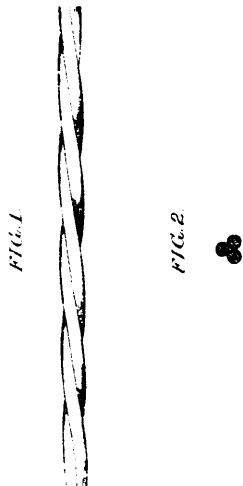
38294 Thomson's Induction Discharge Protector for Welding Apparatus.



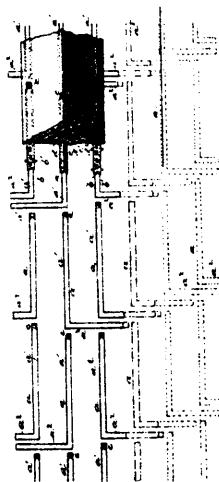
38295 Miller's Memorandum Book.



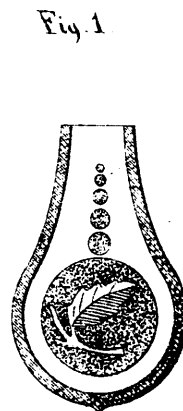
38296 Le Bel's Stovepipe.



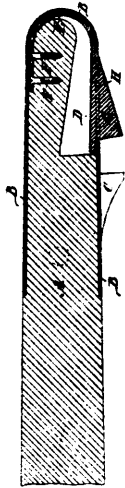
38297 Subers and Coughlin's String for Musical Instruments.



38298 Stubbs' Process of Burning Clay for Paving Material, &c.



38299 Martin's Method of Decorating Glass.



38300 Austin's Tip for Vehicle Poles.

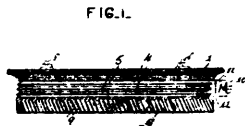
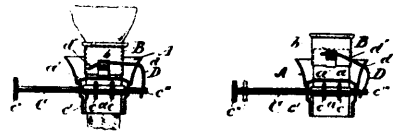


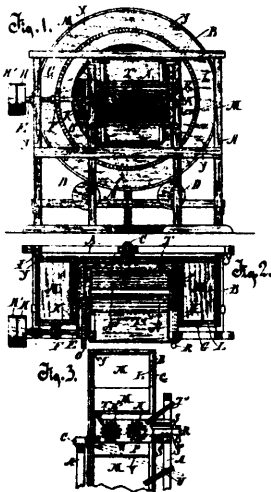
FIG. 1.



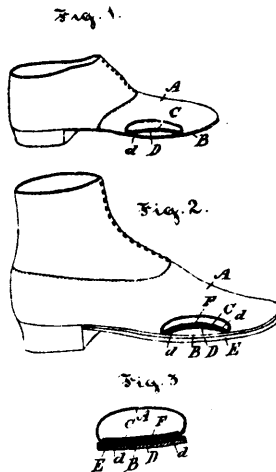
38301 Parmalee's Car Wheel.



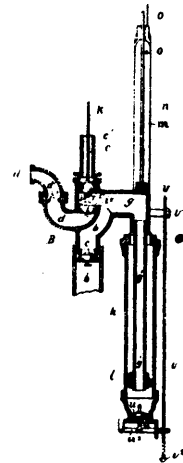
38302 Clarry's Lamp Extinguisher.



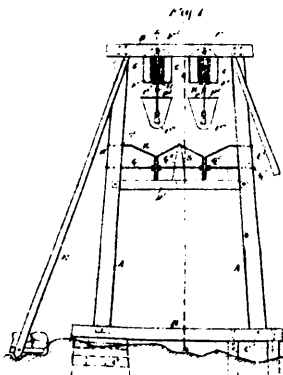
38303 Anderson and Fargo's Butter Worker.



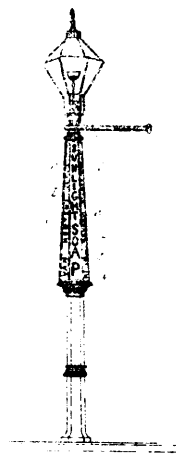
38304 Lauson's Boot and Shoe.



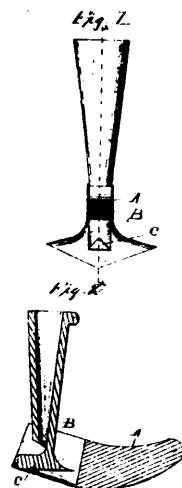
38305 Church's Hydraulic Windmill Regulator.



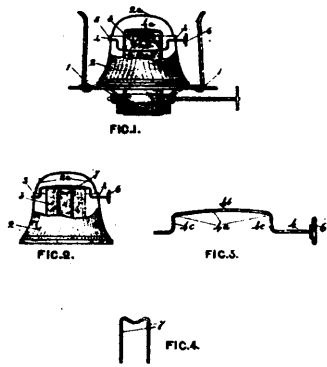
38306 De Camp's Aerial Tramway.



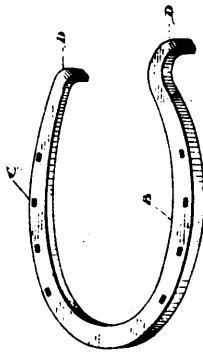
38308 Heath's Method of and Means for Displaying Advertisements.



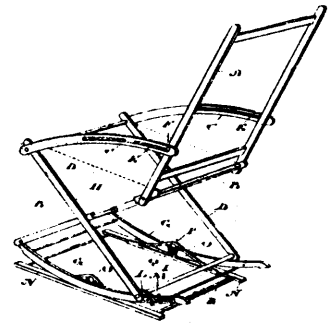
38309 Szarkowski's Press Shoe for Grain Drills.



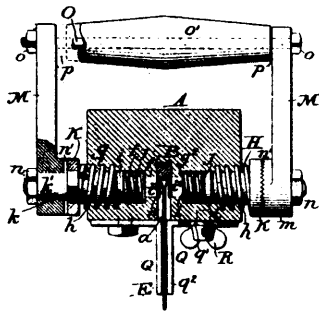
38310 Pearce's Trimmer for Wicks.



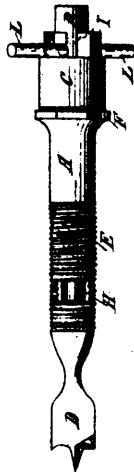
38311 Moore's Horse-shoe.



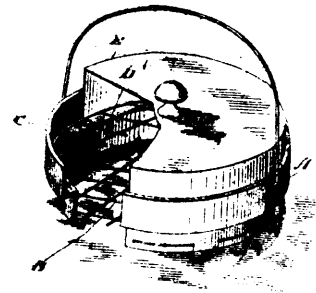
38312 Thornbeck's Rocking Chair.



38313 Hanson's Side Dresser for Swaged Saw Teeth.



38314 Hall's Faucet.



38315 Varley's Boiler and Toaster.

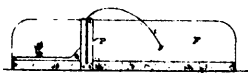


Fig. 1.

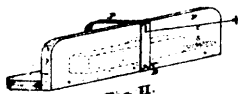


Fig. 2.

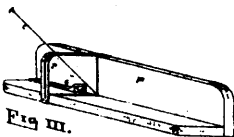
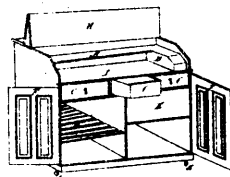
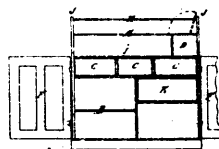


Fig. 3.

38316 Thomson's Machine for Outting Soap and Cheese.



- Fig. 3 -



- Fig. 2 -



- Fig. 1 -

38317 Brophy's Cabinet Bakery.

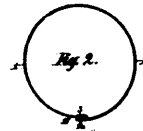


Fig. 2.



Fig. 3.

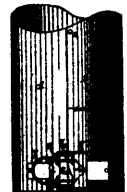
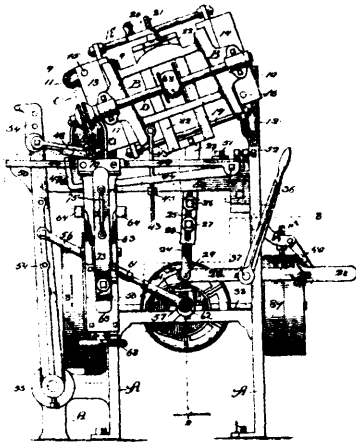
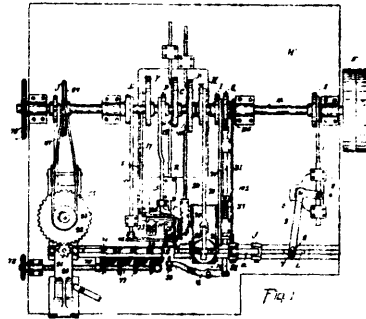


Fig. 1.

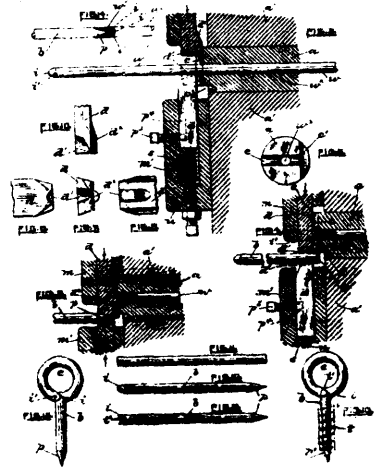
38318 Littlewood's Stovepipe.



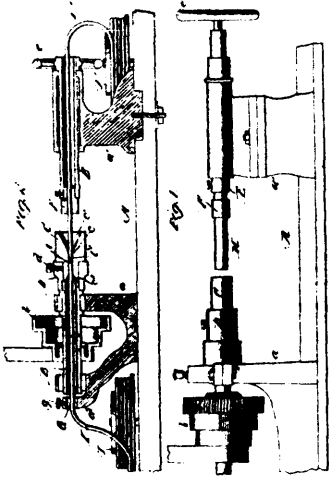
38319 Covell's Saw Sharpening Machine.



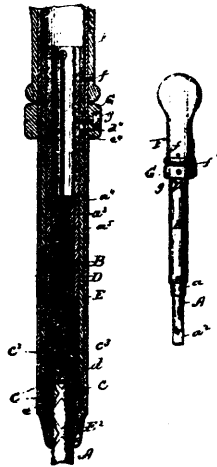
38320 Tiffany's Tag Wiring and Bundling Machine.



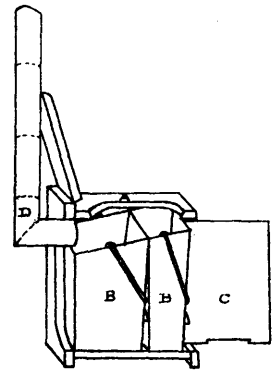
38321 Rogers' Die for Cutting Off and Pointing Pieces of Wire.



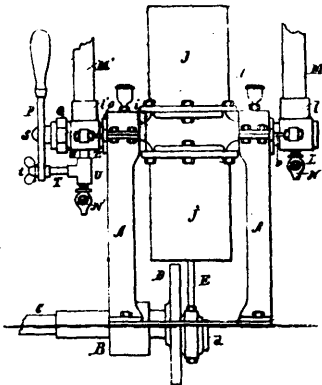
38322 Bevington's Machine for Spinning and Welding Metals.



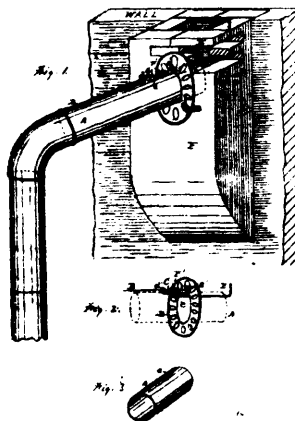
38324 Church's Screw-driver.



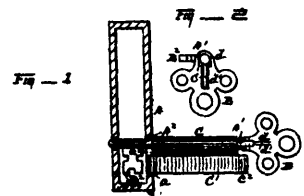
38325 Jukes' Earth Closet.



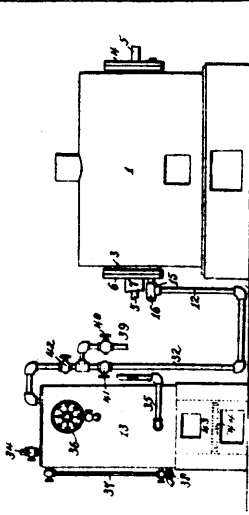
38326 Moss' Oscillating Engine.



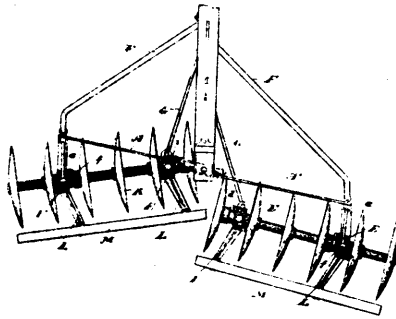
38327 Travis' Stovepipe and Collar Fastener.



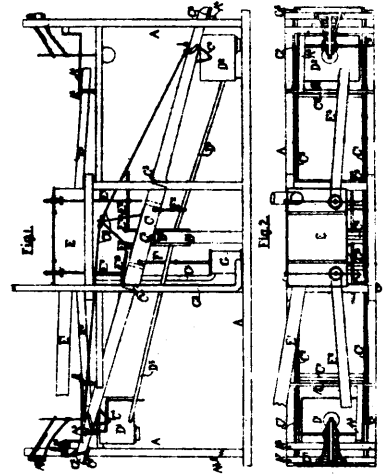
38328 Travis' Key Fastener.



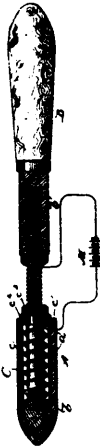
38329 Prosser and Wilder's Method of Manufacturing Gas.



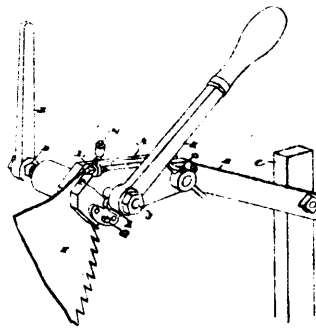
38330 Corbin's Reversible Disk Harrow.



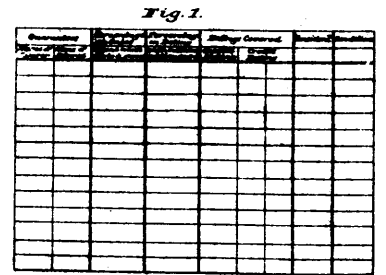
38331 Jerger's Water Engine.



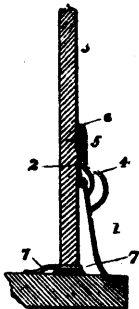
38332 Miner's Electric Soldering Irons.



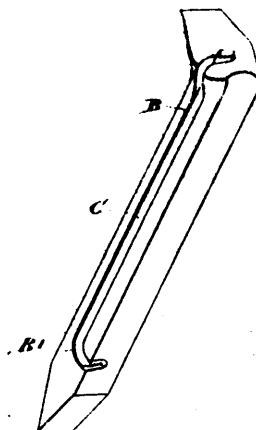
38333 Payette's Swedger for Saws.



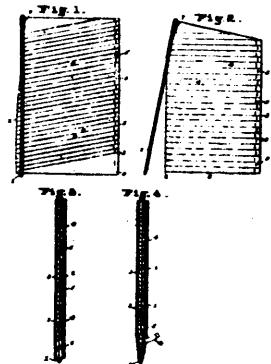
38334 Maybaun's Means for Securing Persons from Losses by Bad Debts.



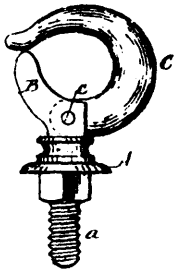
38336 Ogg's Weather Strip.



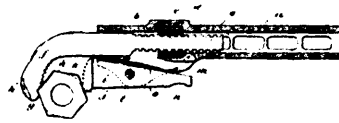
38337 Trotter and Granville's Spike.



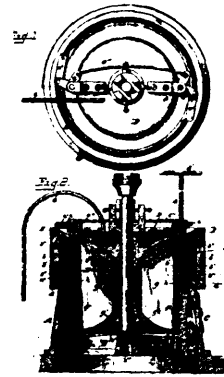
38338 Blaisdell's Pencil.



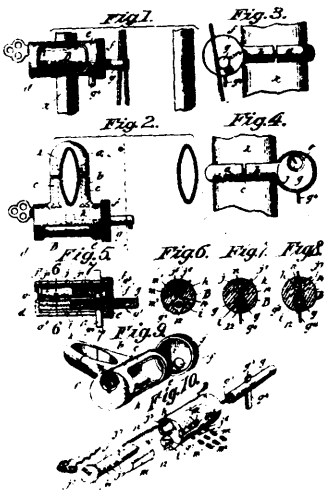
38339 Kelley's Check Hook.



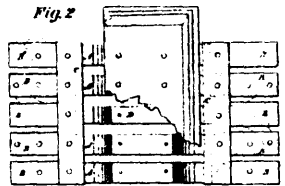
38340 Carpenter's Wrench.



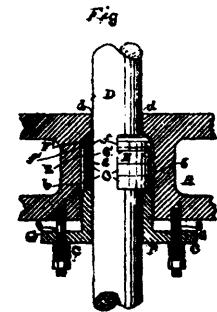
38341 Elmer's Turbine.



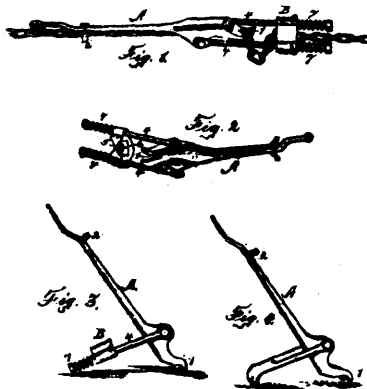
38342 Brosnan's Bicycle Lock.



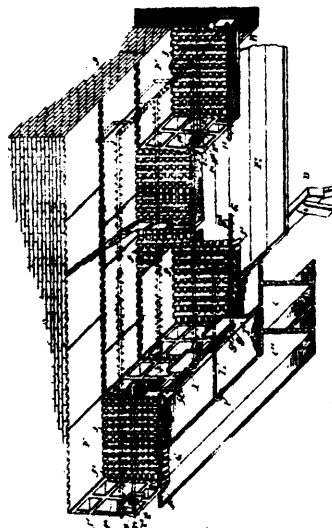
38343 Quenville's Waggon.



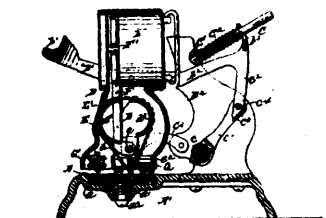
38344 Forrest's Packing for Stuffing Boxes.



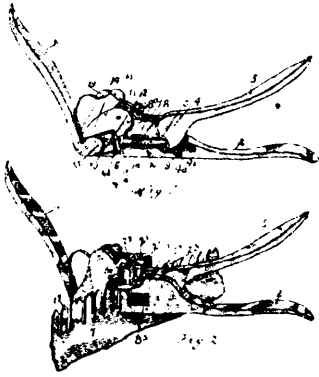
38345 Johnson's Load Binder.



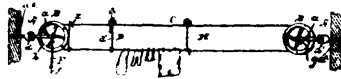
38346 Lee's Fireproof Floors.



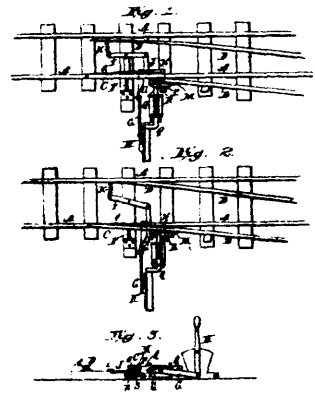
38347 Shaw's Time Stamp.



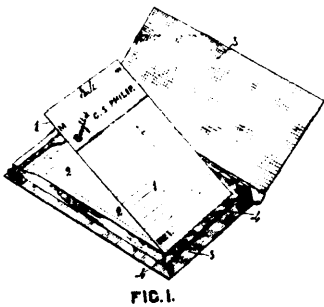
38348 McIntosh's Saw Set.



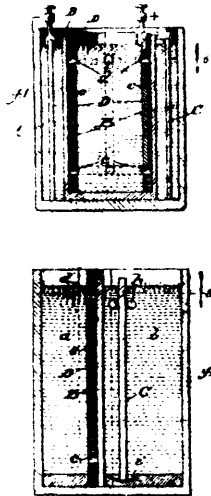
38349 Smith's Clothes Line.



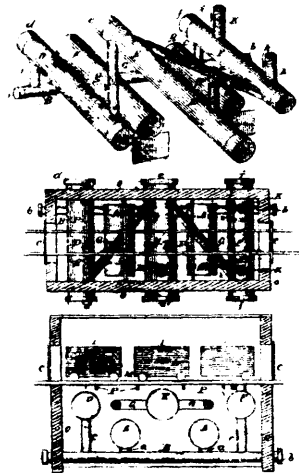
38350 Matthews' Switch for Railways.



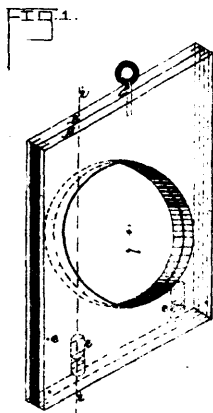
38351 Morton's Sale Slip.



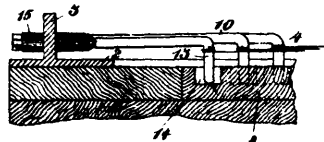
38352 Crowdus's Galvanic Battery.



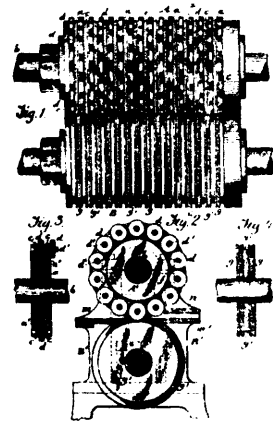
38353 Ketcham's Dry Kiln Furnace.



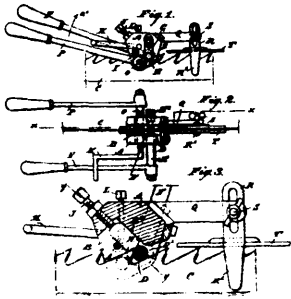
38354 Cushman's Dust Guard for Car Axle Boxes.



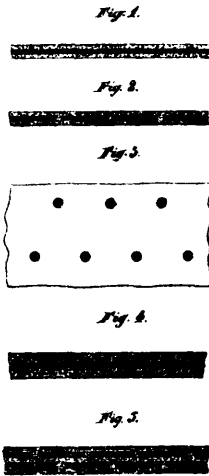
38355 Ivers' Tuning Pin for Pianofortes.



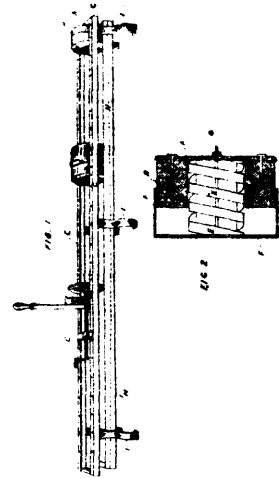
38356 Stone's Machine for Producing Metal Lathing.



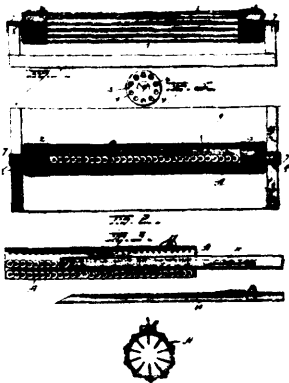
38357 Hanchett's Saw Swager.



38358 Dupont's Compound Slab of Cement, &c.



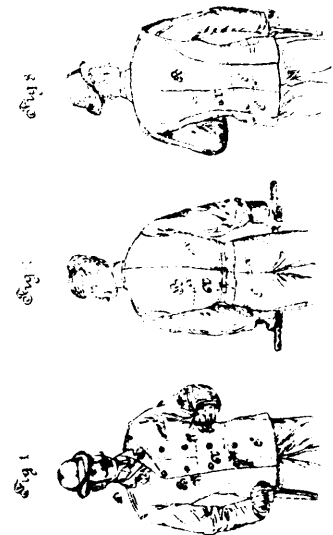
38359 Richardson and Webster's Cheese Press.



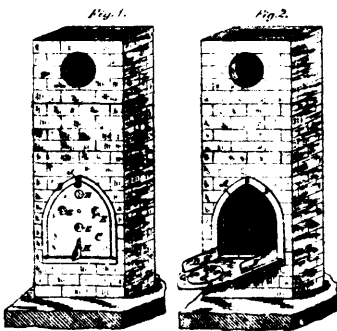
38360 Wilkins' Holder for Shoe Button Fasteners.



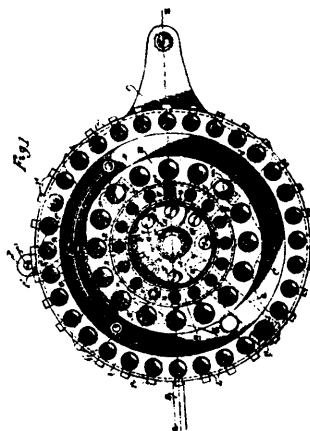
38361 Pooley's Car Coupler.



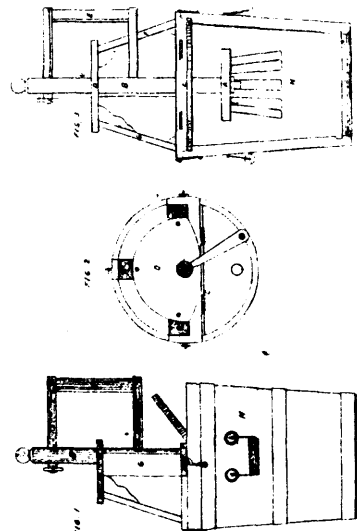
38362 Zadak's Life Preserver.



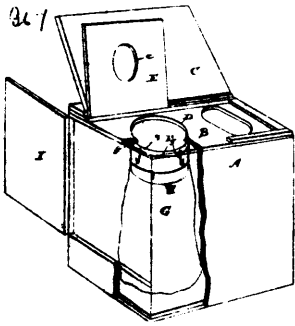
38363 McRobie's Soot Door Ventilator and Check Draft for Chimney Apertures.



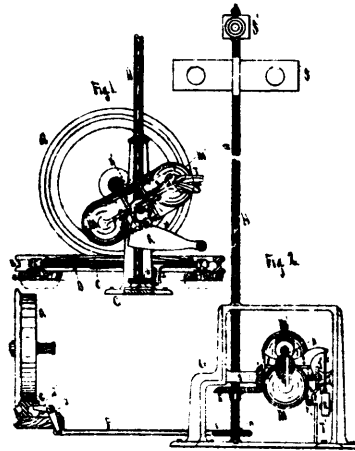
38364 Jacobs' Cartridge Loader.



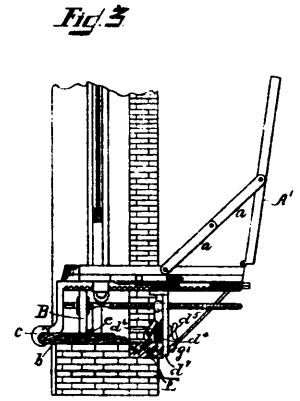
38365 Stapleton's Washing Machine



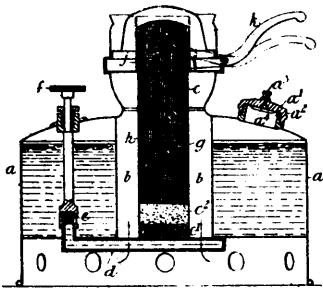
38367 Chamberlain's Dry Closet.



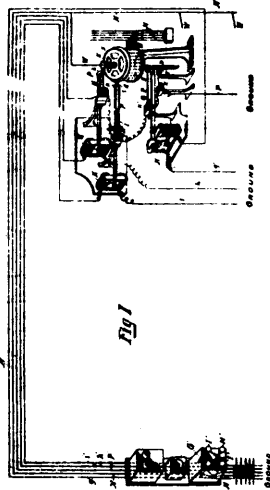
38368 Robinson's Signal for Railways.



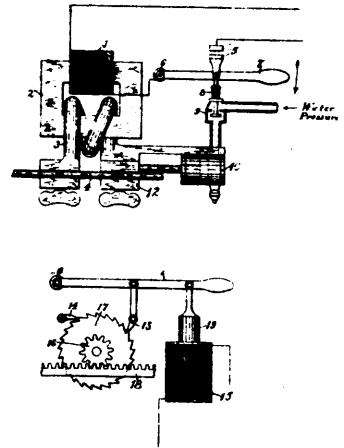
38369 Thurston's Window Jack.



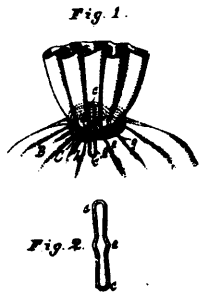
38370 Harris' Lamp.



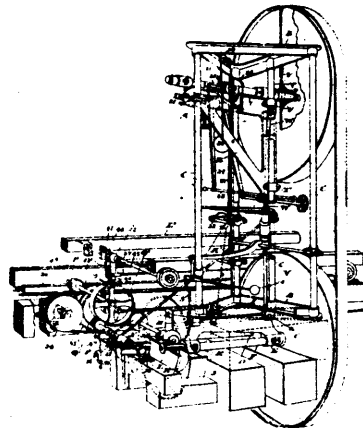
38372 Strowgers' Electrical Exchange.



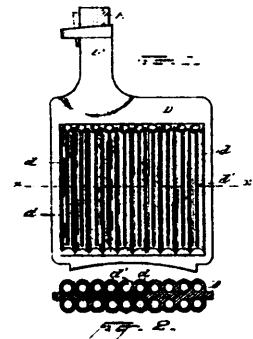
38373 Thomson's Electric Welding.



38374 Kimball's Device for Tying Bags, &c.



38375 Milne's Band Saw Mill.



38376 Logan's Secondary Battery.