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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. 37,101. Refrigerator. (*Glacière.*)

John Outhet, Toronto, Ontario, Canada, 1st August, 1891; 5 years.

Claim.—1st. The combination of the slanting ceiling of the cooling room and the air passage H, regulated by the cap E, with springs and thumbscrews, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the slanting ceiling of the ice chamber and the opening at the top thereof, with a cap or cover regulated by springs and thumbscrews, substantially as and for the purpose hereinbefore set forth.

No. 37,102. Tool Chest. (*Coffre d'outils.*)

James Andrew Franklin, Wabash, Indiana, U.S.A., 1st August, 1891; 5 years.

Claim.—The combination of the tray, the disks, the perforated lugs secured to the disks, the hollow rollers fitted within the openings in said lugs and the securing screws inserted through said rollers into the ends of the tray, as set forth.

No. 37,103. Ear for Vessels. (*Oreille de vaisseau.*)

Joseph Naber, Jr., Collins, New York, U.S.A., 1st August, 1891; 5 years.

Claim.—1st. An ear for vessels, provided with a wire passing through the ear and forming stops on the inner and outer faces of the ear to engage the bail and its upturned end, substantially as described. 2nd. An ear for vessels having an opening and provided with the triangular wire arranged in the opening and extending on opposite sides of the ear and forming projections, and having its ends secured to the faces of the ear, substantially as described.

No. 37,104. Hydrocarbon Oil Vaporizer and Burner. (*Foyer à hydrocarbures.*)

George Botsford, New Haven, Connecticut, U. S. A., 1st August, 1891; 5 years.

Claim.—In a hydrocarbon oil vaporizer and burner, a generator constructed with vertical openings through it, a chamber in its upper side surrounding said openings, combined with a removable cover by which said chamber may be opened or closed, a conductor leading to said chamber for the supply of oil, and a pipe leading from said chamber above the natural level of the oil therein and run two or more times around the outside of the chamber and beneath the generator, the run of pipe beneath the generator perforated, all substantially as and for the purpose described.

No. 37,105. Machine for Soldering Cans.

(*Machine à souder les boîtes métalliques.*)

Robert Loggie, (assignee of Joseph Mazroll), both of Black Brook, New Brunswick, Canada, 1st August, 1891; 5 years.

Claim.—1st. In a can soldering machine, the combination with a disk mounted to turn and adapted to rotate the can, of a soldering iron adapted to engage the seam of the can and a receptacle containing molten solder and into which extends the said iron, substantially as shown and described. 2nd. In a can soldering machine, the combination with a disk mounted to turn and adapted to rotate the can, of a spider mounted to turn loosely and to swing and adapted to support the lower end of the can, and a soldering iron held in contact with molten solder and engaging the seam of the can, substantially as shown and described. 3rd. In a can soldering machine, the combination with a disk mounted to turn and adapted to rotate the can, of a spider mounted to turn loosely and to swing and adapted to support the lower end of the can, a soldering iron held in contact with molten solder and engaging the seam of the can, and means, substantially as described, for imparting a sliding movement to the said disk and at the same time swinging the said spider, substantially as shown and described. 4th. In a can soldering machine, the combination with a shaft mounted to turn, of segmental arms supported by the said shaft and adapted to support the can body, and a spider mounted to turn loosely in the said shaft and adapted to engage the lower head of the can, substantially as shown and described. 5th. In a can soldering machine, the combination with a shaft mounted to turn and to slide, and a flanged disk held on the said shaft and adapted to engage the upper end of the can, of a spider adapted to engage the lower end of the can, and a second shaft mounted to turn and in which the said spider is mounted to turn loosely, the shank or axle of the spider extending diametrically of the said second shaft, substantially as shown and described. 6th. In a can soldering machine, the combination with a shaft mounted to turn and to slide, and a flanged disk held on the said shaft and adapted to engage the upper end of the can, of a spider adapted to engage the lower end of the can, a second shaft mounted to turn and in which the said spider is mounted to turn loosely, the shank or axle of the spider extending diametrically of the said second shaft, and segmental arms projecting from the said second shaft to engage the periphery of the can body, substantially as shown and described. 7th. In a can soldering machine, the combination with a shaft mounted to turn and to slide, and a flanged disk held on the shaft and adapted to engage the upper end of the can, of a spider adapted to engage the lower end of the can, a second shaft mounted to turn and in which the said spider is mounted to turn loosely, the shank or axle of the spider extending diametrically of the said second shaft, segmental arms projecting from the said second shaft to engage the periphery of the can body, and intermediate mechanism connecting the said two shafts with each other in such a manner that when the first named shaft slides, the other is caused to turn, substantially as shown and described. 8th. In a can soldering machine, the combination with a shaft mounted to turn and to slide, and a disk supported thereon and adapted to engage the upper end of the can body of means, substantially as described for imparting a sliding motion to the said shaft, a second shaft mounted to turn and adapted to be actuated by the sliding of the first named shaft a spider mounted loosely in the said second shaft and adapted to engage the lower end of the can, and segmental arms projecting from the said second shaft and adapted to engage the periphery of the can body, substantially as shown and described. 9th. In a can soldering machine, the combination with a shaft mounted to turn and to slide, and a disk supported thereon and adapted to engage the upper end of the can body of means, substantially as described, for imparting a sliding motion to the said shaft, a second shaft mounted to turn and adapted to be actuated by the sliding of the first named shaft, a spider mounted loosely in the said second shaft and adapted to engage the lower end of the can, segmental arms projecting from the said second shaft and adapted to engage the periphery of the can body, and a segmental soldering iron having an inner sharpened edge adapted to engage the seam of the can and extending into molten solder, substantially as shown and described. 10th. The combination with a solder receptacle and a soldering iron in connection therewith, of a shaft provided with can supporting arms, a revoluble spider mounted in said shaft, a second shaft mounted to revolve and to slide and at right angles to the first shaft, and carrying a fixed disk, and means for rocking the spider carrying shaft and simultaneously sliding the disk shaft, substantially as shown and described.

No. 37,106. Car Coupler. (*Attelage de chars.*)

Amos Clinton Merritt, Allentown, New York, U.S.A., 4th August, 1891; 5 years.

Claim.—1st. In a car-coupling of the class described, a spring block and wedge combined, adapted to hold the coupling-link, a trip, springs adapted to hold the coupling-pin and to be pressed apart by said trip, a drop-link adapted to strike said trip as the cars come together, a prop adapted to hold said drop-link in a horizontal position, and means, substantially as described, for connecting said parts to the draw-head. 2nd. In a car-coupling of the class described, a standard fixed to the draw-head, a bar having springs with

deflecting ends attached thereto, the trip, drop-link, and prop, all constructed and arranged substantially as shown. 3rd. In a car-coupling of the class described, the combination of a vertical standard fixed to the draw-head, a bar having springs with spreading ends forming a rest, a hinged trip tapering upward from near the end to form a shoulder, as shown, a hinged drop-link cut away on one of its under sides to form a catch, and a hinged prop, all arranged substantially as and for the purpose described. 4th. The combination, in a car-coupling of the class described, of the vertical standards, angularly-bent trip, springs, drop-link, prop and rubber spring block and wedge combined, all constructed substantially as shown and combined to co-operate substantially as set forth.

No. 37,107. Water Poise. (*Hydromètre.*)

Louis Menz and Paul Krebs, both of Berlin, Prussia, German Empire, 4th August, 1891; 5 years.

Claim.—1st. A straight edge of the kind herein referred to, provided near one end with a removable holder B, carrying two levelling tubes arranged at right angles to each other, or a single levelling tube having its end portions bent at right angles to each other, substantially as described and shown. 2nd. For a straight edge of the kind referred to, a holder B, constructed with two levelling tubes *d*, *d*, arranged at right angles to each other, or with a single levelling tube having its end portions bent at right angles to each other, substantially as described and shown.

No. 37,108. Art of Manufacturing Cast Iron Car Wheels. (*Procédé de fabrication des roues de chars en fonte.*)

Nathan Washburn, Boston, Massachusetts, U. S. A., 4th August, 1891; 5 years.

Claim.—1st. The herein described cast iron wheel having a non-laminated chilled thread, substantially as described. 2nd. The herein described process of manufacturing cast iron car wheels, which consists in pouring the molten cast iron into a mold chilling only the thread of the cast iron car wheel, and thereafter rolling or pressing the chilled thread to change its physical structure and make the chilled surface stronger and more durable, substantially as described.

No. 37,109. Apparatus for Stamping or Forming Metal Waists for Boots and Shoes. (*Appareil pour frapper ou former les déchets de métal pour chaussures.*)

Jones Syndicate, assignees of John Ward Jones and Edward Kynaston Bridges, all of London, England, 4th August, 1891; 5 years.

Claim.—1st. A machine or apparatus for the production of metal waists for boots and shoes having a male die such as *b*, with its two sides *bx*, *bx*, and its top surface curved or shaped to form the curve or shape required to be given to the metal waist, and this die *b*, acting in conjunction with a female die such as *c*, the latter corresponding in shape with the male die *b*, and having the movable spring centre piece c^1, therein, substantially as and for the purposes hereinbefore described and illustrated in figures 1 to 4 of the drawings hereunto annexed. 2nd. The apparatus claimed in claim No. 1, in combination and acting in conjunction with the parts b^1, b^2, b^3, and b^4, for removing the metal sheet from the male die *b*, after the two edges of the metal sheet have been turned down, substantially in the manner hereinbefore described and illustrated in figures 1 to 4 of the drawings annexed. 3rd. A machine or apparatus for the production of metal waists for boots and shoes, having a die such as *e*, curved or shaped both on its top edge e^1, and side face e^2, according to the curve or shape required to be given to the finished metal waist, such die *e*, acting in combination and in conjunction with a die such as *g*, which latter is curved or shaped on its lower edge g^1, and side face g^2, to correspond with the curve or shape e^1, e^2, on the former, substantially as and for the purposes hereinbefore described and illustrated in the drawings hereunto annexed.

No. 37,110. Art of Manufacturing Crystallized Sulphate of Lime or Pearl, Hardening and of Bisulphites. (*Fabrication de sulfate de chaux cristallisé, etc.*)

James Beveridge, Gravesend, England, 5th August, 1891; 5 years.

Claim.—1st. The process hereinbefore described of manufacturing crystallized sulphate of lime or pearl, hardening and alkaline bisulphite, which consists in adding together in approximately the proportions hereinbefore specified, a purified aqueous solution of an alkaline sulphate and an aqueous solution of bisulphite of lime, and submitting the mixture to agitation, whereby crystallized sulphate of lime and a bisulphite of the alkali are produced by the double decomposition that takes place, substantially as set forth. 2nd. The process hereinbefore described of manufacturing crystallized sulphate of lime or pearl, hardening and bisulphite of soda, which consists in adding together in approximately the proportions hereinbefore specified a purified aqueous solution of sulphate of soda and an aqueous solution of bisulphite of lime, and submitting the mixture to agitation, whereby crystallized sulphate of lime and bisulphite of soda are produced by the double decomposition that takes place, substantially as set forth. 3rd. The process hereinbefore described of manufacturing crystallized sulphate of lime, which consists in first adding together in approximately the proportions hereinbefore specified a purified aqueous solution of an alkaline sulphate and an aqueous solution of bisulphite of lime, and submitting the mixture to agitation, secondly separating from the resulting liquor the crystallized sulphate of lime thereby produced, thirdly treating this crystallized sulphate of lime with a weak solution of a mineral acid, whereby normal sulphate of lime is removed, and fourthly, washing with water, all substantially as set forth.

No. 37,111. Locked Hook and Eye. (*Fermeture de crochet et d'oeillet.*)

Thomas H. Smith and Sarah Jane Secord, both of Hamilton, Ontario, Canada, 6th August, 1891; 5 years.

Claim.—In a lock hook and eye, the eye 2 widened to form an opening 5, having a bent end 4 slightly curved, the hook 3 widened at its centre 7 with its widened end 6 slightly curved, both formed, combined and arranged substantially as described and for the purpose hereinbefore set forth.

No. 37,112. Thermo Electric Generator. (*Générateur thermoélectrique.*)

Harry Barringer Cox, Hartford, Connecticut, U. S. A., 6th August, 1891; 5 years.

Claim.—1st. In thermo couples one or more conductors or radiators placed within the circuit of the same to produce a fall in thermic potential, substantially as described. 2nd. A thermo couple provided with one or more conductors or radiators connected between the hot and cold junctions of the couple and extending outwardly into the atmosphere. 3rd. A thermo-pile provided with one or more radiators or conductors connected between the hot and cold junctions of the pile, to produce a maximum fall in thermic potential, substantially as set forth. 4th. A thermo electric generator comprising a series of couples, each composed of two dissimilar elements cast together at their adjoining ends, and one or more conductors cast or connected with one of the elements within its length, for the purpose set forth. 5th. A thermo electric generator composed of alternate elements of unlike metals joined together at their opposite ends, every alternate element having a conductor connected to the element between its junctions with the adjoining elements, and extending in the direction of the junction to be kept cool, for the purpose set forth. 6th. A thermo electric pile formed in a single integral strip by casting, as set forth.

No. 37,113. Electric Belt. (*Ceinture électrique.*)

Charles Andrew Bogardus, Syracuse, New York, U. S. A., 6th August, 1891; 5 years.

Claim.—1st. In an electric belt, the combination of a flat zinc folded over on one end, a covering of absorbent material, a wire wound around over the absorbent, then twisted at one end of the zinc and absorbent, then bent outwardly from the twist, then bent inwardly forming hooks, and bent to form forward projecting points. 2nd. In an electric belt, the combination of a flat zinc, folded over on one end, a covering of absorbent material, a wire wound around over the absorbent, and over a copper strip on the absorbent, then brought together and twisted close to the end of the zinc, then bent outwardly from the twist, then bent inwardly forming hooks and bent to form forward projecting points, said hooks being secured in the crimped fold of the adjoining zinc.

No. 37,114. Machine for Trimming and Branding Cigars. (*Machine pour dresser et marquer les cigares.*)

Wolf Garreston, New York, U. S. A., 6th August, 1891; 5 years.

Claim.—The combination, with a hand-lever mounted on a shaft, and bearing a knife adapted to trim cigars, of a rock-arm and shaft, the former bearing a brand, the knife mechanism, and the branding mechanism being intergeared or operatively connected so that in operating the knife the brand is thereby operated in the reverse direction, substantially as set forth.

No. 37,115. Pepsin and Process of its Manufacture. (*Pepsine et procédé pour sa fabrication.*)

Joseph LeRoy Webber, Detroit, Michigan, U.S.A., 6th August, 1891; 5 years.

Claim.—1st. In the manufacture of pepsin from macerated animals' stomachs in acidulated water, the process of clarifying the resultant solution, which consists in adding thereto sulphurous acid, substantially as and for the purpose set forth. 2nd. In the manufacture of pepsin from macerated animals' stomachs in acidulated water, the process of separating the pepsin from the peptone, which consists in clarifying the first solution, and then adding to the clarified solution, at a comparatively high temperature within the range specified, a sufficient quantity of sodium sulphate, thereby effecting precipitation of the pepsin without precipitating the peptone, substantially as described. 3rd. The process of manufacturing pepsin, which consists in macerating animals' stomachs in acidulated water, clarifying the resultant solution, adding to the clarified solution, at a comparatively high temperature within the range specified, a saturating quantity of sodium sulphate, thereby effecting precipitation of the pepsin without precipitating the peptone, and cooling the residuary solution, and thereby crystallizing out and separating from the peptone the sodium sulphate, substantially as and for the purpose set forth. 4th. The process of manufacturing pepsin, which consists in macerating animals' stomachs in acidulated water, adding to the resultant solution sulphurous acid and clarifying it by precipitation, drawing off the clarified liquid and saturating the same, at a suitable temperature, with sodium sulphate, thereby producing complete, or substantially complete, pre-

cipitation of the pepsin and forming the "first" product thereof, dissolving the said first product in weak hydrochloric acid, and removing sodium sulphate from the solution by dialysis, concentrating the resultant liquid and drying the concentrate, and recovering the sodium sulphate from the solution from which the said first product is precipitated by gradually cooling it to crystallize out the sodium sulphate and separate it from the peptone, substantially as described. 5th. As a new article of manufacture commercial pepsin practically devoid of offensive odor and free from peptone and hygroscopic character, and possessing superior digestive strength, substantially as described.

No. 37,116. Composition for Plastering the Walls and Ceilings of Houses, etc. (*Composition pour crépir les murs et plafonds de maison, etc.*)

Eutrope Chartier, Sorel, Quebec, Canada, 6th August, 1891 ; 5 years.

Claim.—A composition of matter for covering the walls and ceilings of buildings, consisting of wood pulp, straw pulp, chalk, potters' clay, glue, starch, linseed oil, and water in the proportions specified, either with or without ordinary laths and plaster, substantially as set forth.

No. 37,117. Apparatus for Converting Motion. (*Appareil pour changer le mouvement.*)

Sextus Sloan, Painsville, Ohio, U.S.A., 6th August, 1891; 5 years.

Claim.—1st. In a device for converting motion, a wheel rigidly attached to a shaft having its rim extending on each side and serrated on the interior of said extensions, in combination with two eccentric disks having their peripheries partially serrated and situated within two chambers formed by said extensions, operating conjointly with two pinions or geared wheels by means of screws, the heads of which extend through holes in said pinions, and the other ends terminating in a pin which is inserted in a hole in a disk to which the eccentric is pivoted, said pinions being in mesh with two racks arranged within a frame and operating in the manner and for the purpose, substantially as set forth. 2nd. In a device for converting motion, the combination of the geared wheels or pinions with screws threaded into and through the eccentric disks, in line with the pivot and centre of said disks, the heads of said screws protruding through holes in said pinions, the opposite terminals being pins which are inserted in holes in the disks to which the eccentric disks are pivoted, operating conjointly with two racks arranged within a frame, whereby the engagement of the serrated sections of said eccentric disks with the serrated inner side of the rim of the rigid wheel is caused, substantially in the manner and for the purpose specified. 3rd. In a device for converting motion, the combination of the disks c, and c^1, fitted loosely on the shaft, and the disks e, and e^1, having their peripheries partially serrated pivoted to the disks c, and c^1, and operating independently of the shaft arranged to co-operate conjointly with the screws g, and g^1, the pinions j, and j^1, and two racks arranged within a frame, substantially in the manner and for the purpose set forth. 4th. Two geared racks secured together in a frame, in combination, with two pinions j, and j^1, the screws g, rnd g^1, the eccentric disks e, and e^1, and the wheel a, whereby a rotary motion is produced in the manner, substantially as specified.

No. 37,118. Electric Signal Receiving Instruments. (*Récepteur de signal électrique.*

Electric Secret Service Company, New York, N.Y., U.S.A., assignees of George Lucious Foote, Brooklyn, N.Y., and William Camby Moore, Kansas City, Missouri, U.S.A., 7th August, 1891; 5 years.

Claim.—1st. A signal receiver, consisting of a movable or rotary circuit closing device controlled by the armature of an electro-magnet in its advance movement, and mechanical connections between said circuit controlling device, and the same armature for restoring it to normal position, substantially as described. 2nd. A signal receiver, consisting of a movable circuit closing device, an electro-magnet having its armature provided with means for regulating the forward movement of the circuit closing device, and mechanical connections between the circuit closing device and the armature for restoring it to normal position at any portion of its advance movement, substantially as described. 3rd. A signal receiver, having a movable part provided with a prearranged order of stops, an electro-magnet provided with an armature having means for checking the movable part in its forward movement, and additional mechanical connections between the armature and the movable part for restoring it to normal position, substantially as described. 4th. A signal receiver having a circuit closer carried by a movable part, a source of mechanical power, as a spring for moving said movable part, a single electro-magnet with an armature having mechanical connections for regulating the advancement of the movable part, and additional mechanical connections for restoring it to normal position, and at the same time placing the actuating spring under stress, substantially as described. 5th. A signal receiver having a movable circuit closer, a source of mechanical power for advancing it, an electro-magnet with an armature having mechanical connections for regulating the forward advancement of the circuit closer, and additional connections between the armature and the circuit closer for restoring the latter to normal position, and for reviving the mechanical power, and an escapement for regulating the forward rate of motion of the circuit closer, substantially as described. 6th. In a signal receiver, a rotary circuit closer, a power impelled shaft carrying said circuit closer, a step by step device for regulating the forward movement of the circuit closer, a restoring device for returning the circuit closer to normal position, and a single electro-magnet having an armature mechanically connected to the restoring device, substantially as described. 7th. In a signal receiver of the type named, a rotary sector carried by a shaft provided with movable circuit closer, having electrical connections with a local signaling instrument, a single electro-magnet with an armature having means for regulating the advancement of the sector, and additional means for restoring the sector to normal position, substantially as described. 8th. In a signal receiver of the type named, a rotary sector having a prearranged order of stops and provided with a movable circuit closer, a single electro-magnet with an armature provided with means for checking the sector in its forward motion, a source of power tending to advance the sector, and mechanical connections between the armature and the shaft which carries the sector for restoring it to normal position and reviving the applied power, substantially as described. 9th. In a signal receiver, a step by step device controlled in its forward advance by the armature of an electro-magnet, a source of power tending to continuously advance the step by step mechanism, an escapement regulating the application of the power, and mechanical connections between the step by step device and the aforesaid armature, whereby the apparatus is restored to normal condition and the power revived, substantially as described. 10th. In a signal receiver, a sector having a prearranged order of notches or stops, a pivoted armature lever having a pin adapted to strike said stops or pass between them at will, a pivoted weighted pawl carried also by the armature lever, a rack carried by the sector, and in the plane of the pivoted pawl, a restoring hook carried by the armature lever, an eccentric carried by the shaft which carries the sector, a spring-impelled escapement, a second rack carried by the sector and meshing with a pinion carried by the same shaft which carries the escapement and retractile springs S, and T^1, substantially as described. 11th. In a signal receiver, an escapement rack or device R^1, carrying a sector provided with a series of variable notches or stops, in combination with a pivoted weighted pawl, and a pivoted stop or pin, said pawl and pin being carried by an armature lever, substantially as described.

No. 37,119. Inside Stove Plate.

(*Plaque pour l'interieur des poêles.*)

E. & C. Gurney Company, Hamilton, Ontario, Canada, assignees of Joseph Leon Gobeille, Cleveland, Ohio, U. S. A., 7th August, 1891 ; 5 years.

Claim.—1st. In a cook stove, the inner plates constructed with rows of projecting surfaces, substantially as and for the purpose specified. 2nd. In a cook stove, the inner plates constructed with a series of rows of projecting surfaces on one side, and corresponding rows of recesses on the other side, substantially as and for the purpose specified. 3rd. In a cook stove, the inner oven plates A, top, bottom, and sides, formed with circular projections B, on one side, and corresponding circular recesses C, on the other side, substantially as and for the purpose specified. 4th. In a cook stove, the inner oven plates A, top, bottom, and sides, formed with circular (or other shaped) projections B, and corresponding circular (or other shaped) recesses on the other side, substantially as and for the purpose specified.

No. 37,120. Temperature Regulator.

(*Régulateur de température.*)

Lucien F. Easton, La Crosse, Wisconsin, U.S.A., 7th August, 1891 ; 5 years.

Claim.—1st. In combination, with two or more apartments, each provided with a valve for controlling the supply of heat, regulators, one for each apartment, each comprising a shell and a movable diaphragm or piston and suitable connections between the diaphragm or piston, and the valve, exhausting apparatus connected separately with each of the regulators, an air-vent for each regulator, a thermostatic valve controlling each of said vents, a valve or damper for controlling the generation of heat, a regulator having a diaphragm or piston connected with said valve or damper, a pipe extending from said regulator to an exhausting apparatus, and air valves or vents opening into said pipe, and each having a valve subject to the suction controlling the regulators in the several apartments, whereby the valves controlling the admission of heat to the apartments are opened or closed, as required, and the generation of heat is checked whenever all the apartments reach the predetermined temperature, and increased when any apartment falls below a predetermined limit. 2nd. In combination, with a heat supply valve, and a regulator connected with and serving to control the same, an air vent opening into said regulator, a thermostatic valve controlling said vent, an exhauster communicating with said regulator, a heat generator, a valve or damper controlling the generation of heat, a second regulator connected with the generator valve or damper, an exhauster communicating with the regulator of the generator valve or damper, and an air-valve for admitting air to said regulator when open, said valve being subject to the suction upon the heat supply valve, whereby the heat supply valve and the generator valve are operated successively. 3rd. In a temperature regulating apparatus, the combination, with a heat generator and a valve or damper controlling the generation of heat therein, of a regulator, substantially such as described, connected with and controlling the adjustment of said valve or damper, an exhauster communicating with the regulator, an air valve or vent also communicating with said regulator, and a thermostatically controlled device located in the apartment in which the temperature is to be regulated, and serving to control the opening and closing of said air valve or vent. 4th. In a temperature regulating apparatus, the combination of a heat generator, a valve controlling the generation of heat therein, a heat supply valve for controlling the admission of heat to an apartment, independent regulators for said valves, each connected with exhausting apparatus, and an air valve or vent adapted to be opened by the exhaust or suction upon the heat supply regulator, and serving when opened to admit air to the generator regulator. 5th. The herein

described air valve or vent for temperature regulators, consisting of a shell provided with a flexible diaphragm *e*, pipe or outlet *f*, and inlets *g*. 6th. In combination, with a shell open at one side for communication with an exhauster, a pipe or outlet *f*, and inlets *g*, at the opposite side of the shell, an intermediate, flexible diaphragm *e*, and a spring K, bearing upon the diaphragm and tending to press the same upon the mouth of the outlet *f*. 7th. Two or more expansible and contractible chambers, each operating, by such contraction or expansion, one or more valves, dampers, &c., an exhausting apparatus, and an air inlet communicating with each of the said expansible and contractible chambers. a thermal valve controlling each of said inlets, a second expansible and contractible chamber communicating with each of said exhausters, a valve operated by each of said expansible and contractible chambers, each of said valves serving to control an air inlet to another expansible and contractible chamber, said last named chamber operating the valves, dampers, &c., of a heat generator, and having an exhauster in communication with it.

No. 37,121. Temperature Regulator.

(*Regulateur de température.*)

Lucien F. Easton, La Crosse, Wisconsin, U.S.A., 7th August, 1891; 5 years.

Claim.—1st. In a temperature regulating apparatus, the combination of a fluid main common to two or more apartments and communicating with apparatus for varying the pressure with the main, a chamber containing a central diaphragm or piston and communicating on opposite sides of said diaphragm or piston with said main, two chambers, each containing a movable diaphragm or piston and respectively communicating with opposite sides of the first mentioned chamber, a warm air valve or damper connected with the piston or diaphragm of one of said chambers, a cold air valve or damper connected with the piston or diaphragm of the other of said chambers, air inlets communicating with said chambers respectively, air vents communicating with said chambers respectively, and a thermostat arranged, substantially as set forth, to act upon said valves and to open or close them alternately as the temperature rises above or falls below the prescribed limits. 2nd. A temperature regulator, consisting of the following elements, a service main communicating with a pumping apparatus for producing pressure or suction as required, a chamber containing a central diaphragm or piston passages opening from opposite sides of the piston or diaphragm into the main valves or disks carried by the central diaphragm or piston, and serving to open one and close the other side of the chamber alternately, a second chamber containing a flexible diaphragm or partition, a cold air valve or damper connected with and movable by the diaphragm or partition of said second chamber, a third chamber also provided with a flexible diaphragm or partition, a warm air valve or damper connected with and controlled by said diaphragm or partition, two air vents, each communicating with one side of the first chamber, and with the second or the third chamber valves controlling said vents, and a thermostat arranged and operated, substantially as set forth, to actuate said valves alternately and to open one or the other according to variations in the temperature of the apartment in which the thermostat is located. 3rd. In a temperature regulating apparatus, the combination of a fluid main M, a chamber F, provided with a central diaphragm or piston G, pipes L. L, connecting opposite sides of said chamber with the main M, stem I, carried by the piston or diaphragm G, and provided with disks or valves J, pipes O, and P, provided respectively with vents *c*, and *d*, valves *e*, and *f*, applied to said vents chambers C, and D, provided respectively with diaphragm or pistons *a*, and *b*, cold air valve B connected with the piston or diaphragm *b*, warm air valve A, connected with the piston *a* and thermostat Q, arranged, substantially as shown and described, to actuate the valves *e*, and *f*. 4th. In a temperature regulator, the combination, with a hot air valve or regulator and a cold air valve or regulator, of movable diaphragms or pistons for actuating the same, a service main, an intermediate chamber containing a central diaphragm or piston, air vents arranged, one to admit air to one side of the intermediate chamber, and to the piston controlling the cold air valve, the other to admit air to the other side of the intermediate chamber and to the piston of the warm air valve, valves controlling said vents, and a thermostat adapted to actuate said valves alternately as the temperature rises above or falls below the predetermined point. 5th. In a temperature regulator, such as set forth, an air vent *c*, a valve *e*, provided with a stem *h*, a spring *g*, encircling said stem and serving normally to seat the valve and close the vent, and a thermostatic bar Q, arranged to act upon said stem and to open the valve when the bar moves in the proper direction. 6th. In a temperature regulator, the combination of a chamber, a movable partition within said chamber, four ports, two on each side of the said partition, one port on each side communicating with the atmosphere, and at the other with a main or reservoir, two valves, one on each side of and operated by the partition to control the passage of fluid through the chamber, a thermally-controlled valve applied to each of the ports communicating with the atmosphere, an expansible and contractible chamber communicating with one of the ports opening to the atmosphere at a point between the thermal valves, and the partition-actuated valve and a damper valve or like device connected with a movable part of the expansible and contractible chamber. 7th. In a temperature regulator, the combination of a chamber, a movable partition therein, four ports, two on each side of said partition, one port on each side communicating with the atmosphere, and the other communicating with a main or reservoir, two valves, one on each side of and operated by the partition to control the passage of fluid through the chamber, a thermally-controlled valve applied to each of the ports in communication with the atmosphere, two expansible and contractible chambers, each communicating with one of the ports opening to the atmosphere at a point between the thermal valve thereof, and the partition-actuated valve and two valves dampers or like devices, each connected with a movable part of one or the other of said expansible or contractible chambers.

No. 37,122. Support for Caskets.

(*Support pour cercueils.*)

Herbert John Breeze, Olean, New York, U.S.A., 8th August, 1891; 5 years.

Claim.—1st. The herein described casket support, consisting of a conical body having a retaining point at its lower end, and tapering up to a sharpened point, substantially as set forth. 2nd. The herein described casket support, consisting of a conical body having a retaining point at its lower end, and tapering up to a sharpened point and formed immediately below this point with an inverted conical bearing, substantially as set forth.

No. 37,123. Reverberatory Furnace.

(*Fourneau à réverbère.*)

William Stubblebine, Bethelem, Pennsylvania, U.S.A., 8th August, 1891; 5 years.

Claim.—1st. In a furnace, the heating or producing chambers communicating with the rear end of the puddling chamber, combined with the mixing flues which have discharge ports in juxta position to the bridge-wall and fire chamber, and the blast-pipes passing through such heating or producing chambers and discharging into the mixing flues, substantially as and for the purpose described. 2nd. In a furnace, the combination, with a puddling chamber and a fire chamber, of the producing or heating chambers communicating with said puddling chamber, the mixing flues and blast pipes discharging into said mixing flues, substantially as described. 3rd. In a furnace, the combination, with a puddling chamber a take-up and a fire-chamber, of the producing or heating chambers located on opposite sides of the take-up, and communicating directly with the rear end of the puddling-chamber, the mixing flues opening into said producing chambers and the blast-pipes having their discharge ends terminating in the mixing flues, substantially as described. 4th. In a furnace, the combination, with a puddling chamber and a take-up of the longitudinal mixing flues arranged on opposite sides of the puddling chamber, the producing or heating chambers situated on opposite sides of the take up and communicating with the mixing flues, the gas-flues or passages intermediate of the puddling chamber and the heating or producing chamber, and the blast-pipes having their discharge ends terminating in the mixing flues in advance of the gas-flues or passages, substantially as described. 5th. In a furnace, the combination, with a puddling chamber and a fire chamber, of the producing or heating chambers connected by gas-passages with the rear end of the puddling chamber, the mixing flues extending longitudinally of the puddling chamber and connected to the producing chambers at their rear ends, the front ends of said flues having their discharge parts above the bridge wall, and the coils of pipes located in the producing or heating chamber and having the discharge-jets terminating in the mixing flues in advance of the gas-passages, substantially as described.

No. 37,124. Guide for Saws. (*Garde-scie.*)

Joseph A. Mayer, Muskegon, Michigan, U.S.A., 8th August, 1891; 5 years.

Claim.—1st. In a saw-guide, the combination of the slide-bar moving on the bed-plate and the head-block secured to the end of the slide-bar, the fulcrum-pin seated in the central recess in the outer face of the head-block, the jaws of the saw-guide mounted centrally on the fulcrum-pin so that they can have their directions reversed in relation to the head-block, and means, substantially as described, whereby the said jaws can be secured in position on the head-block. 2nd. In a saw-guide, the combination of the slide-bar moving on the bed-plate, the head-block secured to the end of the slide-bar and provided with a central circular bearing recess on its outer side, and curved slots arranged similarly on each side of equally distant from and concentric with said recess, the fulcrum-pin having an end bearing in said recess, the guide-jaws mounted on the fulcrum-pin and the bolts and nuts connecting the inner of said jaws to the head block, substantially as specified. 3rd. The combination with the slide-bar D, moving in a guide-casing C, on the bed-plate, the wear plate d^4, and set-screw d^5, of the adjusting-bar E, moving in the guide-casing *c*, and having an inclined shank seated in corresponding groove in the bar D, the wear-plates e^3, e^5, the set-screws e^4, e^6, and means, substantially as described, whereby the bar E, is moved in its guide-casing, substantially as specified. 4th. The combination, with the head-block and fulcrum-pin having a bearing in its inner end in a central recess of said block, and its outer end flattened and perforated, and having convex shoulders inward of said flattened end, of the inner saw-guide jaw mounted on the cylindrical portion of the fulcrum-pin, the outer saw-guide jaw pivoted on the flattened end of said pin, and means, substantially as described, whereby the outer jaw can have its inclination to the inner jaw adjusted to separate or bring together the wearing-blocks in the beaks of the jaws, substantially as specified. 5th. The combination of the head-block, the fulcrum-pin, the saw-guide jaws mounted on said pin, the outer of said jaws pivoted on the flattened end of the fulcrum-pin and capable of lateral motion thereon, the lever passing through and pivoted in a slot in the head-block, the adjusting-plate on the outer end of the said lever, the adjustment-plate riding on the said adjustable-plate, and means, substantially as described, whereby the lever can be moved, substantially as set forth. 6th. The combination, with the fulcrum-pin having a bearing on the head-block and the jaws pivoted on said pin, of the pivoted lever the adjusting-plate on the end of the lever, the flanged adjustment plate riding on the adjusting-plate, and the adjusting-screws passing through a threaded opening in the outer jaw impinging on the adjustment-plate, substantially as specified. 7th. The combination, wich the slide-bar D, and the head-block *d*, provided with the recess d^1, and slots d^2, d^3, of the fulcrum-pin, the inner jaw G, having the central opening for the fulcrum-pin and provided with the slots g^5, g^6, the lugs g^4, the supporting-bar g^7, for the outer jaw, the bolts g^2, the screws j^5, and the outer jaw pivoted to the end of the fulcrum-pin, substantially as specified.

No. 37,125. Spray Motor. (*Moteur à ressort.*)

Charles A. Loring, Atlanta, Georgia, U. S. A., 8th August, 1891; 5 years.

Claim.—1st. A machine motor consisting essentially of a casing having flat sides, the latter having perforated ears whereby the casings can be attached to the upper or under side of a table, driving mechanism within the casing, a driving wheel and a friction wheel located outside the casing, and a brake pivoted to the casing and adapted to engage the friction wheel, substantially as set forth. 2nd. In a spring motor, the combination, with a casing, of a drum therein having teeth at or near one side thereof, and a thumb screw secured to the casing with its free end in position to engage the smooth section of the drum, whereby the speed of the latter can be regulated, a shaft mounted in the casing, gearing connecting the teeth on said drum with the shaft, a friction wheel and a driving wheel on said shaft, a shoe to engage said friction wheel and means for actuating the shoe, substantially as set forth.

No. 37,126. Seal Lock. (*Serrure à cachet.*)

The Sully Car Seal Lock Company, (assignees of Robert M. Sully), all of Richmond, Virginia, U.S.A., 10th August, 1891; 5 years.

Claim.—1st. In a seal lock, the combination with a bolt having a lug at or near one end, of a rotary and longitudinally movable pin provided at one end with a recess to engage the lug on the bolt, said pin having a lateral open ended recess intermediate its ends for engagement with a catch in the lock case, whereby the bolt is secured and said pin held from rotary and longitudinal movement in the lock case when the bolt is in locking engagement with a connected seal, substantially as described. 2nd. In a seal lock, the combination of a lock case having a perforated lug at one end, a locking bolt passed through said lug, a rotary and longitudinally movable locking pin supported in the lock case and adapted to engage the locking bolt, and a catch located in the lock case and adapted to be automatically engaged with and disengaged from said pin, whereby the bolt and pin are secured from disengagement when the bolt is in locking engagement with a connected seal. 3rd. In a seal lock, the combination of the bolt 7, having a lug 13, the rotary and longitudinally movable locking pin 15, provided with recesses 14 and 17 and lever arm 16, and catch 18, substantially as described. 4th. In a seal lock, the combination of the lock case 5, having in its interior a shoulder 21, the locking bolt 7, provided with lug 13, the rotary and longitudinally movable locking pin 15, provided with recesses 14 and 17, enlarged annular end 20, and lever 16, and the catch 18, substantially as described. 5th. In a seal lock, the combination of the staple 8, the perforated lugs 6 and 9, the locking bolt 7, the rotary and longitudinally movable locking pin 15, adapted to engage said bolt, and the catch 18, adapted to engage the locking pin, whereby said bolt and pin are secured from disengagement when the bolt is in locking engagement with a seal, substantially as described.

No. 37,127. Automatic Switch and Holder for Portable Electric Lamps. (*Aiguille automatique et porte-lampe électrique.*)

William Wallace Savage and Frederic Nichols, Toronto, Ontario, Canada, 10th August, 1891; 5 years.

Claim.—1st. As a combined portable lamp holder and automatic switch, a lever suitably formed and designed to hold the lamp in position, and the contact points of the switch away from each other until the lamp is removed when the contact is formed and the circuit completed through the lamp, substantially as and for the purpose specified. 2nd. The forked lever A, connected to or forming part of the bell-crank H, which is pivoted on the pin *h*, extending from the plate G, to which the end of one portion of the wire E, is attached, and the spring L, in combination with the contact plate F, to which the end of the other portion of the wire E, is attached, as specified. 3rd. The forked lever A, pivoted at *j*, and connected by the link I, to the bell-crank H, which is pivoted on the pin *h*, extending from the plate G, to which the end of one portion of the wire E is attached, and the spring L and stop *l*, in combination with the contact plate F, to which the end of the other portion of the wire E, is attached, as specified.

No. 37,128. Door for Freight and Grain Cars. (*Char à marchandises et à grain.*)

George Clinton Dougherty, Quincy, Illinois, U.S.A., 10th August, 1891; 5 years.

Claim.—1st. In a sliding door having top and bottom sections, the combination with the upper section and hanger rail and hanger therefor, of the lower section, the hanger rails at top and bottom of the same, and a loose connection between the top of said section and its hanger rail whereby said section may be moved into the door opening, substantially as described. 2nd. In a sliding door, having top and bottom sections, the combination with the upper section, hanger-rail and hanger therefor, of the lower section, the hanger rail at top and bottom of the same, the hangers uniting the bottom of said section and the bottom hanger-rail, the hanger on the upper rail and the link uniting said hanger and the top of the lower section, substantially as described. 3rd. In a sliding door the combination with the upper section, hanger rail therefor and the independent lower section, its hanger rails and a loose connection between the top of said section and its upper rail of the independent crank shafts on said upper and lower sections having the crank ends connected respectively with the top and bottom hanger rails, substantially as described. 4th. The combination with a car door, having vertical crank shafts thereon, the hanger rail and hangers with which the cranks on the shafts co-operate, of the locking bolts engaging strike plates at the sides of the door and having gear teeth thereon and the pinion on the shafts engaging the locking bolts to throw the same out as the shafts are turned to locked position, substantially as described. 5th. In a freight car door, the combination with the upper door section and the locking device therefor, of the independent lower section and the locking device therefor having its controlling handle on the inside of the door, whereby said lower section can be unlocked only after the upper section is opened, substantially as described. 6th. The combination with a door having a crank shaft thereon, hanger-rail and hangers with which the crank shafts co-operate and the operating arms on said crank shafts, of the turn-bolt for holding said arms in locked position and the rod controlling said turn-bolt mounted on the inside of the door, substantially as described. 7th. The combination with a door jamb having the shoulder therein and the divided door fitting in against said shoulder, of the hanger rails at top and bottom of the door, of the hangers on said rail, the two crank shafts on the bottom section of the door co-operating with the hangers on the bottom rail, a single crank shaft on the top section of the door co-operating with one of the hangers on the top rail and a direct connection between the other hanger and top of the door, substantially as described.

No. 37,129. Washing Machine. (*Machine à blanchir.*)

William C. Huffman and Jared Segner Long, both of Albany, New York, U.S.A., 10th August, 1891; 5 years.

Claim.—1st. The body having double-curved or ogee-shaped sides, said sides having a lining of slats, the guide-strips C, secured to the slats, and the receptacle D, formed from a continuation of the upper portion of two of the walls and having a communication with the suds-box, in combination with a reciprocating rubber, substantially as specified. 2nd. The combination, with the tub or suds-box, of the reciprocating frame E, journaled on the bail U, the frame being of angular form and having the shield G, the bars L, H, pivoted to the reciprocating frame, the arm N, depending from the arm L, and having the counter-head secured to its lower end, and the clothes-turning head S, secured to the lower end of the arm O, substantially as specified.

No. 37,130. Metallic Spoked Wheel. (*Rais de roue metallique.*)

William Henry Dunkley, Birmingham, England, 10th August, 1891; 5 years.

Claim.—Constructing the hubs and parts of the hubs and spokes of metallic spoked wheels for perambulators, bath chairs, velocipedes and other vehicles in the manner hereinbefore described and illustrated in the accompanying drawings, for the purpose of expanding and tightening the said metallic spokes and securing them to the hubs, that is to say making the back spoke flange of the hub loose upon the end of the barrel, so that the said barrel is capable of rotation within the said loose back spoke flange, and making the front spoke flange screwed in its interior and a portion of the barrel screwed on its exterior for the screwed front spoke flange to work upon for the purpose of separating the two spoke flanges and thereby tightening and securing the metallic spoke to the said flanges, substantially as described and illustrated, also connecting the inner ends of the metallic spokes to spoke flanges, of the kind described and illustrated, by making the said inner ends of the spokes hooked and treated and causing them to engage with radial tapering holes or slots in the said flanges, substantially as described and illustrated.

No. 37,131. Apparatus for Grinding Grain. (*Moulin à grain.*)

Louis Doloire and Charles Golay, both of Paris, France, 10th August, 1891; 5 years.

Claim.—1st. An apparatus for grinding grain consisting of several concentric pairs of horizontal annular crowns, of which the lower crowns are stationary while the upper ones, which are connected together by radial arms, are made to revolve, the spaces between the lower crowns being closed by screening surfaces through which the fine particles of the ground material descend, while the coarser particles pass on to the next pair of grinding crowns substantially as described. 2nd. An apparatus for grinding grain consisting of several concentric pairs of horizontal annular crowns, of which the lower crowns are stationary while the upper crowns are all connected together and carried by a revolving central shaft, the distance between the upper and lower crowns being adjusted by raising or lowering the shaft of the upper crowns by means of a screw adjustment substantially as described. 3rd. An apparatus for grinding grain consisting of several concentric pairs of horizontal annular crowns of which the lower crowns are separated from each other and stationary, while the upper ones are connected together by radial arms and revolve, the lower crowns being each separately adjustable to and from the upper crowns by means of screw spindles supporting them, which screw through fixed arms of the framing and carry toothed wheels with which gear endless pitch chains so that on turning the one adjusting screw of a set by means of suitable gear all the screws of the crown are turned simultaneously for raising or lowering the same, substantially as described. 4th. An apparatus for grinding grain consisting of several concentric pairs of horizontal annular crowns of which the lower crowns are stationary while the upper ones rotate, the annular spaces between the lower crowns being closed by screening surfaces on which are upright annular perforated partitions for retarding the passage of the ground material from one pair of crowns to the next ones over the screening surfaces, substantially as and for the purposes described. 5th. An apparatus for grinding grain consisting of several concentric pairs of horizontal annular grinding crowns, of which the lower crowns are stationary while the upper ones rotate, the annular spaces between the lower crowns being covered by a screening surface, while

the upper crowns carry brushes that revolve over such screening surface for the purpose of facilitating the screening operation, substantially as described. 6th. An apparatus for grinding grain consisting of several concentric pairs of horizontal annular grinding crowns, of which the lower crowns are stationary while the upper ones rotate, the annular spaces between the upper crowns constituting air chambers that are enclosed at top by a sheet metal cover in which are formed hoodlike openings presented in the direction of rotation, so as to catch up the air and thereby facilitate the passage of the fine material through the sieves that form the bottoms of the said chambers, substantially as described.

No. 37,132. Machine for Preparing Metal Surfaces for Etching. (*Machine à préparer les surfaces des métaux pour les graver.*)

George James Bellamy Rodwell and the Firm of Bertram & Co., all of Toronto, Ontario, Canada, 10th August, 1891; 5 years.

Claim.—1st. A vulcanized rubber sheet having names, business devices, or ornamentations sunk in or raised on its surface, which surface is covered with prepared ink, the said sheet being held in such a manner that it may be applied and reapplied in exactly the same position upon the metal plate, substantially as and for the purpose specified. 2nd. A vulcanized rubber sheet A, having names, business devices or ornamentations sunk in or raised on its surface, which surface is covered with prepared ink, the said sheet being connected to a rigid bar or bars B, hinged at *a*, in combination with the bed-plate C, lamp D, and metal plate or saw E, substantially as and for the purpose specified. 3rd. A vulcanized rubber sheet A, having names, business devices or ornamentations sunk in or raised on its surface, and a canvas back fixed to it of which portions are removed immediately behind the finer work of the design, the said sheet being connected to a rigid bar or bars B, hinged at *a*, to the bed-plate C, in combination with the lamp D, located below the bed-plate C, at the point where the sheet A is indicated, and of the metal plate or saw E, substantially as and for the purpose specified.

No. 37,133. Cleaner for Wires and Tracks.

(*Nettoyeur de fil métallique et de voie-trôlée.*

John Bauer, Ottumwa, Iowa, U.S.A., 10th August, 1891; 5 years.

Claim.—1st. In a machine for cleaning snow or ice from overhead wires, the combination of a steam generator with an extensible steam conductor communicating therewith and adapted to jet the steam against the wire, substantially as described. 2nd. The combination of a steam generator with an extensible steam conducting pipe, a trolley, and steam jets attached to the upper end thereof, substantially as specified. 3rd. The combination of a steam conductor consisting of a pair of telescoping steam pipes, the devices for sustaining them in about a vertical position, the steam jet on the upper end of the upper pipe, with the devices for automatically lengthening the conductor, and a steam generator, substantially as described. 4th. The combination of the steam generator and a steam conductor communicating therewith, formed of telescoping pipes, with the devices for automatically lengthening said conductor, the sustaining devices therefor, and a guide trolley and the steam jet pipes attached to the upper end thereof, substantially as and for the purpose described. 5th. In a track cleaning device for electric railways, the combination of the supporting car, the steam generator thereon, and the steam pipe for jetting steam upon the track rails, with the steam conductor consisting of a pair of telescoping steam pipes communicating with the generator and upheld in about a vertical position, the trolley on the upper end of the higher pipe and the steam jet joints connected therewith, and the sustaining frame and devices for automatically lengthening the conductor, all constructed and arranged to operate as described.

No. 37,134. Cereal Food. (*Céréale alimentaire.*)

Thomas B. Taylor, Jackson, Michigan, U.S.A., 11th August, 1891; 5 years.

Claim.—1st. As an article of manufacture, the herein described wheat flakes formed from wheat in its natural dry condition, substantially as described. 2nd. As an article of manufacture, the herein described wheat flakes having the bran separated and the fine starchy flour bolted out therefrom, substantially as described. 3rd. The flaky cereal food herein described, consisting of about the twelve parts of gluten, the four parts of sugar, the two parts of gum, and about five parts of the starch of the wheat, substantially as described. 4th. The process of making the described flaky cereal food, said process consisting in first cleaning or scouring the wheat, then reducing or breaking the wheat, then scalping or separating the bran from the food, then bolting out or removing from the food the fine starchy flour, and finally smoothing or softening the food, substantially as described.

No. 37,135. Electric Arc Lamp.

(*Lampe électrique à arc.*)

Charles W. Hazeltine, St. Louis, Missouri, U.S.A., 11th August, 1891; 5 years.

Claim.—1st. The method of prolonging the life of carbons in electric arc lamps, which consists in applying a protective tip or shield to such lamps near the arc to prevent rapid consumption of carbon, and automatically maintaining the same relative position of the arc and tip as the carbons are consumed. 2nd. An arc lamp having a suitable protective tip or shield applied to such lamp near the arc, and regulating mechanism for maintaining the same relative position of the arc and tip as the carbons are consumed. 3rd. An electric arc lamp having a protective tip of infusible material applied to the upper carbon near the arc, through which protective tip the upper carbon may feed freely, and cords or chains, and pulleys for sustaining said protective tip and feeding it by the movement of the upper carbon.

No. 37,136. Buckle for Waist Belts, etc.

(*Boucle pour ceintures, etc.*)

Stephen Henry Manners, North Melbourne, Victoria, Australia, 11th August, 1891; 5 years.

Claim.—1st. The combination and arrangement of the roller *h*, with a buckle made of one piece of sheet metal slotted and afterwards folded to form a casing as at figures 1, 2, and 3, a mouth such as *d*, with teeth *e*, an inclined top *f*, flat bottom *g*, and also two passages *a*, and *b*, substantially as hereinbefore described, and as illustrated in my drawings. 2nd. The combination with a handle *m*, of two buckles 1 and 1, such as herein described and illustrated, and for the purpose specified.

No. 37,137. Antifriction Bearings.

(*Coussinet de tourillon sans friction.*)

Frank Cleveland Pitcher, Medford, Massachusetts, assignee of Willard Frank Wellman, Belfast, Maine, both in U.S.A., 11th August, 1891; 5 years.

Claim.—1st. The combination, with a journal, of a box made in separable sections, each having a semi-circular cavity and an end wall having a semi-circular recess, said cavities forming a circular roller holding chamber surrounding the outer portion of the journal, while the recessed end walls form a neck closely fitting the inner portion of the journal, and a series of antifriction rollers inserted in said chamber and surrounding the journal, said rollers being shorter than the chamber, as set forth. 2nd. As an improvement in antifriction bearings, a box composed of two separably connected sections *b*, *b*, each having a semi-circular cavity *c* and an end wall b^1, having a shouldered recess b^2, and a cap *g*, attached to the outer ends of the sections, said cavities *c* forming a circular chamber, while the recesses in the end walls constitute a shouldered orifice, combined with a journal having a shoulder formed to fit said shouldered orifice and abut against the shoulder therein, said journal being of uniform diameter from its shoulder to its outer end, and a series of antifriction rollers *d*, and smaller intermediate rollers d^1, located in the annular space surrounding the journal, said rollers being shorter than the cavity or chamber which contains them, as set forth.

No. 37,138. Book Rest. (*Appui pour livres.*)

William Dawson, Ogontz, Pennsylvania, U. S. A., 11th August, 1891; 5 years.

Claim.—1st. The combination of the flat base-piece having a configuration adapting it to be sat upon, the upright telescoping standard mounted at its lower end at one end of the base-piece, and having the socket at its upper end, the ball fitted in the standard socket, the clamp for securing the ball against movement, and the book rack carried by the ball, substantially as and for the purpose set forth. 2nd. The combination of the book rack having the ledge-strip along its lower edge, the rock shafts pivoted in openings through the outer or front edge of the ledge-strip, the cranked holding fingers adjustable lengthwise of the rock shafts, the discs attached to the rock shafts, the turning spring-actuated disc supported by the ledge-strip between the holding fingers, the lever turning beneath the ledge-strip and secured to the spring-actuated disc and the connecting rods, each pivoted at one end to the end of the rock-shaft discs, and at the other end to the spring-actuated disc, substantially as and for the purpose set forth.

No. 37,139. Spring Motor for Sewing Machines. (*Moteur à ressort pour machines à coudre.*)

Auguste Bronner and Laurent Schoch, both of Montreal, Quebec, Canada, 12th August, 1891; 5 years.

Claim.—1st. In a spring motor for sewing machines, a brake composed of the pulley O, shoe P, brake bar *p*, bracket *p*, spring *p*, plate *p*, and lever p^1, substantially as described and for the purposes set forth. 2nd. In a spring motor for sewing machines, a stopping device composed of the pulley O, having the holes o^1, pin Q, and lever q^1, substantially as described and set forth. 3rd. In a spring motor for sewing machines, the arrangements of the gear wheels E, D, F, H, I, K, and L, substantially as described and for the purposes set forth.

No. 37,140. Cover for Carriages.

(*Couverture de voiture.*)

Benjamin Franklin Partridge, Portsmouth, Michigan, U.S.A., 12th August, 1891; 5 years.

Claim.—The carriage cover B, having eyes I, at the folds, in combination, with the frames between which it is suspended, the upper of which is provided with mounted slotted corners, adjustable jointed rods L, and the variable cross-frame H, the rope D, fastened to the base of the cover at opposite ends and passing through eyes I^1, the pulleys F, the hooks F^1, and the eye F^2, the whole co-operating, as and for the purpose set forth

No. 37,141. Thill Couplings.

(*Armon de limonière.*)

William A. Maddy, Pomeroy, Ohio, U. S. A., 12th August, 1891; 5 years.

Claim.—1st. In a thill coupling, the combination, with the main plate longitudinally slotted in its forward portion, and having the

upwardly and rearwardly curved branches provided in the inside of their horizontal portions, with aligned vertical recesses of the thill section having a T-branch adapted to be seated in the curved branches of the main plate, the locking plate adapted to be connected to the main plate, and having the reduced forward portion and the angular branch adapted to be seated in the recesses of the curved branches of the main plate, and the interposed rubber block between the locking plate and the T-branch of the thill section, substantially as specified. 2nd. In a thill coupling, the combination, with a main plate longitudinally slotted in its forward portion, and having the upwardly and rearwardly curved branches provided in the inside of their horizontal portions with aligned vertical recesses, of the thill section having a T-branch adapted to be seated in the curved branches of the main plate, and the locking plate having the forward reduced portion, and the angular branch adapted to be seated in the recesses of the curved branches of the main plate, substantially as and for the purpose described.

No. 37,142. Machine for Cutting or Trimming Miter. *(Machine pour couper et dresser à onglet.)*

Willis J. Perkins, Grand Rapids, Michigan, U.S.A., 12th August, 1891; 5 years.

Claim.—1st. In combination, with the floor or table, of a slicing machine, an arched knife guiding way above and below the knife and in proximity to the straight edge of the table, and a knife travelling in said way with its edges moving in a plane parallel with the straight edge of the table, substantially as described. 2nd. The miter machine table having an arched track adjacent to its rear edge and integral with the table, a second arched track concentric with the first and connected to the table by standards, and a knife carrier arranged between the tracks to run on the arched way, in combination, substantially as described. 3rd. The miter table having guide ways adjacent to its rear edge and above and below the knife, the knife carrier moving in said guide ways, and a knife on said carrier having its edge inclined with reference to the table, so as to move past the same with a shear cut, in combination, substantially as described. 4th. The miter machine having concentric curved tracks, the double inclined knife carrier moving in the way formed by said tracks, the knives, one at each side of said carrier, and the block interposed between said knives, whereby the knives brace each other, all in combination, substantially as described. 5th. In a mitering machine, the combination of a table, a knife moving in a curved way so as to shear against a straight side of the table, a fence pivoted to swing on the face of the table and retain its corner in line with the edge of the knife, and a clamp for holding the free end of the fence. 6th. The combination of the table, the fence pivoted thereto, the clamp for holding the swinging end of the fence to the table, and a separately movable gage held by said clamp and serving as an auxiliary to the fence. 7th. The combination, with the table having a fulcrum below the knife carrier, and a knife carrier moving adjacent to said table, of a lever engaging said fulcrum and carrier, said lever provided with teeth or projections, and a detachable handle engaging said teeth and also engaging the body of the lever, substantially as described. 8th. The combination, with the table, knife way, and knife carrier therein, of a fulcrum below said knife carrier, a lever engaging said fulcrum and the knife carrier and having a variable leverage and lost motion between the two, and a handle for operating said lever, as set forth. 9th. In a mitering machine, the table having a knife way, the knife carrier moving in said way, the lever engaging said knife carrier and a fulcrum so as to permit a lost motion as described, and an operating handle adjustably secured to said lever, the specified elements being combined, substantially as described. 10th. The combination of the table having a curved track adjacent to its rear edge and a fulcrum below said track, a second curved track concentric with the first above the table, the knife carrier moving between said tracks, a slotted lever provided with segmental teeth having its slot around said fulcrum and engaging projection from said carrier, and a detachable handle engaging the teeth of said segment and having likewise an end connecting to the lever, all substantially as described. 11th. In combination, with the table and knife carrier moving in ways adjacent thereto, an operating lever extending alongside the knife carrier and having a projection engaging the same, a fulcrum below the engaging surfaces of the lever and knife carrier, and an adjustable handle connected to said lever, substantially as described.

No. 37,143. Corset Fastening. *(Agrafe de corset)*

Cassious May Thomas, Camden, Ohio, U.S.A., 12th August, 1891; 5 years.

Claim.—A corset fastening, consisting of a busk provided with a series of studs having eccentric heads, and a companion busk having a series of sockets members each comprising a shank, and a dome shaped hollow head projecting from said shank and having a V-shaped opening in its under side leading to the interior of the dome, substantially as described.

No. 37,144. Water Meter. *(Compteur à eau.)*

Rogers Liquid Meter Company, Boston, (assignees of Richard Jackson Rogers, Chelsea), both in Massachusetts, U.S.A., 12th August, 1891; 5 years.

Claim.—1st. In an oscillating water meter, the combination of the measuring cylinder A, provided with the trunnions A^1, and A^2, an enclosing casing composed of the central ring or band B, provided with the inlet pipe B^2, and the two cylinders B, screwed into said ring, and having their outer ends closed by heads formed in one piece therewith, and the cylinder supporting discharge pipe C, screwed into said ring and forming a bearing for the hollow trunnion A^2. 2nd. The combination of the outer casing B, B^1, provided with the inlet pipe B^2, the branch pipes e^2, and e^3, having orifices e^4, and e^5, respectively, the valve seat d, provided with the two ports e, and e^1, the measuring cylinder A, mounted in trunnion bearings at the centre of its length the valve rod b^1, extending the whole length of said cylinder and mounted in bearings so as to be movable endwise therein, the valve b, attached to the middle of said rod, and constructed and arranged to operate in conjunction with the seat d, and ports e, and e^1, to determine the flow of the inlet water through the pipes e^2, and e^3, and a pad g^1, mounted upon each end of the rod b^1, constructed and arranged to be alternately acted upon by the jet of water escaping from the orifice e^4, or e^5. 3rd. The combination of an oscillating measuring cylinder provided on the exterior of each head, with a projecting lug or shoulder, two latch levers constructed and arranged to engage with said lugs or shoulders alternately at the end of the cylinder that is the most elevated to lock said cylinder, a reciprocating piston within said cylinder, a pendent vibratory lever mounted in the inner face of each cylinder head on a rocker shaft, another pendent lever mounted on each of said rocker shafts and arranged to act upon the latch levers to disengage them from the lugs on said heads, when the piston comes in contact with and vibrates the levers within the cylinder, substantially as described. 4th. The combination of the cylinder A, the piston D, the lugs or shoulders a^6, a^6, the levers f, provided with shoulders f^1, and the pins or lugs f^2, the valve rod b^1, mounted in bearings on said cylinder and carrying the valve b, the arms g, and pads g^1, mounted on each end of the valve rod b^1, the pendent levers a^3, and a^5, and the rocker shaft a^4, all constructed, arranged and operating, substantially as described. 5th. The combination, in a water meter, of an oscillating measuring cylinder mounted on trunnions in an outer enclosing, and water containing casing an inlet pipe opening into said outer casing, a discharge pipe opening from one of said trunnions an inlet valve and casing, and an exhaust valve and casing on each side of said trunnion and between it and the end of said cylinder, pipes connecting said discharge trunnion with each exhaust casing, each of said exhaust casings with an inlet casing, and each inlet valve casing with the interior of the cylinder, and two valve operating levers supported in fixed bearings at their outer ends, and each extending inwards beneath an inlet, and an exhaust valve in positions to act upon the lower ends of the stems of said valves projecting through their casings, and pivoted at points central between said outlet and exhaust casings to bars connecting said casings, substantially as described.

No. 37,145. Holder for Cuffs.

(Bouton de manchette.)

Harvey Dwight Blakeslee, (assignee of Henry H. Baker), both of Buffalo, New York, U.S.A., 12th August, 1891; 5 years.

Claim.—1st. In a cuff holder, the combination, with a bar or shank provided near one of its ends with a stud or button adapted to engage with the button-hole of a cuff, and with a series of indentations or openings arranged lengthwise on the face of said shank, of a loop in which the shank is adjustably and removably secured, a spring catch arranged on said loop and engaging with the indentations of the shank, and a stud or button formed on the rear side of said loop and forming a sleeve button for connecting the ends of the wrist band, substantially as set forth. 2nd. In a cuff holder, the combination, with a loop having a button, and a spring-tongue formed integral therewith and provided with a projection, of an adjustable bar or shank arranged in said loop and provided with a button, and with a series of indentations or openings in which the projection of the spring tongue engages, substantially as set forth. 3rd. In a cuff holder, the combination, with the loop having a button and a spring catch, of a bar or shank adjustably arranged in said loop and having a series of indentations, and a button formed integral therewith and composed of two reverse tongues cut out of the bar and bent upwardly to form the shank of the button, and thence outwardly in opposite directions to form the head thereof, substantially as set forth.

No. 37,146. Gear for Disengaging the Boats of Ships. *(Palan à l'usage des embarcations sur les navires.)*

Henry John Simpson and Harold Herom Hosack, both of Liverpool, England, 12th August, 1891; 5 years.

Claim.—1st. The combination, with a ship's boat, of a hook b, at each end pivotedly mounted in bearings c, and having their axes disposed fore and aft in the horizontal plane: a projecting provision f, disposed below the said hooks b, with its point or free end lying in close proximity with the point of the hooks b, when turned down and in their engaged position, the ring or hook m, of the raising and lowering tackle of the boat being adapted to pass into said hooks b, over their ends, and means such as a bar or bars, ropes or cords, or levers by which said hooks are connected together and adapted to operate in unison. 2nd. The combination, with a ship's boat of a hook b, at each end pivotedly mounted in bearings c, and having its axis disposed fore and aft in the horizontal plane: a connecting bar a, the axis of which lies coincidently with those of the hooks b: a lever h, by which said bar a, and hooks b, are moved about their axes: a projecting provision f, disposed below the said hooks b, with its point or free end lying in close proximity with the point of the hooks b, when turned down and in their engaged position, substantially as set forth. 3rd. The combination, with a ship's boat, of a hook b, at each end, pivotedly mounted in bearings c, and having its axis disposed fore and aft in the horizontal plane, a bar d, vertically disposed in the boat and secured at its lower end to the keel of the boat, a connecting bar a, the axis of which lies coincidently with those of the hooks b, a lever h, by which said bar a, and hooks b, are moved about their axes, a projecting provision f, disposed below the said hooks b, with its point or free end lying in close proximity with the points of the hooks b, when turned down and in their engaged position, substantially as set forth. 4th. The combination, with a ship's boat, of a hook b, at each end pivotedly mounted in bearings c, and having their axis disposed fore and aft in the horizontal plane,

a hinged pawl *f*, disposed below the said hooks *b*, with its point or free end lying in close proximity with the point of the hooks *b*, when turned down and in their engaged position, the ring or hook *m*, of the raising and lowering tackle of the boat being adapted to pass on to said hooks *b*, over their ends, and means, such as a bar or bars, ropes or cords or levers, by which said hooks are connected together and adapted to operate in unison.

No. 37,147. Truss. (*Bandage herniaire.*)

Thomas R. Park, Rial A. Pickens and John A. Camden, all of Parkersburg, West Virginia, U.S.A., 12th August, 1891; 5 years.

Claim.—In a truss, a body-band, crotch-straps and pads of a frusto-conical shape provided on their rear faces with central perforations filled with a suitable medicant, and a plate rigidly secured to the rear faces of the same, said plate having a hinged plate at one end, which is provided on its edges with a series of serrations, and a spring-catch at the opposite end of said plate to engage said hinged plate, said pads being attached to the free ends of the crotch-straps and connected with the body-band by the hinged plate on its rear face clamping over the same, substantially as described.

No. 37,148. Vapor Burner. (*Bec à vapeur.*)

John A. Lannert and William R. Jeavons, both of Cleveland, Ohio, U.S.A., 12th August, 1891; 5 years.

Claim.—1st. A vapor-distributing chamber closed to prevent combustion therein, and having an oil or vapor supply pipe, and a narrow neck or opening along one edge for the escape of vapor, in combination with combustion tubes about said opening, substantially as described. 2nd. In a vapor-burner, a trough-shaped base and a closely fitting cover extending part way over its top and forming a vapor distributing chamber between said parts, said chamber having a narrow opening for the escape of vapor, in combination with an oil or vapor supply pipe, substantially as described. 3rd. In a burner having a vapor-containing chamber, a base trough-shaped in cross section, and a cover narrower than the top of the base fitting closely on one edge thereof, in combination with perforated tubes extending from about the edge of said cover, and one edge of said base respectively and in metallic connection with said parts, whereby the said base and its connections are heated, substantially as described. 4th. The top section of the burner forming a cover and a stationary supply pipe, in combination with the vertically movable lower section of the burner, a lever supporting said lower section, and flues connected with both sections of the burner, substantially as described. 5th. The fixed upper section of the burner, and the movable lower section combustion flues or tubes connected respectively with said sections, and guides for the inner tube, substantially as described. 6th. The fixed upper section of the burner, and the movable lower section, combustion flues on said sections respectively, and a separate air and flame deflector over the flues, substantially as described. 7th. The stationary upper section of the burner, and the movable lower section, in combination with a lever supporting the lower section, and catches for the lever at different elevations, substantially as described. 8th. In a vapor burner, a fixed upper section and movable lower section having a wick, and mechanism, whereby the lower section is supported and moved laterally to receive the drip on the wick, substantially as described. 9th. In a vapor burner, the vaporizing bowl provided with a wick, the supply pipe, and a conveyor for the oil between the end of the pipe and the bowl and the combustion tubes, substantially as described. 10th. The removable vaporizing bowl having concentric grooves, and a wick in one groove and an oil supply pipe to deliver the oil into said grooves, and the combustion tubes, substantially as described. 11th. The bowl of the burner having concentric grooves, and a wick in the inner groove for initial lighting, a cover extending part way over said bowl and the combustion tubes, substantially as described. 12th. A hydrocarbon burner having a stationary top section provided with a supply pipe, and a movable vaporizing lower section, substantially as described. 13th. The stationary upper section of the burner, the movable lower section, and the lever supporting the lower section swiveled on a lower plane than the lower section, so that it throws it out of line when being lowered, substantially as described. 14th. In a vapor burner, the lower section of the burner forming a bowl, the upper section of the burner forming an annular ring for the tube, one removable from the other, and guides to bring one concentric with the other, substantially as described. 15th. In a vapor burner, a lower section forming a bowl, an upper section forming an annular ring for the tube, one removable from the other, and mechanism for moving one from the other and securing one to the other, substantially as described. 16th. A lower section of the burner forming a bowl, an upper section forming an annular ring for the tube, one removable from the other, combustion flues or tubes connected to said sections, and guides for the flues, substantially as described. 17th. In a vapor burner, a vaporizing bowl, a swiveled support for the bowl, and means to hold the bowl support in a raised position, substantially as described.

No. 37,149. Press Board. (*Planchette à presser.*)

Sarah Katherine Hibler, Stamford, Connecticut, U. S. A., 12th August, 1891; 5 years.

Claim.—The herein described press-board, consisting of a base, opposite standards having their upper ends notched or recessed to form seats, and a rigid press-bar having its opposite sides curved in the same direction and terminating in reduced tenons for removably fitting the seats of the standards, substantially as specified.

No. 37,150. Vehicle-Top Support.

(*Support pour couvertures de voiture.*)

Samuel Sanders, Montezuma, Iowa, U. S. A., 12th August, 1891; 5 years.

Claim.—1st. In a vehicle-top support, the combination, with the back bow of a vehicle, of a concave shoe fitting the back bow and provided with depending arms, the ends of the latter being bent forwardly, clips for securing the shoe to the back bow, a yielding rod or spring with its forward end bearing upon the rest or prop of the vehicle, clips or ferrules for securing the rear end of the spring to the forwardly-extending portions of the depending arms, and vertical rivets or bolts passing through said clips and arms, substantially as set forth. 2nd. In a vehicle-top support, the combination, with a back bow of a vehicle, of a shoe formed or provided with depending arms, the ends of the latter being bent forwardly, clips for securing the shoe to the back bow, transverse screws passing through screw-threaded apertures in the upper ends of said clips, a vertical screw passing through the rear ends of the shoe into the back bow, yielding rod or spring, clips or ferrules, embracing the sides of the spring and the forwardly-extending portions of the depending arms, and vertical rivets or bolts for securing the clips or ferrules to the forwardly-extending portions of the arms, substantially as set forth.

No. 37,151. Apparatus for Rolling Car Wheels, Tires, etc. (*Appareil à laminer les roues des chars, bandages, etc.*)

Nathan Washburn, Boston, Massachusetts, U. S. A., 12th August, 1891; 5 years.

Claim.—1st. In a rolling-mill or apparatus for the compression and reduction of circular metallic objects, the combination, with a supporting-frame, a series of rollers carried thereby, and means to move one or more of said rollers, of a gage to limit the movement of the movable roller to thereby limit the reduction of the circular object, substantially as described. 2nd. In a rolling-mill or apparatus for the compression and reduction of circular metallic objects, the combination, with a supporting-frame, consisting of a base, a slotted upright portion, and slotted arms, blocks b^1, b^2, in said arms, provided with rollers, a plunger in said slotted upright portion, a roller carried by said plunger, a cylinder having a piston connected to said plunger, a driving-roller *d*, to impart rotation to the car-wheel or other object, and a gage loosely secured to the frame-work to limit the movement of the plunger and its roller, substantially as described.

No. 37,152. Electric Railway System.

(*Système électrique de chemin de fer.*)

David Gustavus Weems, Baltimore, Maryland, U.S.A., 12th August, 1891; 5 years.

Claim.—1st. In an electric railway system, a train of cars propelled by an electric current which also heats and lights the cars, and a headlight and signals in the circuit and lighted thereby, substantially as described. 2nd. In an electric railway system for passenger traffic in which a train of cars is propelled, lighted, and heated by a current from an electric rail, a locomotive or carrier having pointed end and headlight, and a rear car having a pointed end the apex of which is provided with a signal light, said headlight and signal light being in the main circuit and lighted thereby, substantially as described. 3rd. in an electric railway system for passenger traffic, in which a train of cars is propelled, lighted and heated by a current from an electric rail, a headlight and rear signal light in said circuit and lighted thereby, and an independent conductor conveying a secondary current to telegraphic or other instruments on the train, substantially as described. 4th. In an electric railway system for passenger traffic, a locomotive having a motor and a train of cars attached thereto, main rails with upper and lower treads or bearing surfaces, a conductor beneath the rails for conveying an electric current from an electric rail to the motor, and to the lights, signals, and heaters which are arranged in a common circuit, substantially as described. 5th. In an electric railway system, operated by a current from an electric rail, a locomotive or carrier having a pointed front capable of movement in vertical planes, substantially as described. 6th. In an electric railway system operated by a current from an electric rail, a locomotive or carrier having a pointed end or front hinged or jointed to the body thereof, and movable about its joint, whereby said joint may be adjusted, substantially as described. 7th. In an electric railway system operated by a current from an electric rail, a locomotive or carrier having its pointed end or front hinged to the body portion, and a system of levers connected with said movable point or front, whereby the latter is adjusted, substantially as described. 8th. In an electric railway system operated by a current from an electric rail, a locomotive having a pointed front end, a rear car having a pointed rear end, and a signal light on the apex of the pointed rear end, substantially as described. 9th. In an electric railway system operated by a current from an electric rail, a locomotive having an adjustable front or point provided with a lookout, substantially as described. 10th. In an electric railway system, a car or carrier having its rear end pointed and having in the apex thereof a signal light, substantially as described. 11th. An electric railway system for passenger traffic, comprising the following instrumentalities, to wit, a train of cars, the locomotive and rear car having a pointed end as described, said locomotive carrying a motor, a main conductor conveying an electric current to the motor and propelling, heating and lighting the cars, signals in the main circuit, and telegraphic instruments in a secondary circuit, substantially as herein described. 12th. In electric railways, a car or carrier having closed semi-elliptical housings bolted to its external sides and adapted to contain the journal boxes for the shafts of the main bearing wheels. 13th. In electric railway systems, the car or carrier having bearing wheels within and rear the inner walls thereof, and the axles for said wheels projecting through the sides of the car or carrier, in combination with closed semi-elliptical housings extension of the car provided with journal boxes for the ends of said axles, substantially as described. 14th. The rail C, secured to the inner upper corners of the stringers or longitudinal beams and provided with an upper and lower bearing surface or tread and longitudinal flange or rib, substantially as herein described. 15th. The combination, with a carrier or which having bearing wheels and supplemental wheels

below the main wheels of the angular rails between the main and supplemental wheels, and provided with independent bearing surfaces or tracks for said wheels and the rib or flange, substantially as described. 16th. The combination, with a carrier or which having the wheels D, and d^{11}, of angular rails between said wheels, and each consisting of a horizontal arm having the rib or flange, and a bearing surface or track for the wheels D, and a laterally extending arm h, the lower under surface of which serves as a track or surface for the other wheels d^{11}, the said wheels d^{11}, being normally slightly below the vertical arm of the rail and being brought into contact with its lower bearing surface when the main wheels D, attempt to leave their track or surface, substantially as described. 17th. In electric railways, a conductor secured beneath an over-hanging flange on the main rail, and insulated therefrom. 18th. In electric railways, a main rail having an outwardly extending flange, in combination with a conductor secured to the bottom of said flange but insulated therefrom, and bolts securing the conductor in position, substantially as described. 19th. In electric railways, a main rail having a flange provided with a downwardly extending projection, in combination with a conductor bolted to the under surface of the flange, and insulating material between the conductor and flange and between the securing bolts and flange, substantially as described. 20th. In electric railways, the combination of a rail having a conductor bolted to the under surface of its flange but insulated therefrom, and a non-conducting cap fitted on the bolts, substantially as described. 21st. In electric railways, a conductor bolted to the rail and insulated therefrom, and a cap or covering of non-conducting matter fitted over the exposed portions of the bolts and their securing nuts, substantially as described. 22nd. In electric railways, the combination of a main rail having an outwardly extending flange, a copper, or other plate, or conductor bolted to the under surface of the flange, the bolts and nuts for securing the conductor to the flange, insulating material between the flange, and conductor and insulating bushing between the bolts and their nuts, and the flange and caps enclosing the upper portions of the bolts and seated on the flanges said cap being formed of non-conducting material, substantially as described. 23rd. In electric railways, a conductor bolted to the under surface of the flange of the rail, and a cap of non-conducting material screwed upon the outer exposed ends of the securing bolts, said conductor and bolts being insulated from the rails, substantially as described. 24th. In electric railways, the main rails having outwardly extending flanges with down turned projections the copper strip or conductor, the bolts securing said conductor to the under surface of the flange, insulating material between the conductor and flange and between said flange, and bolts, in combination with caps of non-conducting material having annular flanges and threaded sockets which engage the threaded ends of the bolts, whereby the caps are secured, substantially as described. 25th. In electric railways, a locomotive having a motor operated by the main current, and a supplemental motor in the main motor circuit for effecting a preliminary movement of the driving wheels of the locomotive. 26th. In electric railways, a locomotive having a main motor operated by the main current, a supplemental motor in the main circuit, and gearing between the supplemental motor and driving wheels, whereby a preliminary movement of said wheels is effected. 27th. In electric railways, a locomotive having a main motor operated by the main current, a supplemental motor carried by said locomotive and operated by said current gearing between said supplemental motor and the driving wheels, and a shifting lever for disconnecting the gearing and cutting off the current from the supplemental motor. 28th. In electric railways, a locomotive having a main motor operated by the main current, a supplemental motor carried by the locomotive and operated by said current gearing, connecting the supplemental motor with the drive wheels of the locomotive, and a trip lever and clutch mechanism for connecting and disconnecting the gearing. 29th. In electric railways, the combination of a locomotive having a main motor for driving it, a supplemental motor on the locomotive for effecting a preliminary movement of its drive wheels, gearing between the supplemental motor and drive wheels, a shifting lever for connecting and disconnecting the gearing, and fixed obstructions for tripping the lever and disconnecting the gearing, whereby the power of the supplemental motor is moved from the drive wheels. 30th. In railways switch rails adapted to be moved vertically in opposite directions to and below the plane of the main rails, whereby the switch is opened and closed, substantially as described. 31st. The combination, with the main rails and the switch, of a switch rail at the entrance of the switch, an oppositely moving switch rail in the main rails, and a system of levers for moving the switch rail vertically in opposite directions, whereby the switch is opened and closed, substantially as herein described.

No. 37,153. Brush for Lithographic Stipple-Work. (*Brosse pour ouvrage de dessin lithographique.*)

Gustav Arnold, Brooklyn, New York, and Carl Hille, Hoboken, New Jersey, both in U.S.A., 12th August, 1891; 5 years.

Claim.—1st. A brush for stipple-work, constructed of an elastic or yielding material, tapered essentially to a point and provided wth exterior teats constituting the "technic" of the brush, as and for the purpose specified. 2nd. In a brush for stipple-work, the combination, with the brush proper constructed of an elastic or yielding material, and provided with exterior teats constituting its "technic," of a handle swiveled to one end of the brush, as and for the purpose specified. 3rd. A brush for stipple-work comprising a handle and a body swiveled to the handle, the said body being constructed of a yielding or elastic material tapered in direction of one end, and having its exterior surface or "technic" provided with a series of teats, as and for the purpose set forth.

No. 37,154. Roundabout. (*Tourniquet.*)

Boston Riding School Company, assignees of William Towell, all of Boston, Massachusetts, U.S.A., 12th August, 1891; 5 years.

Claim.—1st. In a roundabout, the combination of a rotating platform p, mounted upon travelling wheels w, said wheels w, actuating pinions and spur wheels a, b, c, d, f, said spur wheels f, actuating the annular rack g, substantially as and for the purposes described. 2nd. In a roundabout, the combination of a rotating platform p, travelling wheels w, pinions and spur wheels a, b, c, d, f, annular rack g, said annular rack g, driving a carriage h, by means of a bracket o, substantially as and for the purposes described. 3rd In a roundabout, the combination of a rotating platform p, travelling wheels w, pinions and spur wheels a, b, c, d, f, rack g, carriage h, mounted on wheels m, bracket o, and horse n, severally operating, substantially as and for the purposes described. 4th. In a roundabout, the combination of a rotating platform p, travelling wheels w, pinions and spur wheels a, b, c, d, f, rack g, carriage h, mounted on wheels m, bracket o, and horse n, mounted upon cranked axles fitted to the wheels m, substantially as and for the purposes described. 5th. In a roundabout, the combination of a rotating platform p, travelling wheels X, axle e, and cranks k, k, operating upon mounted horses attached to said cranks, substantially as described.

No. 37,155. Method of Preserving Meat.

(*Procédé de conservation de la viande à l'etat frais.*)

G. François Dosmond and Ferdinand Rozes, Paris, France, 13th August, 1891; 5 years.

Résume.—Notre procédé de conservation des matières alimentaires en general caractérisé spécialement par une exposition des matières en traitement dans une atmosphère sous pression ou non composée des gaz provenant de la distillation du charbon de bois ou de houille, nous revendiquons egàlement le transport et la conservation des produits alimentaires en les placant dans des wagons, ou des recipients clos, ou dans des boîtes de conserves contenant les gaz mentionnés.

No. 37,156. Combination Gas and Electric Brackets. (*Bras-appui à gaz et à l'éclairage électrique.*)

John Fitzgerald, Montreal, Quebec, Canada, 14th August, 1891; 5 years.

Claim.—1st. A combination gas and electric bracket having tubular parts, means for attachment, and a universal joint formed of two cylindrical portions, arranged, axially, at right angles to each other and each composed of half sections, means for holding such sections together in swivelling relation to each other, and a rigid tubular connection between one half section of one cylindrical portion and another half section of the other cylindrical portion. 2nd. In a combination gas and electric bracket having tubular parts, means for attachment, and a universal joint, a rubber tubing extending between the entry and exit ends of the gas passage of the bracket proper, and means for holding same firmly and closely in contact with the bracket at such points, as set forth. 3rd. In a combination gas and electric bracket having tubular parts, means for attachment, and a universal joint, a rubber tubing extending between the entry and exit ends of the gas passage of the bracket proper, means for holding same firmly and closely in contact with the bracket at such points, and a spiral spring arranged within said tubing, for the purposes set forth. 4th. In a combination gas and electric bracket having tubular parts, means for attachment, and a universal joint, a rubber tubing extending between the entry and exit ends of the gas passage of the bracket proper, shoulders in the bracket at said points, perforated wedges inserted in the ends of said tubing and perforated screw nuts adapted to bear upon said wedges and force them inwards to press the tubing firmly and closely in contact with said shoulders. 5th. In a combination gas and electric bracket having tubular parts, means for attachment, and a universal joint formed of two cylindrical portions, each composed of half sections respectively containing circular and square apertures, central axial pins or bolts headed at one end and screw threaded at the other, passing through said sections and having circular and squared portions to correspond with the apertures in said sections, and nuts to fit such screw threaded ends, as set forth. 6th. In a combination gas and electric bracket having tubular parts, means for attachment, and a universal joint, a common passage way for the gas and electric wires formed by said tubular parts and joint for the greater length of the bracket, and separate channels to and from said common passage way for the electric wires, and means for plugging up said channels after such wires are in place, as and for the purpose set forth. 7th. A combination gas and electric bracket having tubular parts, means for attachment, and a universal joint formed of two cylindrical portions, arranged, axially at right angles to each other, and each composed of half sections held together in swivelling relation by central axial connections, and a rigid tubular connection between one half section of one cylindrical portion and another half section of the other cylindrical portion.

No. 37,157. Registering Toy Bank.

(*Banque jouet à registre.*)

Charles P. Booth, Camden, New Jersey, U. S. A., 14th August, 1891; 5 years.

Claim.—1st. The combination, in a toy bank, of a receptacle having a coin receiving slot, a removable top consisting of a stationary portion, and a revoluble portion, one part having a graduated scale, and the other a gage-mark and means for holding the top in engagement with the receptacle. 2nd. The combination, in a receptacle for coins having a coin receiving slot, of a removable top secured to said receptacle, and means for turning a part of said top when a coin is passed through the slot. 3rd. The combination, in a registering receptacle for coin, having a coin receiving slot, of a top secured to said receptacle, a spring attached to the receptacle so

that one end will lie opposite the slot in the path of the coin, and means carried by the spring which engages with a revoluble portion of the top for turning the revoluble top one step when a coin is inserted, substantially as shown and for the purpose set forth. 4th. The combination, in a registering receptacle for coin having a coin receiving slot, of a removable top having a revoluble registering mechanism forming part thereof, the top being attached to said receptacle, and a spring adapted to be actuated by a coin, a ratchet wheel attached to the revoluble part of the top, and a pawl carried by the spring, substantially as set forth. 5th. The combination, in a registering coin receptacle, having a coin receiving slot and a centrally located post B, of a spring mounted on said post, a portion of the spring intersecting the coin receiving slot, a pawl carried by the end of the spring, a ratchet wheel and part top secured to the post so as to turn thereon and be advanced step by step as each consecutive coin is inserted, substantially as shown and for the purpose set forth. 6th. In combination, with the receptacle A, having a removable top, a headed post having a slot *b*, and secured centrally to said receptacle, a spring having one end bent and extended so as to normally lie in the path of the coin when inserted in the slot, a pawl carried by said spring, a plate D, having a slot *d*, and a guide d^2, through which a spring carried by the pawl passes, the parts being constructed, substantially as shown, together with a ratchet wheel secured to the revoluble part of the top, said top being held in engagement with the post, substantially as set forth. 7th. The combination in a coin receptacle, of a box or casing constructed, substantially as shown, and provided with a central post supporting a spring, the end of which carries a pawl, a ratchet wheel attached to the revoluble top, of a plate D, having a slot through which the end c of the spring passes, said slot being extended at d^1, into which the spring passes, and is held when pressed beyond the proper limit, substantially as set forth. 8th. The combination, in a coin receptacle, of a box or casing having a central post to which a top is removably secured, a spring having a coiled portion which embraces the post, the upper end of said spring being bent to form an inclined portion near the coin receiving slot, a plate or disk D, having a slot *d*, through which the terminal portion c of the spring passes, a pawl carried by the upturned end of the spring, a ratchet wheel secured to and forming a part of the revoluble top, said plate separating the operating mechanism excepting the spring from the receptacle, substantially as set forth. 9th. The combination, in a coin receptacle, of a removable top having a central opening therein, a disk *h*, resting upon the inwardly extended edge of the part top A^1, of the receptacle, and provided with indicating marks A, revoluble disk L, having a gage-mark, a disk K, having a finger *k*, beneath which a ratchet wheel is located, the parts being secured to and connected to each other, substantially as shown, a receptacle having a central post B, with an enlarged head having a slot *b*, together with means for advancing the revoluble portion of the top one step on the passage of each coin through the slot, substantially as set forth.

No. 37,158. Calculator. (*Calculateur.*)

Edwin B. Dennis, Excelsior, Michigan, U.S.A., 14th August, 1891; 5 years.

Claim.—1st. In a calculator, the combination of an open-top box having a series of numbered recesses on one of its upper edges, a peg adapted to fit in the said recesses, and a series of sliding bars containing numerals, substantially as herein shown and described. 2nd. An improved calculator consisting of the open-top box A, having its back extended below the bottom and provided with a series of numbered recesses in the upper edge of the back, a peg adapted to fit in the recesses, a series of sliding bars in said box, and a series of slips removably secured to said bars, substantially as herein shown and described. 3rd. In a calculator, the combination, with an open box, of a series of parallel bars held to slide therein, removable slips held on the said bars and each provided with divisions adapted to be arranged in columns, and springs for holding the said slips on the said bars, as set forth. 4th. In a calculator, the combination, with a box provided with a series of numbered recesses and a peg adapted to indicate one of the said recesses at a time, of a series of parallel bars held to slide in the said box, and removable slips held on the said bars, each provided with divisions adapted to be aligned in columns, substantially as shown and described.

No. 37,159. Apparatus for Regulating the Consistency of Pulp. (*Appareil pour règler la consistance de la pâte à papier.*)

John Ambrose Decker, Brownsville, New York, and John Goebel, Berlin Falls, New Hampshire, both in U.S.A. 14th August, 1891; 5 years.

Claim.—1st. In apparatus for regulating the consistency of wood-pulp, the combination, with a revoluble foraminous cylinder, and a vat containing said cylinder and provided with a delivery and discharge side on opposite sides of said cylinder, of a movable gate co-operating with said discharge side to regulate the wetted surface of said cylinder, substantially as herein described. 2nd. The combination, with a receptacle 1, a vat 2, a wire cloth covered revoluble cylinder 3, a delivery side 4, connecting said vat with a feed-trough 5, a discharge side 7, uniting said vat with an emptying spout 8, of a movable dam 14, its rocking shaft 18, and lever 19, by which adjustment of the gate is effected, substantially as herein set forth. 3rd. The receptacle 1, a vat 2, a foraminous revoluble cylinder 3, and feed and discharging spouts connected with opposite sides of said vat, combined with the movable dam 14, its guides 21, the actuating rod 18, its prongs 16, which engage the gate, and the lever 19, to hold the gate at any position to alter the horizontal plane of discharge, substantially as stated and described. 4th. In combination with a vat and a wire cylinder revolving therein, a spout 8, a pivotal frame 9, a couch-roll 20, supported by said frame in contact with said cylinder, and a doctor 10, upon the rear side of said cylinder, discharging any pulp received into the spout 8, substantially as set forth.

No. 37,160. Harvester for Potatoes. (*Arrache patates.*)

Thomas Head, Mankato, Minnesota, U.S.A., 14th August, 1891; 5 years.

Claim.—The combination of the teeth *b*, *b*, shaped and arranged upon the share A, as described, with the slack wires *d*, *d*, attached to the teeth *b*, *b*, and having a chain E, or floats, or both or other attachments sufficient to keep the rear ends of the wires *d*, *d*, above ground, substantially as and for the purpose set forth.

No. 37,161. Combined Box and Safe for Matches. (*Boîte et coffre-fort pour allumettes.*)

Josiah Corlis, William Henry Williams, and William Proudfoot Paton, all of Drumbo, Ontario, Canada, 14th August, 1891; 5 years.

Claim.—The combination, in a paper or card-board box, of a match-box for the vending or sale of matches, and a match-safe for holding the matches while they are being used, substantially as and for the purpose hereinbefore set forth.

No. 37,162. Electrical Insulator for Marine Condensers. (*Isolateur électrique pour condenseurs de marine.*)

Peter Decker, Norwalk, Connecticut, U.S.A., 14th August, 1891; 5 years.

Claim.—1st. An elongated tubular condenser for a marine engine, connected to the steam exhaust by a non-electric joint, substantially as described. 2nd. A non-electric joint located between the exhaust pipe of a steam engine used on a sea-going vessel, and a tube condenser therefor that is exposed to the action of sea water outside of the vessel, substantially as described. 3rd. An electric insulator for a steam condenser on a marine vessel, composed of a non-electrical joint washer secured between adjacent flanges of a steam exhaust pipe and an elongated copper condenser tube, and insulating material between the connecting bolts, and flanges they connect, substantially as described.

No. 37,163. Machine for Thawing Logs Preparatory to Sawing. (*Machine pour dégeler les billots préparatoire au sciage.*)

Harlow Millard Crittenton, Phillips, Wisconsin, U.S.A., 14th August, 1891; 5 years.

Claim.—1st. A compartment for thawing logs, inclosing a part of the surface water of a pond or dam, and having means for excluding the main body of the water, and heaters for thawing the logs in said compartment, substantially as described. 2nd. A log thawing compartment inclosing part of the surface water of a log pond or dam, provided with means for distributing hot water over the surface of the logs in said compartment, and for heating the water and logs in the compartment, substantially as described. 3rd. A log thawing compartment inclosing part of the surface water of a log pond, provided with movable gates for excluding the main body of the water, and heating pipes arranged to convey hot water, steam, or hot air to the upper part of the logs, substantially as described. 4th. The combination, with a shed or other structure having a compartment communicating with a log pond, of movable gates which may be closed to confine a part of the surface water and floating logs within the structure, and a series of pipes having small openings and arranged above the position of the logs in the compartment, and means for conveying steam, hot water or hot air to said pipes, substantially as described. 5th. A shed or equivalent inclosed structure having a communication with the waters of a log pond, and having movable partitions by which a determined portion of the surface water of the pond and logs therein may be inclosed within the shed, pipes for conveying hot water or steam to the water in the shed, and pipes for distributing hot water on the surface of the logs, substantially as described. 6th. The combination, with the inclosed structure having movable partitions, by which a portion of the surface water of a pond may be inclosed from the main body, of heating pipes in contact with the water, and means for supplying heat to said pipes. 7th. The combination, with the coffer dam of a saw mill, of an inclosed structure in said dam having movable partitions to inclose a part of the surface water in said dam, means for heating the water and thawing the logs in said structure, and gates opening from the structure in proximity to the mill at the water level, whereby the thawed logs can be floated from the thawing structure to the mill way, substantially as described.

No. 37,164. Apparatus for Heating or Ventilating Railway Cars. (*Appareil de chauffage et de ventilation pour les chars.*)

Eli Collins, Little Rock, Arkansas, U.S.A., 14th August, 1891; 5 years.

Claim.—1st. In a car-heating apparatus, the combination, with a car, of an interior casing, a furnace, and a smoke-box arranged in opposite ends of said casing, flues connecting said furnace and smoke-box, an exit pipe, a pipe coiled in the furnace casing and having its ends extended through the latter, one end being provided with a bell-shaped mouth having a register, registers to admit the external air to the main casing, rotary blowers arranged in said casing, means for operating said blowers, and means to convey the heated air from the blower-casings to the cars to be heated, substantially as set forth. 2nd. The combination of the spherical section S^1, having the pipes T^1, and the catches U^1, projecting from one

of said pipes with the pipes G^1, L^1, one of which has the shoulders engaged by the catches, and the spring-pressed hemispherical sections N^1, engaging the spherical section and having the pipes O^1, fitting on the ends of the pipes G^1, O^1, substantially as described.

No. 37,165. Wood Screw. (*Vis à bois.*)

American Screw Company, assignees of Charles D. Rogers, all of Providence, Rhode Island, U.S.A., 15th August, 1891; 15 years.

Claim.—A pointed screw having the thread or threads upon the cylindrical body extended with the same diameter over a part of the surface forming the point.

No. 37,166. Generator for Steam.

(Générateur de vapeur.)

James Joseph Bush, Newark, New Jersey, and Thomas Francis Powers, Brooklyn, New York, both in U.S.A., 15th August, 1891; 5 years.

Claim.—1st. The combination, with a boiler, of a water heater and steam generator consisting of a pipe or series of pipes, as B, arranged immediately below the boiler and in the fire box or flame chamber, communicating through a coupling at one end with a pipe which communicates with the boiler at or near the bottom thereof, and at the other end through a coupling or water box, as D, with a pipe which communicates with the boiler at or near the top thereof, substantially as shown and described. 2nd. The combination, with a boiler, of a water heater and steam generator consisting of a series of straight pipes B, arranged immediately below the boiler and in the fire box or flame chamber, communicating through a compound coupling at one end with a single pipe which also communicates with the boiler at or near the top thereof, and at the other end through a compound expansion coupling with a pipe which communicates with the boiler at or near the bottom thereof, substantially as shown and described. 3rd. The combination, with a boiler, of a water heater and steam generator consisting of a series of straight pipes, as B, arranged immediately below the boiler and in the fire box or flame chamber, communicating through a compound coupling at one end with a single pipe which also communicates with the boiler at or near the top thereof, and at the other end through a compound expansion coupling with a pipe which communicates with the boiler at or near the bottom thereof, the said couplings being also provided with passages, as J, in a direct line with the pipes of the series, substantially as shown and described. 4th. The combination, with a boiler, of a steam generator consisting of a series of pipes B, arranged immediately below the boiler, the couplings F, and D, the pipes E, and C, and the mud drum G, the pipe E, being in communication with the boiler at one end at or near the bottom thereof, and the pipe C, being in communication therewith at the opposite end, and at or near the top thereof, each of said pipes being also in communication with each of the pipes of the series B, by means of curved passages in the couplings F, and D, said couplings being also provided with passages J, which communicate with the pipes B, in a direct line, substantially as shown and described. 5th. The combination, with a boiler, of a steam generator consisting of a series of pipes B, arranged immediately below the boiler, the couplings F, and D, the pipes E, and C, and the mud drum G, the pipe E, being in communication with the boiler at one end at or near the bottom thereof, and the pipe C, being in communication therewith at the opposite end, and at or near the top thereof, each of said pipes being also in communication with each of the pipes of the series B, by means of curved passages in the couplings F, and D, said couplings being also provided with passages J, which communicate with the pipes B, in a direct line, and the mud drum being in communication with the pipe E, by means of a passage through coupling F, in a direct line therewith, substantially as shown and described. 6th. The combination, with a boiler, of the steam generating pipes B, the expansion couplings F, the coupling D, and pipes C, and E, the construction being such that there is a direct communication from the lower part of the boiler at one end, and the upper part of the boiler at the other end, through said pipes and couplings, substantially as shown and described. 7th. The combination in a steam generator, of a coupling having a series of longitudinal passages entering the same at one end and communicating with the central vertical passage, a series of longitudinal passages entering at the opposite end, and communicating with the first named passages in a direct line therewith, substantially as shown and described. 8th. The combination, with a boiler, of a series of pipes B, arranged beneath the same, the coupling provided with passages with which the pipes B communicate, the passages closed by the plugs K, and the passages with which the pipes E, and H, communicate, said series of pipes being in communication with the boiler, substantially as shown and described.

No. 37,167. Stomach Pump. (*Pompe stomacale.*)

William M. Lottridge, James E. Valjean, and William V. Simmonds, all of Portsmouth, Ohio, U.S.A., 15th August, 1891; 5 years.

Claim.—1st. A surgical device, comprising an exhausting and forcing apparatus provided with a valve chest or casing having suitable inlet and outlet ports, a valve reversing device fitted in said chest, and oppositely working valves seated in said reversing device, in openings which register with said inlet and outlet ports, whereby the valves may be reversed so as to convert either valve into an inlet or exhaust valve at will, substantially as described. 2nd. In combination, with the exhausting and forcing apparatus, having a valve chest or casing provided with suitable inlet and outlet ports, a rotary valve reversing device or turn plug provided with oppositely working valves seated therein, in openings which register with said inlet and outlet ports, and a suitable operating handle, whereby the reversing device may be rotated to reverse the valves so as to fill or exhaust the pump barrel through either valve, substantially as described. 3rd. The combination, with the pump cylinder and plunger, the valve chest or casing having a transverse bore or opening extending through the same, a valve reversing device or turn plug fitted in said opening having a suitable operating handle, and apertures or openings therein which register with the inlet and exhaust ports of the valve casing, and oppositely reciprocating valves seated in said apertures, substantially as described.

No. 37,168. Art of Making Screws.

(Fabrication des vis.)

Nettlefolds Limited, assignees of Hugh Nettlefold and John Sheldon, all of Birmingham, England, 15th August, 1891; 5 years.

Claim.—Manufacturing screws threaded or wormed by pressure, by first reducing a screw blank (having a shank of uniform thickness, and of a length sufficient to provide for the rolling of the screw) in its diameter, for a portion of its length, and secondly by the operation of pressing mechanism, worming or threading the part of the blank of reduced diameter, thereby forming a screw, the wormed or screwed part of which is of a diameter about or not exceeding that of the part of the finished screw on which no screw thread is formed, substantially as herein stated.

No. 37,169. Tobacco Spraying Machine.

(Pulvérisateur pour le tabac.)

John Thomas Carter, Danville, Virginia, U. S. A., 15th August, 1891; 10 years.

Claim.—1st. The combination of the agitating device with an atomizing device, the same consisting of a tank, a rotated liquid raising roller therein, a scraping blade adapted to gather a quantity of the liquid from said roller, and a brush roll adapted to project the liquid from said blade, substantially as specified. 2nd. The combination, with an agitating device, of an atomizing device, the same consisting of a tank, a water raising roller therein, and a rotated brush adapted to bear against the surface of the roller and to discharge the film of water carried thereby, substantially as specified. 3rd. The combination, with an agitating device, of an atomizer consisting of a liquid gathering roller, a brush roller adapted to project the liquid therefrom, and an adjustable blade adapted to regulate the thickness of the film of liquid carried by the liquid gathering roll, substantially as specified. 4th. The combination, in a tobacco treating machine, of an atomizer with an agitating device, the same consisting of a belt adapted to carry the tobacco and devices for guiding said belt into the form of a partial cylinder, substantially as described. 5th. The combination, in a tobacco treating machine, of an atomizer with an agitating device comprising a covered slatted belt guided to the form of a partial cylinder, the surplus covering being made to assume the form of ribs, substantially as specified. 6th. The combination, in a tobacco treating machine, of an atomizer with an agitating device comprising a slatted belt curved to the form of a partial cylinder, and a brush rotated in contact with said belt to clean the same, substantially as specified. 7th. The combination, in a tobacco treating machine, of an atomizer with an agitating device comprising a slatted belt in the form of a partial cylinder, link belts at the opposite edges of said slatted belt, sprocket wheels adapted to guide said link belts and a tobacco feeding device, substantially as specified. 8th. The combination, in a tobacco treating machine, of the frame longitudinal shafts mounted in bearings on said frame, a slack agitating belt passing around said shafts, with an atomizer and a feed chute situated in front of said belt, substantially as and for the purpose set forth. 9th. The combination, in a tobacco treating machine, of the belt composed of a series of slats, one portion of the belt being covered with canvas or other flexible material, and the other portion of the belt being covered with plates, with an atomizing device opposite that portion of the belt covered with plates, substantially as set forth. 10th. The combination, in a machine for treating tobacco, of the carrying belt, one portion of the belt having canvas or other suitable material on its surface, the other portion of the belt having plates which overlap with an atomizing device opposite that portion of the belt carrying the overlapping plate, substantially as set forth. 11th. The combination, in a tobacco treating machine, of the carrying belt mechanism for driving the same, said belt being arranged on an incline so that the tobacco will be fed transversely by gravity with an atomizer arranged in front of the belt, so that, as the tobacco is fed along the belt, it will be sprinkled with the liquid from the atomizer, substantially as set forth. 12th. The combination of the shafts B, and C, sprocket wheels thereon, tobacco carrying belt adapted to said sprocket wheels, with positive driving belt wheels on said shafts, positive driving belt adapted to said wheels, one of said positive driving wheels being adjustable on its shaft, whereby the trough of the belt can be regulated to have more or less curve, substantially as set forth.

No. 37,170. Means for Connecting Tubes and Pipes. (*Moyen de joindre les tuyaux et les tubes.*)

Edwin Lewis and Sons, (assignees of William Howard Lewis), all of Wolverhampton, England, 15th August, 1891; 5 years.

Claim.—1st. The combination, in a joint for joining or connecting tubes or pipes of the T-shaped collar c, c^2, consisting of a flat ring having at its outer edge a cross head or rim, thereby forming a right angled projection or annular shoulder at each side of the collar, under which projections or shoulders the flanged ends of the tubes or pipes are pressed and held and the packing prevented from being forced or blown out, the said T-shaped collar and flanged ends of the pipes or tubes being used in conjunction with loose gripping rings or flanges or loose gripping rings or flanges and separate bosses, substantially as hereinbefore stated. 2nd. The combination, with the T-shaped collar c, c^2, and the flanged ends of the pipes or tubes, of gripping rings or flanges each made in three parts for the purposes and substantially as hereinbefore stated. 3rd. The combina-

tion, with the T-shaped collar, c, c^2, either packed or unpacked and the flanged ends of the pipes or tubes of the cap like gland or divided flanges 1, 1, 1^2, for fixing the parts of the joint, substantially as hereinbefore stated.

No. 37,171. Wire-made Rack for Wardrobes. (*Chevalet en fil de fer pour garde-robes.*)

William Hackly Church and Thomas Graham, both of Fenelon Falls, Ontario, Canada, 15th August, 1891; 5 years.

Claim.—1st. A wire-made rack for wardrobes, etc., consisting of a continuous length of wire bent to form a succession of hooks B, and a succession of eyes C, each hook composed of the wire doubled at the point, and the hooks connected by the wire crossed singly to constitute an eye or loop C, and doubled to make the succeeding hook the eyes or loops alternating the hooks above their points, as set forth. 2nd. A wire-made rack, consisting of a row of hooks B, and a row of eyes or loops C, the hooks having the wire doubled and the eyes or loops, a single wire crossed intermediately above the points of the hooks, as set forth.

No. 37,172. Pea Harvester.

(*Machine à récolter les pois.*)

George Wettlaufer, Stratford, Ontario, Canada, 19th August, 1891; 5 years.

Claim.—1st. A series of bars, each bar independently clamped upon the cutter bar, of a mower, the said bar extending over the cutter bar and having a finger pivoted on it, substantially as and for the purpose specified. 2nd. A series of bars, each bar independently clamped upon the cutter bar, of a mower, the said bar extending over the cutter bar and formed to butt against and engage with the end of one of the guards, in combination with a finger pivoted on the end of the bar and having a tail extending below its pivot to rest upon a spiral spring.

No. 37,173. Price Tag for Blocked Goods.

(*Etiquette pour marchandises.*)

Frederick Olin Clarke, Listowel, Ontario, Canada, 19th August, 1891; 5 years.

Claim.—A tag or ticket fitted into a recess formed in a blocking board, in combination with a spring attached to the said tag or ticket in such a manner that the tension of the said spring shall hold the tag or ticket in the recess, substantially as and for the purpose specified.

No. 37,174. Bin for Flour. (*Coffre à fleur.*)

Ephraim Alpaugh, Galt, Ontario, Canada, 19th August, 1891; 5 years.

Claim.—1st. In a bin for flour, meal, etc., the combination, with the receiver formed in sections as described, and having within it a hopper a base A^1, a ljustably fixed thereto of the sieve provided with a band secured beneath said hopper, as and for the purpose set forth. 2nd. The combination, with the bin composed of several sections, a hopper G, a base A^1, and a drawer F, of the pulverizer provided with spikes or pins, as specified. 3rd. The combination, with a bin composed of several sections, a hopper G, a base A, a drawer F, and a pulverizer B, of the shakerod g, as and for the purpose specified.

No. 37,175. Hay Rack. (*Râtelier à foin.*)

William John Verney, Tottenham, Ontario, Canada, 20th August, 1891; 5 years.

Claim.—1st. In a rack for the purpose hereinbefore set forth, the two or more stringers secured close together at the front and diverging to fit between the bolster-stakes of the vehicle at the rear, substantially as shown and described. 2nd. In a rack, the two or more stringers secured close together at the front and diverging to fit between the bolster stakes of the vehicle, as specified, and having a jack-stringer or stringers on each side thereof at the front end, on which are secured the short cross pieces to form a support and permit of turning in a small circle, substantially as shown and described. 3rd. In combination, the two or more rearwardly diverging stringers, the jack-stringers on each side of said stringers at the front, the short cross-pieces secured on said jack-stringers, and long stringers, the cross-pieces at intervals secured on said stringers, the vertical posts supported by said cross-pieces, and the inner and outer rails supported by said posts and connected at their ends by end rails over and under said inner and outer rails respectively, as shown and described. 4th. In combination, with a rack as hereinbefore next claimed, the front and rear standards jointed thereto as to be laid down as specified, substantially as shown and described. 5th. In combination, the rearwardly divergent stringers, the cross-pieces at intervals secured thereon, the rails supported on posts on the said cross-pieces, and the sides jointed to said cross-pieces and adapted to recline or be secured vertically, substantially as shown and described.

No. 37,176. Pea Harvester.

(*Machine à recolter les pois.*)

William Burden, Little Britain, Ontario, Canada, 20th August, 1891; 5 years.

Claim.—1st. The combination of the long guards B, and the method of attachment of the same to the cut-bar F, F, by means of rod C, C, through the iron rods A, A, A, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the rods L, M, N, O, and the method of the attachment of the same to said rod C, C, which in a complete shape compose the different members of the swather, substantially as and for the purpose hereinbefore set forth.

No. 37,177. Tool for Cutting Threads, etc.

(*Outil pour couper les filets, etc.*)

Albert W. Bartholomew, Boston, Massachusetts, U. S. A., 20th August, 1891; 5 years.

Claim.—1st. A stock A, having an opening a, in combination with the rectangular frame B, mounted in said stock A, the tool carriers D, D^1, arranged on opposite sides of the opening a, and the right and left hand screw rod C, mounted in stock A, and handle A^1, to move the tool carriers toward and away from the opening a, in the stock, substantially as and for the purposes set forth. 2nd. A stock A, having a central opening a, the rectangular frame B, tool carriers D, D^1, mounted within said frame B, and on opposite sides of the opening a, the right and left hand screw rod C, and handle A^1, for moving the carriers toward and away from the opening a, in combination with a chuck G, the stock and chuck being connected together so that one can be rotated on the other, the opening a, in the stock A, being located in relation to the jaws of the chuck, substantially as shown and for the purpose set forth. 3rd. In a device, substantially as described, the stock A, having an opening a, and a recess a^1, portions of the side walls of which are parallel, in combination with rectangular frame B, having parallel sides, and mounted in the recess a^1, and the right and left hand screw rod C, mounted in the stock A, and connected to the frame B, to which the carrier D^1, is secured and to the carrier D, the carriers being on opposite sides of the opening a, in the stock A, all substantially as and for the purpose set forth. 4th. In a device, substantially such as described, the carriers D, D^1, having a recess to receive the cutting tool one side of said recess being of dovetail form, in combination with cutting tools F, having one edge of corresponding dovetail form and screws f, f, for retaining said cutters in place, substantially as shown and described.

No. 37,178. Lathe for Turning Wood.

(*Tour à bois.*)

George H. Ober, Chagrin Falls, Ohio, U. S. A., 20th August, 1891; 5 years.

Claim.—1st. In combination, in a lathe for cutting various forms, the cutters, the centers for holding the material to be operated on, a supporting plate N, for said centers a frame for holding said plate, and an adjustable pivotal connection between the frame and the plate, substantially as described. 2nd. In combination, the cutters, the centers for holding the material, a supporting-plate therefor, a swinging frame M, movable toward and from the cutters, and carrying the plate N, and an adjustable pivotal connection between said plate N, and swinging frame, substantially as described. 3rd. In combination, the cutters, the spindles, and centers, the slotted plate N, the slotted frame M, and the adjustable pivotal connection comprising the clamp o, the sleeve P, and clamp-plate Q. 4th. In combination, with a lathe for turning various forms, the rocking frame M, arranged to swing in fixed bearings, and having a slot in the face plate thereof, the slotted carrier N, the spindle-stocks S, T, with driving mechanism, the clamp-pivot O, and the clamping-plate with a sleeve arranged in the slots of said frame, and carrier in the manner and for the purpose set forth. 5th. The combination, with a rocking frame having an adjustable clamp-pivot secured in the face plate thereof, and the carrier N, having an adjustable clamping-plate, of a sleeve P, arranged in vibratile connection with said clamp-pivot to guide said carrier upon said frame, in the manner as and for the purpose set forth. 6th. In a lathe for turning various forms, the combination of a rocking frame M, having a slot in the face-plate thereof, a carrier N, with a slot, a clamp with a pivot O, and a clamp with a sleeve P, engaging for adjustable vibratile connection of said rocking frame, and carrier constructed and arranged substantially as set forth. 7th. In a lathe for turning irregular forms, the carrier N, bisected or slotted and plate Q, with a sleeve within said bisection, in combination with the slotted rocking frame M, and the clamp-pivot O, constructed and arranged, substantially as and for the purpose set forth. 8th. In combination, with the spindle stocks S, T, of the carrier N, the grooved shaft X, with movable gearing Z, journalled in adjustable brackets for engagement with the gearing of the stock T, constructed and arranged, substantially as and for the purpose set forth. 9th. In a lathe for turning irregular forms, the combination of revolving cutter-heads, a rocking frame M, a carrier N, having loose connection with and longitudinal adjustment upon said frame, the spindle stocks S, T, with brackets and gearings, and the shaft X, with gearings for simultaneous rotation of the spindles of said stocks, constructed and arranged, substantially as and for the purpose set forth. 10th. In a lathe for turning various forms, the combination of the rocking frame M, carrier N, clamp-pivot O, and sleeve P, with plate Q, the clamp of said pivot and said plate having adjustable connection with said frame, and carrier and the sleeve vibratory motion upon said pivot constructed and arranged, substantially as and for the purpose set forth. 11th. In a lathe for turning irregular forms, the combination of the rocking frame, a clamp-pivot arranged in the slot of said frame, the carrier of the spindle-stocks, and a clamping plate with a sleeve in the slot of said carrier for vibratory connection with said pivot, substantially as shown and described. 12th. In combination, the cutters, the support N, the stocks S, and T, on the support N, the said stock T, carrying a spindle T^1, and being adjustable on said support N, and means for actuating the said spindle consisting of the pinion Z^1, thereon, the shaft X, and the pinion Z, adjustable longitudinally on said shaft, and adapted to mesh with the pinion Z^1, substantially as described. 13th. In a lathe for turning various forms in a single piece of wood, the carrier N, having an adjustable pivoted connection with the clamp pivot O, arranged in connection with the rocking frame, in combination with the rotary cutters having irregular cutting edges extending over the entire length of the article to be shaped, and driving mechanism arranged to operate conjointly therewith, substantially as and for the purpose described. 14th. In combination, in a lathe for turning various forms, the centers for holding the material to be operated upon, the pattern-disks and their bearings, a supporting plate for said centers

a frame for holding said plate, and an adjustable pivoted connection between the frame and the plate, substantially as described. 15th. In a lathe for turning various forms, the carrier of the spindle stocks having a clamping plate with a sleeve in the slot of said carrier for a vibratory connection with a clamp-pivot, in combination with the rocking frame arranged, substantially as and for the purpose set forth.

No. 37,179. Machine for Making Envelopes, etc. (*Machine pour faire les enveloppes, etc.*)

Sidney Austin Grant, Springfield, Massachusetts, U.S.A., 20th August, 1891; 5 years.

Claim.—1st. In an envelope machine, the cylinders A, A^1, in combination with folding mechanism, one cylinder having a land a, and the other a depression a^2, to make the four creases between the flaps and the body of the envelope, substantially as and for the purpose set forth. 2nd. In combination, with the cylinders A, A^1, one having a land a, and the other a depression a^2, and actuating mechanism to intermittently rotate the cylinders stop guides a^{18}, and means substantially such as described, for example bracket F^1, pins a^{20}, and springs a^{19}, for varying the position of the stops, the stops when in one position preventing the insertion of the blank between the cylinders, and when in the other allowing the insertion of the blank between the cylinders, all substantially as and for the purpose set forth. 3rd. In combination, creasing cylinders A, A^1, one having a land a, and the other a depression a^2, gummers a^1, and gum-distributor a^3, the gummers being mounted on creasing cylinder A, substantially as and for the purpose set forth. 4th. The improved means for creasing, gumming and printing envelope blanks, composed of cylinders A, A^1, one having a land a, and the other a depression a^2, combined with gummers a^1, on one of the cylinders, and a form A^2 on the other cylinder to simultaneously crease, print and gum an envelope blank, substantially as and for the purpose set forth. 5th. In combination, feed table A^3, reciprocating stops a^{18}, and creasing cylinders A, A^1, one of the cylinders having an intermittent motion toward and from the other cylinder, and mechanism for depressing the stops a^{18}, and folding mechanism all arranged and operating, substantially as and for the purpose set forth. 6th. In combination, a folding table and folding mechanism with feed rolls and blank creasing and gumming cylinders, one of the cylinders having an intermittent motion toward and away from the other cylinder, all arranged to feed the creased and gummed blank positively to the folding table, substantially as described. 7th. In combination, folding table B, flap folder b^1, flap folder b^1 being mounted at one edge of table B, pusher b^{20}, and means (for example rack b^{12}, and pinion b^{22}) for reciprocating the pusher to turn the flap folder b^1, and to move said pusher over the folding table, substantially as and for the purpose set forth. 8th. In combination feed table A^3, reciprocating stops a^{18}, gumming and creasing rolls A, A^1, stationary folding table B, flap folders b, b^2, b^1, presser foot B^1, reciprocating pusher b^{20}, and mechanism substantially such as described for actuating the same, the stops a^{18}, being depressed to allow the operator to feed the blank to the creasing and gumming cylinders, the creasing and gumming cylinders simultaneously creasing and gumming the blank, the blank being fed positively from these cylinders to the folding bed, and removed positively from the folding bed by the reciprocating pusher all arranged and operating, substantially as and for the purpose set forth.

No. 37,180. Base for Red Pigment and Process of Making the Same. (*Base pour les pigments rouges et procédé de fabrication.*)

James Pliny Perkins, Boonton, New Jersey, U.S.A., 20th August, 1891; 5 years.

Claim.—1st. The within described combined red pigment, and paint base, consisting of an intimate mixture of ferric oxide and separated or precipitated silica, in substantially the proportions mentioned. 2nd. The process of treating silicious ferruginous slags for the production of pigments, which consists in, first, pulverizing the slag, second, treating it with sulphuric acid, and third, applying heat to the mass, all substantially as described. 3rd. The process of treating silicious ferruginous slags for the production of pigments, which consists in, first, pulverizing the slag, second, heating it with access of air, third, treating with sulphuric acid, and fourth, applying heat to the mass, all substantially as described.

No. 37,181. Machine for Scouring Grain. (*Nettoyeur des grains.*)

Dennis E. Sibley, Chicago, Illinois, U.S.A., 20th August, 1891; 5 years.

Claim.—1st. In the grain scouring machine shown and described, the combination, with the case A, having the inlet spout B, and outlet spouts F, and G, of the drums P, brush belt D, mounted on said drums, brush rollers S, arranged in a vertical train against the said belt brush, so their brushes will intermesh with those of said belt brush and rotate at a different speed from said belt brush, guide rollers R, for holding said belt brush in contact with said roller brushes, deflecting boards L, screens V, and suction fan blower J, all arranged to operate, substantially as and for the purpose set forth. 2nd. In the grain scouring machine shown and described, the combination of drums P, belt brush D, mounted on said drums, brush rollers S, arranged in a vertical train against said belt brush so their brushes will intermesh with those of the roller brushes and rotate at a different speed from said belt brush, guide rollers R for holding said brush belt in contact with said roller brushes, deflecting floors L, worm wheels W, arranged on the ends of the shaft of said roller brushes, shaft J^1, worms Z^1, secured on said shaft and arranged to mesh with said worm wheels, and bevel gears H, H^1, and shaft J^2, all arranged to operate, substantially as and for the purpose set forth. 3rd. In the grain scouring machine shown and described, the combination, with the endless brush-belt B and roller brushes S, of the outlet spout F, having the fan J, the screen V, arranged across the inner end of said spout, and spout G, having the series of arms Z arranged to extend across its inner end, substantially as and for the purpose set forth.

No. 37,182. Iron Bucket, etc. (*Seau en fer, etc.*)

William and Ann McLauchlan, both of Manchester, England, 20th August, 1891; 5 years.

Claim.—1st. The improvements in buckets, slop pails, coal scuttles, and other similar articles, whereby the same are rendered perfectly noiseless in use, substantially as hereinbefore set forth. 2nd. The application to the rims of buckets, slop pails, coal scuttles, and other similar articles, of rubber or other feet or pads, substantially as and for the purpose hereinbefore set forth. 3rd. The application to the ears or handles of buckets, and other like articles, of rubber washers and guards, substantially as and for the purpose hereinbefore set forth.

No. 37,183. Gaiter Stocking. (*Bas guêtre.*)

Charles Bellerive, Quebec, Province of Quebec, Canada, 20th August, 1891; 5 years.

Resumé.—Comme nouvel article de manufacture un bas ayant une ouverture longitudinale pratiquée dans sa hausse la dite ouverture fermant soit avec des agraffes des boutons, etc., etc., tel que décrit et pour les fins y mentionnées.

No. 37,184. Nut Fastening. (*Arrête-écrou.*)

Angus Fongère, Moncton, New Brunswick, Canada, 20th August 1891; 5 years.

Claim.—1st. The combination, with a bolt and primary nut, of the metal elastic washer or locking plate having an oblique thread cut diagonally therein to its faces, and screwed on to the bolt exteriorly of the primary nut, said elastic washer when screwed down being deflected or bent from its initial diagonal position on the bolt by contact with the nut, and bearing against said nut with increased force or compound frictional contact in the manner and for the purpose herein described. 2nd. In a nut lock, the combination, with a bolt and a primary nut, of the inclined locking plate or washer arranged on the bolt exteriorly of the nut thereon, and having the oblique threads cut at an angle to its faces, said flat locking plate lying at an angle to the face of the nut and being of suitable thickness and temper in proportion to the nut and bolt to spring or yield as the contact between the faces of the nut and plate is increased, whereby the locking plate is bent or deflected as it is screwed home and a compound frictional contact is secured between said plate and nut without deflecting the end of the bolt, as set forth. 3rd. As an article of manufacture, the elastic metal plate or washer herein described, having a thread diagonal to its bearing in order to produce torsional spring resistance, and a yielding of the parts held together to secure the nut and operate, substantially as and for the purposes set forth.

No. 37,185. Machine for Mixing Dough. (*Machine pour méler la pâte.*)

John Simons, Aylmer, Ontario, Canada, 20th August, 1891; 5 years.

Claim.—The combination of the motive power F, (or pulley and belt, etc.,) the shaft I, the pinion E, and the driving wheel B, with one or more mixing wheels C, D, the paddles a, a, a, a, and a^1, the inside geared cogged wheel A, and the dough pan H, substantially as and for the purpose hereinbefore set forth.

No. 37,186. Method of Treating Filaments for Incandescent Electric Lamps. (*Mode de traiter les filaments pour lampes électriques incandescentes.*)

Turner D. Bottome, Hoosick, New York, U.S.A., 21st August, 1891; 5 years.

Claim.—1st. The process of reducing metallic compounds contained in carbon filaments to the metal, consisting in electrically heating the said carbon in an atmosphere of pure, dry and heated hydrogen, substantially as described. 2nd. The method of treating incandescent filaments, consisting in heating them by electrical means to a temperature at which the carbons become soft, in an atmosphere of pure, hot, dry hydrogen. 3rd. The method of regulating the electrical conductance of a filament for an incandescent electric lamp, consisting in alternately submitting the same to a treatment, incorporating a metallic compound and subjecting the same to a high temperature by electrical means, in an atmosphere of heated hydrogen obtained as a product from the destructive distillation of a hydrocarbon, substantially as herein described. 4th. The method of treating filaments, consisting in toughening them throughout their structure by electrically heating them until they become soft while inclosed in a chamber containing pure, dry and heated hydrogen, as described.

No. 37,187. Weather Strip for Car Doors. (*Bourrelet de porte pour chars.*)

William R. Betham, Chicago, Illinois, U.S.A., 21st August, 1891; 5 years.

Claim.—1st. The herein described weather strip, consisting of the combination with the car body and sliding door of the flat strip A,

having its inner edge hinged to the body of the car at the rear edge of the closed door, and arranged to swing back flat against the car body to allow the door to slide freely over it, and the springs S, S, or similar device for automatically swinging to said strip and retaining its outer edge against the rear edge of the door, all substantially as shown and described. 2nd. The herein described weather strip, consisting of the combination with the car body and sliding door, of the strip A, having the curled edge E, the rod C, running through the latter the brackets B, B, in which the rod C is pivoted, the groove D, into which the edge E sets, and the springs S, S, all substantially as shown and described.

No. 37,188. Switch for Incandescent Lamp Sockets. (*Commutateur pour support de lampe incandescente.*)

The Bryant Electric Company, assignees of Waldo C. Bryant, all of Bridgeport, Connecticut, U.S.A., 22nd August, 1891; 5 years.

Claim.—1st. A switch for incandescent lamp sockets, consisting essentially of binding screws, a contact spring connected to one of the binding screws, a shaft having a contact bar, and a four-sided block with which the other binding screw is connected, and an independent spring bearing against the block and acting to hold the contact bar in either the open or closed position. 2nd. In a switch upper and lower insulating plates, standards to which said plates are secured, brackets secured to said plates respectively, and carrying binding screws, and a plate 5, connected to the standards under the lower insulating plate, in combination with a contact spring connected to one binding post, a shaft mounted in the standards and having a contact bar, and a four-sided plate and an independent spring secured to one of the insulating plates and engaging the block, substantially as described.

No. 37,189. Book Shelf. (*Rayon pour livres.*)

Louis Stockstrom and Charles Augustus Stockstrom, both of St. Louis, Missouri, U.S.A., 22nd August, 1891; 5 years.

Claim.—1st. A book-case having shelves provided with rollers, one or more of said rollers having flanges at the ends, substantially as and for the purpose set forth. 2nd. A book-case having roller shelves, one or more of the rollers of which have inclined flanges at the ends, substantially as and for the purpose set forth. 3rd. A book-case having roller-shelves, and a pull-bar or rod 10, in connection with a shelf having an upturned inner end, substantially as and for the purpose set forth. 4th. A book-case having roller-shelves, and a spring pull-bar or rod 10, in connection with a shelf having an upturned inner end, substantially as and for the purpose set forth. 5th. A book-case having roller-shelves and pull-bar or rod, in connection with a shelf having perforated upturned inner ends, and extension-pins passing through the perforations, and a spring 17, substantially as and for the purpose set forth. 6th. In a book-case, the combination of the roller-shelves, pull-bars having handles 18, adapted to fit between the inner ends of the sectional outer rollers, and springs for holding the bars in their inner positions, substantially as and for the purpose set forth. 7th. In a book-case having roller-shelves, the combination of pull-bars by which the books are withdrawn, and the shields 20, over the pull-bars between the front rollers of the shelves, substantially as and for the purpose set forth.

No. 37,190. Three-Spindle Boring Machine. (*Machine pour percer à trois mèches*)

Jacob Herbert Mickler, William Stahlschmidt, and Jacob Emil Klotz, all of Preston, Ontario, Canada, 22nd August, 1891; 5 years.

Claim.—1st. A spindle A, having a friction pulley D, fixed to it and engaging with friction pulleys H, fixed respectively to a spindle O, in combination with the boring-spindles E, and F, each of which is connected to one of the spindles O, by means of a flexible joint, substantially as and for the purpose specified. 2nd. A spindle A, having a friction pulley D, fixed to it and engaging with friction pulleys H, fixed respectively to a spindle O, the boring spindles E, and F, each of which is connected to one of the spindles O, by means of a flexible joint, in combination with the adjusting spindle Q, arranged to operate the bearing-boxes of the spindles E, and F, substantially as and for the purpose specified. 3rd. A spindle A, having a friction pulley D, fixed to it and engaging with friction pulleys H, fixed respectively to a spindle O, the boring spindles E, and F, each of which is connected to one of the spindles O, by means of a flexible joint, in combination with the hinged plate G, supporting the driving and boring spindles, and the adjusting spindle Q, for independently operating the bearing-boxes of the spindles E, and F, substantially as and for the purpose specified. 4th A spindle A, having a friction pulley D, fixed to it and engaging with friction pulleys H, fixed respectively to a spindle O, the boring spindles E, and F, each of which is connected to one of the spindles O, by means of a flexible joint, in combination with the hinged plate G, bar R, sleeve S, and pinch-screw T, substantially as and for the purpose specified. 5th. A spindle A, having a friction pulley D, fixed to it and engaging with the friction pulleys H, fixed respectively to a spindle O, which spindles are carried in elastically-adjustable boxes I, in combination with the boring spindles E, and F, flexibly connected to their respective spindles O, substantially as and for the purpose specified.

No. 37,191. Drilling Machine. (*Machine à percer.*)

Jacob Herbert Mickler, William Stahlschmidt, and Jacob Emil Klotz, all of Preston, Ontario, Canada, 22nd August, 1891; 5 years.

Claim.—1st. A central spindle A, in combination with supplemental spindles G, and H, supported by wings journaled on the central spindle A, and deriving motion from the said spindle by gearing, substantially as and for the purpose specified. 2nd. The wings E, F, journaled on the spindle A, the bars L, adjustably connected to the said wings and supporting the spindles G, H, in combination with the gear wheels J, pinions K, and jointed links I, substantially as and for the purpose specified. 3rd. The wings E, F, journaled on the spindle A, and provided with lugs M, and set-screws N, to rigidly connect the said wings to the stationary ring C, the bars L, adjustably connected to the said wings and supporting the spindles G, H, in combination with the gear wheels J, pinions K, and jointed links I, substantially as and for the purpose specified.

No. 37,192. Saw. (*Scie.*)

Andrew Krieger, Columbus, Ohio, and Elias C. Atkins, Indianapolis, Indiana, U.S.A., 22nd August, 1891; 5 years.

Claim.—1st. The combination of the saw blade having recesses, the edge whereof has regularly-formed even-spaced notches *a*, and the insertible tooth or follower having corresponding projections or flanges *b*, whereby the tooth may be securedly held to a determinate position, substantially as set forth. 2nd. The combination, in a saw of the saw blade having recesses for the teeth, the edges whereof are provided with notches as shown, the teeth adapted to fit into said recesses, followers occupying the spaces in the rear of the saw teeth, and locking devices interposed between the saw teeth and followers, and an opposite surface in the recesses of the saw plate, the edge of the recess in the saw plate, and an edge of one of the parts coming in contact therewith being in each case respectively provided with regularly-formed even-spaced notches and projections, which engage with each other, substantially as shown and described. 3rd. A saw plate having recesses for insertible teeth, and teeth adapted to fit therein, the adjacent edges of said recesses, and said teeth being provided with regularly-formed even-spaced notches and projections which engage with each other, whereby said teeth may be moved forward from time to time as the points are worn away and securely held in position, substantially as set forth. 4th. The combination, in a saw, of the saw plate having recesses to receive insertible teeth, said recesses being beveled or V-shaped and provided with regularly-formed even-spaced notches throughout a considerable portion of their length, and saw teeth having corresponding edges with V-shaped grooves the lower ends of said teeth being provided with projections or flanges which enter said notches, and locking devices for holding the teeth in position, substantially as shown and described and for the purpose specified. 5th. The combination, in a saw, of the saw plate having recesses to receive insertible teeth, said recesses being beveled or V shaped, and provided with notches in the V-shaped beveled edge, and saw teeth having corresponding edges with V-shaped grooves and projections or ribs in said grooves, which fit into notches in the V-shaped edge of the saw plate, said notches and projections being completely covered and hid from view when the parts are in position, substantially as shown and described.

No. 37,193. Window Sash. (*Croisée de fenêtre.*)

Fealdon E. Watton and Joseph Dunsford, both of Altamont, Illinois, U.S.A., 22nd August, 1891; 5 years.

Claim.—1st. The combination, in a window sash blind or screen, of the bar 7, plates 8, and bar 10, suitably connected to the plates with springs forcing the bar 10, outward, substantially as and for the purpose set forth. 2nd. The combination, in a window sash blind or screen, of the bar 7, plates 8, secured therein, and a bar 10, adjustably connected to the plates by a pin passing therethrough and working in slots in the plates, substantially as and for the purpose set forth. 3rd. The combination, in a window sash blind or screen, of the bar 7, plates 8, secured therein, bar 10, connected to the plates 8, by pins 11, working in slots 9, of the plates and a spring 15, substantially as and for the purpose set forth. 4th. The combination, with a window sash blind or screen, of a side bar 10, plate 8, forming a guide for the bar 10, and spring forcing the bar outward, substantially as set forth. 5th. The combination, with a window sash blind or screen, of the plate 8, bar 10, spring 15, and the movable plate 15*b*, forming a bearing for the inner end of the spring, substantially as set forth.

No. 37,194. Concentrator for Ores. (*Concentrateur de minerais.*)

Silas Bertenshaw, Denver, Colorado, U.S.A., 24th August, 1891; 5 years.

Claim.—1st. In an ore-concentrator, the combination of a framing, a table, arms sustaining said table, bearings upon said arms permitting the table to swing, a cam for moving the table in one direction, means for rotating the cam, and a torsional spring-rod secured to its ends upon the framing and connected at its center by a depending arm to the table to move it in the other direction, substantially as set forth. 2nd. In an ore-concentrator, the combination of a framing, a table, arms sustaining said table, bearings at the ends of said arms, each bearing consisting of two knife-edges united by an arm 26, adjustably secured to the sustaining arm, a bearing-frame receiving the knife-edges, and means for reciprocating the table, substantially as set forth. 3rd. In an ore-concentrator, the combination, with the framing, the table, and the arms sustaining the table, of pivotal or rocking bearings, each consisting of a frame 20, receiving the centrally apertured bearing plate 22, provided with bearings 23, and two knife-edges 25, united by arm 26 and fitting upon a sustaining arm or rod 28, substantially as set forth. 4th. In an ore-concentrator, the combination of a framing, a swinging table, arms sustaining the table from the framing, a cam and means for rotating the cam, a torsional spring-rod adjustably clamped at either end, and an arm clamped to the center thereof and depending therefrom and taking against a projection upon the table, substantially as set forth. 5th. In an ore-concentrator, a table formed of cast-iron with its sides and bottom made integral and cast in one continuous piece, whereby a tremulousness may be imparted

to the units of the mass composing the table, in combination with means for vibrating said table, substantially as and for the purposes set forth. 6th. In an ore-concentrator, the combination, with the cast-iron table composed of two compartments 4, each having sides 5, formed integrally with the bottom of the compartment, of the longitudinally intervening timber or rib 7, having said compartments secured to opposite sides thereof, said intermediate timber or rib serving as a bumper, substantially as and for the purposes set forth. 7th. In an ore-concentrator, the combination, with the uprights 1, and 2, the longitudinally-extending bumper-block 8, having said uprights braced thereto, of the cast-iron-table, the rib 7, projecting beyond the head of the table, and means for suspending said table from the uprights, substantially as and for the purposes set forth. 8th. In an ore-concentrator, the combination of the standards, the sustaining rods 28, table 3, bearings 25, cam 9, torsion-spring 13, arm 18, box 11, and rib 7, substantially as set forth. 9th. In an ore-concentrator, the combination, with the table and supporting frame, of hangers having knife-edge bearings at opposite ends and connecting said table and frame to suspend the table from the frame, a torsional spring extending transversely across the frame and having an arm connecting it with a portion of the table, and means for reciprocating the table, substantially as and for the purposes set forth. 10th. In an ore-concentrator, the combination, with the table and supporting-frame and means for reciprocating the table, of hangers suspending the table from the frame, a transverse torsional spring connecting with a portion of the table, and means for adjusting the torsion of the spring, substantially as and for the purposes set forth. 11th. In an ore-concentrator, the combination, with the table, means for reciprocating the table, and the supporting-standards, of the frames projecting laterally from the standards, the frames projecting laterally from the table, and the sustaining-rods or hangers provided at their upper portion with knife-bearings supported by said lateral frames and at their lower portion with knife-bearings taking against their lower face of the lateral frames to sustain the table, substantially as and for the purposes set forth.

No. 37,195. Portable Fence. *(Clôture portative.)*

Jacob Runion Swickard, Gahanna, and Morgan Samson Trumbo, Jefferson Township, both in Ohio, U. S. A., 24th August, 1891; 5 years.

Claim.—A portable worm-fence having each panel composed of rails B, posts A, secured respectively to opposite sides of the rails, with the series of upper rails and the series of lower rails extending at opposite ends respectively beyond the posts, and braces C, secured respectively to the extended ends of the said rails and projecting upward and downward to form an unobstructed interlocking space D, between the projecting end of each brace, and the edge of the adjacent post, each of said braces being secured to the same side of the rails as the post adjacent thereto, substantially as described and shown.

No. 37,196. Wrench. *(Clé à écrou.)*

Frank Stacey Chaney and John Fred. Haglund, both of Honolulu, Hawaiian Islands, 24th August, 1891; 5 years.

Claim.—1st. A wrench, comprising a fixed jaw having a laterally extending shank which terminates in a handle, a movable jaw mounted on the shank of the fixed jaw, a screw bolt extending from the movable jaw into the handle, and a revoluble nut mounted on the handle and adapted to receive the screw bolt, substantially as described. 2nd. In a wrench, the combination, of a fixed jaw having a laterally extending shank, a revoluble hollow handle connected with the shank, a nut mounted in the handle, a movable jaw slidably mounted on the fixed jaw shank, and a screw bolt extending from the movable jaw into the nut, substantially as described. 3rd. A wrench, comprising a fixed jaw having a laterally extending shank, a stay block fixed to the end of the shank, a hollow handle pivoted to the stay block, a movable jaw mounted on the fixed jaw shank, and a screw bolt connecting the movable jaw with a nut in the handle, substantially as described. 4th. A wrench, comprising a fixed and a movable jaw, means for adjusting the jaws, and a pawl mounted in a recess in one of the jaws so as to project from the face of the same, substantially as described. 5th. The combination, with a wrench having two jaws, of a pawl mounted in a recess of one jaw so as to project from the face of the same, substantially as described. 6th. The combination, with a wrench having two jaws, of a pawl mounted in a recess of one of the jaws so as to project from the face of the same, and a screw mechanism for adjusting the pawl, substantially as described. 7th. In a wrench, the combination, with jaws, one of which is recessed as shown, of a pawl mounted in the recess so as to move at an angle to the jaw face, and a thumb screw mounted in the jaw and connecting with the pawl, substantially as described. 8th. In a wrench, the combination, with a recessed jaw, of a pawl mounted to slide in the recess and provided at its inner end with a threaded hole, and a thumb screw mounted in the jaw, with its threaded end in position to enter the threaded hole of the pawl, substantially as described.

No. 37,197. Hand Device for Imparting Rotary Motion. *(Appareil à main pour la communication du mouvement.)*

Peter Lord and Annie Barron Cadwell, both of Montreal, Quebec, Canada, 24th August, 1891; 5 years.

Claim.—1st. In a device for imparting rotary motion, the combination, with a vertical working shaft, a bearing block and two horizontal spindle arms in the same line, bevel gears and ratchets or spur wheels on said horizontal spindle arms, a bevel gear on said vertical spindle and an operating lever having two fork arms pivotally connected with said horizontal spindle arms, of a pair of pawls pivoted on each of said operating lever's fork arms and adapted to engage with said ratchets, and means for impelling them both into, and of throwing one pawl of each pair out of, such engagement with said ratchets on opposite sides thereof, for the purpose set forth. 2nd. In a device for imparting rotary motion, the combination of a central hub having horizontally projecting spindle arms and a central vertical perforation, a vertical continuous or integral working spindle passing through said hub bearing in said perforation and provided with interchangeable heads, bevel gears and ratchet or spur gears on said spindle arms, and a bevel gear on said vertical spindle, and an operating lever and pawls carried by it for engaging said ratchets, as set forth. 3rd. In a device for imparting rotary motion, the combination of a central perforated bearing block having two horizontal spindle arms on opposite sides, a vertical working spindle passing through said perforated bearing block, a bevel gear on said vertical spindle, bevel gears and ratchet or spur gears on said spindle arms, an operating lever, the axis of which coincides with the axis of said working spindle, and having two fork arms pivotally connected with said spindle arms, and pawls carried by said fork arms and adapted to engage said spur gears, as set forth. 4th. In a device for imparting rotary motion, the combination, with a central perforated bearing block having two horizontal spindle arms on opposite sides, a vertical working spindle passing through said perforated bearing block, a bevel gear set rigidly on said working spindle, integral bevel gears and ratchet or spur gears mounted loosely on said spindle arms, an operating lever having two fork arms pivotally connected with said spindle arms, and pawls carried by said fork arms and adapted to engage said spur gears, as set forth. 5th. In a device for imparting rotary motion, the combination, with a vertical working spindle, a bearing block with horizontal spindle arms, bevel and ratchet or spur gearings, and an operating lever, of a pair of pawls carried by said lever, means for impelling them both into, and a rotary cam shaft for throwing either of said pawls out of engagement with the ratchet part of said gearing, for the purpose set forth. 6th. In a device for imparting rotary motion, the combination, with a vertical working spindle, a bearing block with horizontal spindle arms in the same line, integral bevel and spur gearing mounted loosely on said horizontal spindle arms, a bevel gear on said vertical spindle and an operating lever having two fork arms pivotally connected with said horizontal spindle arms, of a pair of pawls pivoted on each of said operating lever's forks arms and adapted to engage with said ratchets, means for impelling said pawls into such engagement, and a rotary shaft carrying lugs or projections on opposite sides adapted to bear against and throw one pawl of each pair of same out of such engagement with said ratchets on opposite sides thereof, for the purpose set forth.

No. 37,198. Storage Battery.

(Accumulateur d'électricité.)

Thomas Laing Kay, Hamilton, Ontario, Canada, 25th August, 1891; 5 years.

Claim.—1st. In a storage battery, each individual plate after being filled with electrolytic compound, covered with a perforated sheet of lead, rubber or equivalent material that will resist the action of the acid to prevent the compound from falling out of the plates. 2nd. In a storage battery, the plates A, after being filled with electrolytic compound paste, covered with a perforated sheet *c*, of lead, rubber, or equivalent material that will resist the action of the acid to prevent the compound from falling out of the plate. 3rd. In a storage battery, the combination, with the cells of projecting lugs made to be secured to horizontal bars, said bars provided with upward lugs so that when two or more batteries are placed side by side the lugs of the bars come together, and are secured by a rectangular clamp with binding screw and rubber washer. 4th. In a storage battery, the lugs *d*, of the cells connected to the horizontal bars D, said bars formed with a lug *e*, at one end the said lugs, of the bars connected with and held tightly together by means of a rectangular clamp *f*, secured by a binding screw *g*, and a rubber washer *h*, interposed between the point of the screw and the lug, all constructed, substantially as and for the purpose specified. 5th. In a storage battery, perforated rubber plates or the equivalent, non-conducting substance formed with non-conducting projections on each side interposed between the positive and negative electrolytic plates to prevent said plates from coming in metallic contact. 6th. In a storage battery, perforated rubber plates E, or the equivalent, non-conducting substance formed with non-conducting projections *i*, on each side interposed between the positive and negative electrolytic plates A, to prevent said plates from buckling or coming in metallic contact, substantially as described.

No. 37,199. Extension Vehicle Seat.

(Siège à extension pour voitures.)

Charles A. Timmons, West Hallock, Illinois, U.S.A., 25th August, 1891; 5 years.

Claim.—1st. In a seat for vehicles, the supporting board provided on either edge with a flange, in combination with the seat portion consisting of the arms D, and E, made integral with the portions C, and F, respectively, and of the railings R, and S, secured to the said seat, which railings are provided with notches on their under sides, the said railings being enclosed for part of their length in a metal loop, and of a spring catch secured under the said metal loop to engage with the notches in the said railings, as and for the purposes set forth and described. 2nd. In a seat for vehicles, the combination of the seat portion, consisting of the arms D, and E, made integral with the portions C, and F, respectively, and of a metal strip secured by a bolt to a lower supporting board, the said metal strip passing over the arms D, and E, and at right angles to them, and said strip being secured to forward flange of the supporting board, and the rear portion of the said strip being formed into a loop to enclose the railings of the seat, and the extreme rear end of same being attached to the rear flange of the supporting board, in the manner and for the purposes set forth and described.

No. 37,200. Process of Desilverizing Lead by Electrolysis. (*Procédé pour extraire l'argent du plomb par l'électrolise.*)

Turner D. Bottome, Hoosick, New York, U.S.A., 25th August, 1891 ; 5 years.

Claim.—1st. The process of refining lead, consisting in subjecting argentiferous lead to electrolysis while immersed in an electrolyte composed of ammonium salts kept saturated with carbon di-oxide, substantially as and for the purpose described. 2nd. The process of refining lead containing silver, consisting in electrolytically dissolving the said lead in an electrolytic solution composed of ammonium or synergistic compounds, dissolved in water and kept saturated with carbon di-oxide, whereby lead carbonic precipitates and silver deposits upon cathodes, substantially as described. 3rd. The process of desilverizing lead and forming white lead simultaneously, consisting in electrolytically dissolving anodes of the said lead in a chemical solution composed of solvents of silver and precipitants of lead compounds, while saturated with carbon di-oxide, substantially as described. 4th. The process of desilverizing lead, consisting in subjecting anodes of the said lead to the electrolyzing action of an electric current, while they are immersed in a solution, having a chemical affinity for both silver and lead, but which precipitates lead when saturated with carbon di-oxide, substantially as described.

No. 37,201. Centrifugal Lubricator.

(*Graisseur centrifuge.*)

Philip M. Sharples, West Chester, Pennsylvania, U.S.A., 25th August, 1891 ; 5 years.

Claim.—1st. The combination, with a rotary shaft provided with a collar, of a bearing having a recess for said collar, and an oil passage entering the same, said recess closely surrounding the collar and extending inward toward the centre of the shaft, all substantially as set forth. 2nd. The combination, with a rotary shaft provided with a collar, of a bearing having a recess for said collar, an inlet passage connecting said recess with an oil receptacle, and an outlet from said recess at a greater distance from the centre of the shaft also communicating with said receptacle, substantially as set forth. 3rd. In a centrifugal lubricating device for a collared shaft, a bearing having a recess for said collar and oil ways entering said recess at different distances from the centre of the shaft, substantially as set forth.

No. 37,202. Heating System.

(*Système de chauffage.*)

The Consolidated Car Heating Company, Wheeling, West Virginia, assignees of James Finney McElroy, Albany, New York, both in U.S.A., 25th August, 1891 ; 5 years.

Claim.—1st. In a heating system, a radiator having a storage chamber or chambers formed therein below the steam space, and in communication therewith, substantially as described. 2nd. In a heating system, a radiator having a storage chamber or chambers formed therein by means of dams partially closing the steam space, substantially as described. 3rd. In a heating system, a radiator consisting of piping joined by couplings suitably inclined to carry off the water of condensation, of dams formed in said couplings forming storage chambers between and a steam passage above said dams, substantially as described. 4th. In a heating system, a radiator consisting of piping joined by couplings suitably inclined to carry off the water of condensation, of dams or partitions formed in said couplings, and sluice ways or apertures in said partitions, substantially as described. 5th. In a heating system, a radiator having open-topped storage chambers adapted to trap the water of condensation, and a suitable outlet for the escape of the overflow, substantially as described. 6th. In a heating system, a radiator consisting of piping suitably inclined to carry off the water of condensation formed in said couplings, forming a storage chamber between and a steam passage above said dams, of a central coupling having a well formed by two dams, and a steam pipe entering said central coupling into the well, substantially as described.

No. 37,203. Steam Trap. (*Trappe de vapeur.*)

The Consolidated Car Heating Co., Wheeling, West Virginia, (assignees of James Finney McElroy, Albany, New York, both in U.S.A., 25th August, 1891 ; 5 years.

Claim.—1st. The combination of the casing provided with a bend or off-set E, at one end, an expansion rod enclosed within that casing and passing with its free end through the bent portion or off-set of said casing to the outside, the lug H, into which the expansion rod engages, and the lock-nuts I, and J, substantially as described. 2nd. The combination of the casing consisting of the parts A, B, and C, the off-set E, of the part A, the expansion rod G, within the casing and projecting through the off-set E, to the outside, the lug H, into which the expansion rod engages, the adjusting nuts I, and J, the multiplying lever M, fulcrumed at and pivotally secured with the short arm to the expansion rod, the valve O, carried by the long arm of the lever, and having the valve stem P, the collar Q, upon said valve stem, the spring R, and the nipple T, secured in the walls of the casing, the parts being arranged and constructed to operate, substantially as and for the purpose described.

No. 37,204. Grain Scouring Mill.

(*Nettoyeur des grains.*)

Lewis Bartholomew, Elmira, New York, U.S.A., 25th August, 1891 ; 5 years.

Claim.—1st. In combination, with a grain scouring mill, a casing consisting of a series of wedged shaped staves provided with bevel edged flanges, substantially as shown and described. 2nd. In a grain scouring mill, the conical brush, the grain spreaders secured to the bottom thereof, on either side of the shaft, of the brush in combination with the top of the mill, and a fan adapted to be operated therein by the revolution of the brush, the bottom having an aperture which opens into a chamber, and a sieve located between the aperture and the chamber, substantially as and for the purpose set forth. 3rd. In a grain scouring mill, the combination of the conical brush and a casing therefor, composed of wedged shaped staves having bevelled flanges, and the set screws M, and *n*, with the concave blocks of stone secured in the staves and provided with metal seats for the set screws, the stones arranged to project out of the staves beyond the flanges thereof, so as to form a continuous stone surface, substantially as set forth. 4th. In a grain scouring mill, the combination of the brush, and the staves surrounding the same, of the stone blocks having a concave scouring surface, and a series of metal set screw seats, substantially as shown and described and for the purpose set forth.

No. 37,205. Pattern Chart for Knitting Purposes. (*Patron pour tricots.*)

Per Persson Olsson, Stockholm, Sweden, 26th August, 1891 ; 5 years.

Claim.—1st. A pattern card or indicator for knitting, containing parallel lines, each line corresponding to one hundred or other number of rows of knitting, and arbitrary signs, one to indicate the direction in which the fabric is to be commenced, other signs for taking in the knitted fabric and for widening the knitted fabric, such signs being placed in the position to indicate the number of rows of knitting before such widening or narrowing of the fabric, and a sign to indicate the number of rows at which the fabric is finished, substantially as set forth. 2nd. A knitting indicator or card, containing arbitrary signs in rows or parallel lines, to indicate the direction in which the knitting is to be performed, the character of stitch or knitting to be made, numbers indicating the number of needles required, and arbitrary signs to denote the widening and the narrowing of the fabric or both, and the total number of rows of knitting in such fabric, substantially as set forth. 3rd. A pattern card or knitting indicator, containing parallel lines or rows of arbitrary marks or signs to denote the character of the knitting, the place where the knitting is required to be changed in its character, and the place where the fabric is to be widened or narrowed after knitting a number of rows as indicated by the position of the sign in the parallel line, substantially as set forth. 4th. The pattern card or indicator having arbitrary signs in parallel lines, indicating the number of rows of knitting, and the changes of color in the yarn after the knitting of the number of rows indicated by the position of such arbitrary signs, substantially as set forth.

No. 37,206. Process of Coating Metal Articles. (*Procédé pour couvrir les articles en metal.*)

Francis Julius Clamer, Philadelphia, Pennsylvania, U.S.A., 26th August, 1891 ; 5 years.

Claim.—1st. The herein described process of preparing and coating metal plates and other metal articles, consisting in cleansing them in a suitable cleansing bath, then immersing them in a bath of muriatic acid, then immersing or coating them in a bath of saturated solution of tin, zinc and muriatic acid, and finally coating them in a suitable metal coating bath, as set forth. 2nd. The herein described process of preparing and coating metal plates and other metal articles, consisting in cleansing them in a suitable cleansing bath, then immersing them in a bath of muriatic acid, then immersing or coating them in a bath of saturated solution of tin, zinc and muriatic acid, and finally coating them in a bath composed of lead, sal-amoniac, arsenic, and phosphate of lead, or phosphorus, substantially as and for the purpose set forth.

No. 37,207. Manufacture of Metal Vessels.

(*Fabrication des vases métalliques.*)

David Caird, Ulverston, England, 26th August, 1891 ; 5 years.

Claim.—1st. In a metal barrel or other similar vessel, a body part rolled in one continuous piece with circumferential strengthening ribs, substantially as and for the purpose set forth. 2nd. In a metal barrel or other similar vessel, a body part rolled in one continuous piece with internal circumferential strengthening ribs, substantially as and for the purpose set forth. 3rd. In a metal barrel or other similar vessel, the combination, with a body part rolled in one continuous piece and having circumferential strengthening ribs of metal heads, or ends having annular concentric strengthening channels, substantially as set forth. 4th. In a metal barrel or other similar vessel, a rim or out-turned flange on the head, in combination with a projecting end of the body part, the said rim and said end being folded the one over the other and turned inwards so as to bear upon the head, whereby the head and end are joined together and the chime produced. 5th. In a metal barrel or other similar vessel, a metal head *c*, having a rim or flange *e*, in combination with a metal body part *a*, having a recess or corrugation *f*, engaging with the angle or corner formed by said rim and head, the end *g*, of said body part projecting beyond said head *i*, and being turned over said rim, and then turned inwards therewith so as to bear upon the head, substantially as and for the purposes set forth and shown. 6th. In a metal barrel or other similar vessel, the combination of a metal body part *a*, a head *c*, having a rim or flange *e*, a projecting end *g*, to said body part folded over said rim and turned inwards therewith against said head, and a hook *h*, shrunk on the vessel end and having a corrugation *i*, engaging with a corrugation *f*, of said body part, substantially as set forth and shown.

No. 37,208. Piano. (*Piano.*)

Charles Wassau Small, Uxbridge, Ontario, Canada, 26th August, 1891 ; 5 years.

Claim.—1st. In a piano, the iron plate B, having an opening or openings through it at the point where the tuning pins C, are located, in combination with a wrest plank A, having a bevelled projection *a*, formed on it, substantially as and for the purpose specified. 2nd. The combination with a wrest plank of an iron plate having a series of bosses G, formed around the screw holes H, substantially as and for the purpose specified.

No. 37,209. Stove and Furnace.

(Poêle et fournaise.)

General Sherman Tabor and John Robert McLaren, Jr., both of Montreal, Quebec, Canada, 26th August, 1891; 5 years.

Claim.—1st. The combination, in a stove or furnace, of the casing *a*, fire-pot *g*, having openings *o*, flange *h*, having openings *i*, with plate *k*, having openings *l*, and with pipe *t*, the whole, substantially as and for the purposes set forth. 2nd. The combination, in a stove or furnace, of the casing *a*, having openings *c*, *e*, *p*, and *q*, with branch pipes *r*, and *s*, vertical pipe *t*, fire-pot *g*, having openings *o*, flange *h*, having openings *i*, plate *k*, having openings *l*, the whole, substantially as and for the purposes set forth.

No. 37,210. Stallion Shield.

(Garniture ventrière de sûreté pour étalons.)

Irving Washington Benedict, Gloversville, New York, U.S.A., 26th August, 1891; 5 years.

Claim.—1st. In an appliance to prevent masturbation in stallions, a shield and means for attaching the same under the belly of the animal, said shield being provided with a depending guard adapted to fold up under the shield, substantially as specified. 2nd. In an appliance to prevent masturbation in stallions, the belly-shield and means of attaching the same to the animal, the shield being provided at its front edge with a pair of eyes, and the guard-plate provided at its upper edge with similar eyes for interlocking with those of the shield, substantially as set forth.

No. 37,211. Indexed File. (*Index serre-papier.*)

Charles Aldborough Sadlier and Robert Dennis Richardson, both of Winnipeg, Manitoba, Canada, 26th August, 1891; 5 years.

Claim.—1st. An indexed file, which consists of the combination of a number of portfolios of uniform size, each bearing on its face a general descriptive title of its contents, and a particular character or abbreviation referring to the special sub-class contained therein, together with a corresponding number of blanks of the same size as the portfolios, each of said blanks having a tag or projection which bears the same character or abbreviation as the portfolio to which that blank corresponds, said tags being so placed that when the complete set of blanks are assembled, the tags will not obscure one another but will be visible to the observer, substantially as described. 2nd. An indexed file, which consists of the combination of a case having any number of separate compartments for general classes of matter, and in each compartment a number of portfolios of uniform size, each bearing on its face a general descriptive title of its contents, and a particular character or abbreviation referring to the special sub-class contained therein, together with a corresponding number of blanks of the same size as the portfolios, each of said blanks having a tag or projection which bears the same character or abbreviation as the portfolio to which that blank corresponds, and next to which it is placed, said tags being so placed that when the whole set of blanks is assembled the tags will not obscure one another but will all be visible to the observer, substantially as described. 3rd. An indexed file, which consists of the combination of a number of portfolios of uniform size, each bearing on its face a general descriptive title of its contents, and a particular character or abbreviation referring to the special sub-class contained therein, and each of said portfolios having a tag or projection associated therewith which bears the same character or abbreviation as the portfolio bears upon its face, said tags being so placed that when the complete set of portfolios are assembled the tags will not obscure one another but will all be visible to the observer, substantially as described. 4th. An indexed file, which consists of the combination of a case having any number of separate compartments for general classes of matter, and in each compartment a number of portfolios of uniform size, each bearing on its face a general descriptive title of its contents, and a particular character or abbreviation referring to the special sub-class contained therein, and each of said portfolios having a tag or projection associated therewith, which bears the same character or abbreviation as the portfolio bears upon its face, said tags being so placed that when the complete set of portfolios are assembled the tags will not obscure one another but will all be visible to the observer, substantially as described. 5th. A set of portfolios for biblical notes, each portfolio being devoted to one book of the bible, and provided with an indexing table which has vertical lines for chapters and horizontal lines for verses, with blank spaces at the intersection of said lines in which a character may be written referring to the portion of the contents of the portfolio which relates to that chapter and verse which that portion occupies relative to the rest of the contents of the portfolio, substantially as described.

No. 37,212. Fish Joint for Railway Rails.

(Eclisse de rail de chemin de fer.)

William Ross Carruthers and George Treacy Stephens, both of Wellington, New Zealand, 26th August, 1891; 5 years.

Claim.—1st. The combination, in a fish joint for railways and tramways, of the fish plates B, B, having slot holes B^2, with transverse wedge pieces C, sliding on the inclined surfaces B^3, and actuated by the wedges D, all substantially as set forth. 2nd. The combination, in a fish joint for railways and tramways, of the fish plates B, B, having slot holes B^2, with transverse wedge pieces C, sliding on the inclined surfaces B^3, and actuated by wedges D secured by ribs or projections B^4, all substantially as set forth.

No. 37,213. Gate. (*Barrière.*)

David Murray, Township of Murray, Ontario, Canada, 26th August, 1891; 5 years.

Claim.—1st. A gate A, B, constructed out of narrow strips of lumber and supported by the frame work F, F, so braced to sills laid upon the surface of the ground as to be easily removable, substantially as and for the purpose hereinbefore set forth. 2nd. The peculiar combination of ropes, levers, pulleys, and weights, by which the gate is opened forwardly and so retained till the carriage has passed, substantially as and for the purposes hereinbefore set forth. 3rd. The lower bar *a*, *a*, of the gate hung upon hinges to be raised in case of deep snow, substantially as and for the purposes hereinbefore set forth.

No. 37,214. Windlass Operative Mechanism.

(Mécanisme pour guindeaux.)

Roger Williams Wonson, Gloucester, Massachusetts, U. S. A., 27th August, 1891; 5 years.

Claim.—1st. In a windlass operative mechanism, the levers *c*, *c*, fulcrumed to the bitt-head, their shorter arms being connected to the brake, and their longer arms extended rearward and over the windlass, as and for the purpose explained. 2nd. In a windlass operative mechanism, the standard H, the ears fixed thereto, and the levers fulcrumed to said ears, the ends of the shorter arms of said levers being connected to the brake, as and for the purpose explained. 3rd. In a windlass operative mechanism, the levers *c*, *c*, fulcrumed to a support arranged above or higher than the windlass, the shorter arms of said levers being connected to the brake, and their longer arms being extended aft and over the windlass, as and for the purpose explained.

No. 37,215. Car Coupling. (*Attelage de chars.*)

John McQuillan, Hecker, Illinois, U. S. A., 27th August, 1891; 5 years.

Claim.—In a car coupling, the combination, with the draw head, the rear end of whose opening has an extension and the bottom of the mouth of whose opening has a transverse groove, a pin moving vertically through said draw head forward of the extension, and a U-shaped link-lifter, its arms moving through holes in the top of the draw head and its bottom normally resting in said groove, of brackets on the end of the car, horizontal rods journaled therein and having handles at their ends at the sides of the car, a single forwardly projecting arm at the centre of the lower rod, a link connecting it with the pin, two arms projecting forwardly from the upper rod and adapted to straddle said single arm, and links connecting these arms with the upper ends of the link-lifter, all as and for the purpose hereinbefore set forth.

No. 37,216. Car Coupling. (*Attelage de chars.*)

Willie Hickman and Henry C. Spindle, both of Cherry Camp, West Virginia, U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In a car coupling, the combination, with a draw head having a transverse perforation and an arc-shaped slot in one side around said perforation, of a hook within the draw head, an uncoupling pin at the extremity of the shank of said hook moving in said slot, and a pivot pin through said perforation and hook, as set forth. 2nd. In a car coupling, the combination, with a draw head having a transverse perforation, of a hook within said draw head, a pivot pin removably inserted through said perforation and hook and having an annular groove, and a locking pin removably seated in a vertical hole in said draw head and normally engaging said groove, as set forth. 3rd. In a car coupling, the combination, with a draw head having a transverse perforation and an arc-shaped slot in one side around said perforation, of a hook within the draw head, an uncoupling pin at the extremity of the shank of said hook moving in said slot, a pivot pin detachably seated in said perforation and through said hook forward of its uncoupling pin, and means substantially as described for preventing the displacement of said pin, as set forth. 4th. In a car coupling, the combination, with a draw head having a transverse perforation, an arc-shaped slot in one side around said perforation, and a vertical hole in the other edge, intersecting said perforation, of a hook within the draw head, an uncoupling pin at the extremity of the shank of said hook moving in said slot, a pivot pin detachably seated in said perforation and through the hook forward of its uncoupling pin, said pivot pin having an annular groove, and a locking pin removably seated in said vertical hole, as hereinbefore set forth.

No. 37,217. Wheel for Vehicles.

(Roue pour voitures.)

Henry R. Bothwell, Newmarket, Ontario, Canada, 27th August, 1891; 5 years.

Claim.—1st. A vehicle wheel, consisting of an axle box provided at each end with a cone shaped bearing box, and hubs to receive the inner ends of the spokes, in combination with an axle provided with cone shaped bearings on which run the cone shaped boxes of the vehicle wheel, substantially as described. 2nd. A vehicle wheel, consisting of an axle box provided at each end with a hub fitted with a coned bearing box to run on the coned bearings on the axle, in combination with an axle fitted with coned bearings, the spokes and felloe wheel, substantially as described. 3rd. A vehicle wheel, consisting of an axle box, each end of which is provided with coned bearing boxes to run on the coned bearings of the axle, a removable hub to receive the spokes of the wheel, in combination with an axle fitted with coned bearings to correspond to the coned bearing boxes of the axle box and hub, the spoke and felloe wheel, substantially

as described. 4th. A vehicle wheel, consisting of an axle box having a bead near each end, a removable washer tightly fitting the axle box on the outer side of each bead, a hub provided with the requisite number of apertures to receive the spokes fitted on the outer side of said washer, a separable coned bearing box fitted into each of said hubs and on each end of said axle box to turn on coned bearings formed on the axle, in combination with the vehicle axle fitted with coned bearings to correspond to the cone bearing boxes of the hubs, the spokes and felloe, substantially as described. 5th. A vehicle wheel, consisting of an axle box provided at each end with a separable coned bearing removable hubs, spokes secured in said hubs, and felloe, an axle fitted with coned bearings to correspond to the coned bearing boxes in the axle box and hubs, substantially as described. 6th. A vehicle wheel, consisting of an axle box provided at each end with a separable coned bearing box and removable hub to receive the spokes of the wheel, the coned bearing box on the inner end of the axle box running on a coned jam collar on the axle of the vehicle, and the outer coned bearing boxes running on a coned nut on the end of the axle, substantially as described. 7th. A vehicle wheel, consisting of an axle box provided with a beading near its end, a washer forced on the axle box on the outer side of the bead, a hub provided with the requisite number of apertures to receive the spokes forced on the washer, a separable coned bearing box located in each hub, the flange of which presses against the annular flange in the hub holding said hubs in place, the axle fitted on its end with a coned nut on which runs the outer coned bearing box, a coned jam collar on which turns the inner coned bearing box, said nut and jam collar rigidly holding the several pieces of the hub together, substantially as described. 8th. A vehicle wheel, consisting of an axle box provided with a beading near its end, a washer forced on the axle box on the outer side of the bead, a hub provided with the requisite number of apertures to receive the spokes forced on the washer, a separable coned bearing box located in each hub, the flange of which presses against the annular flange in the hub holding said hubs in place, the axle fitted on its end with a coned nut on which runs the outer coned bearing box, a coned jam collar on which turns the inner coned bearing box, said nut and jam collar rigidly holding the several pieces of the hub together, and a split pin passing through said jam collar and axle, substantially as described.

No. 37,218. Device for Converting Motion.

(*Appareil pour convertir le mouvement.*)

Frederick Henry Laforge, Waterbury, Connecticut, and Hugh Joseph Baker, Philadelphia, Pennsylvania, both in U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In a combined yoke and crank for converting reciprocating into rotary motion, or *vice versa*, the yoke composed of two parallel guides at substantially right angles to the line of reciprocating movement, combined with a crank block arranged between said guides, and so as to slide therein under the rotation of the crank, the said guides yieldingly connected and so as to bear with yielding pressure upon the opposite sides of said block, substantially as described. 2nd. In a combined yoke and crank for converting reciprocating into rotary motion, or *vice versa*, the combination of two guides C, D, the said guides being parallel, studs E, E, connecting said guides but passing freely through one of said guides, with springs between said studs, and the guides tending to yieldingly force the guides toward each other, with a crank block arranged between said guides and adapted to slide therein under the rotation of the crank, substantially as described.

No. 37,219. Device for Converting Motion.

(*Appareil pour convertir le mouvement.*)

Frederick Henry Laforge, Waterbury, Connecticut, and Hugh Joseph Baker, Philadelphia, Pennsylvania, both in U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In a steam engine, substantially such as described and in which the pistons have a reciprocating movement imparted to them, and also an oscillatory movement, a yoke attached to the pistons and so as to reciprocate therewith, the plane of the yoke being at right angles to the plane of reciprocation, combined with a crank pin block arranged to slide in said yoke in a plane at right angles to said path of reciprocation, the face of the said yoke constructed with a cam shaped groove, and the crank block provided with a stud adapted to work in the said groove, a block in said groove and around said stud, the said block consisting of two parts, the one part constructed with a seat upon one side of said stud, and the other part with an elastic seat upon the opposite side of said stud, the said two parts adapted to yieldingly bear against the respective sides of said groove under the force of the said elastic seat upon the said stud, substantially as described. 2nd. In a yoke constructed with a cam shaped slot or groove, and having a stud arranged to reciprocate in said groove, whereby the reciprocating movement of one part is converted into rotative movement of the other part, or *vice versa*, the combination therewith, of a block in said groove and around said stud, the said block consisting of two parts, the one part constructed with a seat upon one side of said stud and the other part with an elastic seat upon the other side of said stud, the said two parts adapted to yieldingly bear against the respective sides of said groove under the force of the said elastic seat upon the said stud, substantially as described.

No. 37,220. Toy. (*Jouet.*)

Arthur E. Paige, Philadelphia, Pennsylvania, U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In combination, an inclosure containing a diaphragm which separates said inclosure into compartments at different levels, said diaphragm being provided with an aperture so proportioned as to permit of the free passage from one compartment to another, of a movable body contained within said inclosure, substantially as set forth. 2nd. In combination, an inclosure having a transparent side, or top, a diaphragm which separates said inclosure into compartments at different levels, an aperture in said diaphragm, and a movable body, substantially as set forth 3rd. In combination, an inclosure having a transparent side, or top, and a semi-transparent diaphragm which separates said inclosure into compartments at different levels, an aperture in said diaphragm, and a movable body, substantially as set forth.

No. 37,221. Reciprocating Grate.

(*Grille à mouvement reciproque.*)

Henry Stanton Williams, Boston, Massachusetts, U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In a grate, the combination, with movable grate bars, of the anti-friction rollers, each extending across the grate and loosely mounted on suitable supports or hangers so as to roll thereon in both directions, said rollers being provided with flanges for holding and guiding the grate bars, substantially as described. 2nd. The combination, with the hangers or stationary supports of the anti-friction rollers in the form of solid castings, each extending across the grate, having annular flanges at suitable intervals, and resting loosely upon said hangers, the edges of the latter lying in recesses between said flanges and the grate bars, each resting loosely in recesses in said rollers, substantially as described. 3rd. The combination of the hangers, the headers loosely held in recesses in said hangers and having transverse webs or projections, and the grate bars adapted to reciprocate alongside of said webs or projections, and to strike and rock the headers at each reciprocation, substantially as described. 4th. The combination, with a series of grate bars, all of the same pattern and reversible and interchangeable, said bars being provided with a deep notch in the middle thereof, of the hangers and oscillating rocker bar embraced by the recesses in said bars and resting in notches in the middle of said hangers, said rocker having projections alternately above and below its axis of oscillation for reciprocating the grate bars so that adjacent bars will move in opposite direction, substantially as described. 5th. The combination of the hangers, the anti-friction rollers provided with flanges at regular intervals, the grate bars, the headers, and the rocker bar, the hangers being fixed and the other specified parts being loosely mounted and movable, substantially as described.

No. 37,222. Folding Chair. (*Chaise pliante.*)

Marshall Pearson Rush, Orillia, Ontario, Canada, 17th August, 1891; 5 years.

Claim.—The combination of the frame A, forming integrally the back of the chair seat support and front legs, the frame B, having straight side bars provided with a straight groove *d*, and a connecting bar *c*, at top pivoted to said frame A, and the seat D, having rear extensions pivoted to frame B, to slide in the grooves *d*, said seat supported forwardly by the bar *b*, of frame A, to fold as set forth.

No. 37,223. Car Coupler and Buffer.

(*Attelage de chars et tampon.*

Clarence Z. Hubbell, Chicago, Illinois, U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In a car coupler and buffer, an oscillating yoke for equalizing the strain of parallel draw-bar and buffer combined, with spring for resting the tension of the said draw-bar and buffer, substantially as and for the purpose set forth. 2nd. In a car coupler and buffer, the combination of an oscillating yoke centrally supported and controlled by spring, with an angle arm pivoted to the timbers of a car, and draw-bar uniting two cars, all substantially as and for the purpose set forth. 3rd. In a car coupler and buffer, the combination of a yoke centrally supported with the ends held in sockets admitting of oscillation, and an angle arm connected with the said yoke, and a draw-bar for the purpose of equalizing the tension on the said draw-bar, all substantially as and for the purpose set forth.

No. 37,224. Masher for Vegetables.

(*Pilon pour végétaux.*)

Kate Freeman Taylor, Smethport, Pennsylvania. U.S.A., 27th August, 1891; 5 years.

Claim.—1st. A vegetable masher, comprising a cylindrical body having a sieve in its bottom, and a cross bar at the top, a handled rod extending downward through the cross bar and having its lower end held in a suitable support, a blade secured to the rod and adapted to press upon the sieve, said blade having its ends oppositely inclined, and rods arranged at right angles to the blade and adapted to press upon the sieve, substantially as described. 2nd. In a vegetable masher, the combination, with a cylindrical vessel having a sieve in its bottom, of a handle rod mounted in the vessel, a blade secured to the lower end of the rod and inclined in opposite directions on each side of said rod, and rods projecting at right angles from the lower portion of the blade, extending nearly to the side of the vessel and then doubled upon themselves and secured to the upper portion of the blade, substantially as described. 3rd. In a vegetable masher, the combination, with a vessel having a sieve in its bottom, of a support below the sieve, provided with arms extending to the vessel, a cross bar at the top of the vessel, a handle rod mounted in said bar and support, and radially-extending rubbers secured to the lower end of the handle rod, substantially as shown and described.

No. 37,225. Valve. (*Soupape.*)

Cofran I. Hall, San Francisco, California, U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In an hydraulicelevator, an oscillating valve arranged with hinged plates covering both inlet and outlet ports when the valve is in its neutral or central position, and when in use permitting a flow in one direction, only, substantially in the manner and for the purposes herein set forth. 2nd. In a combined stop and check valve arranged with a cylindrical bore, the ports O^1, and O^2, and plates V, V, covering both ports when the valve is in its central or neutral position, constituting in that position a stop valve closed to the flow in either direction, substantially in the manner and for the purposes described. 3rd. In a combined stop and check valve, the cylindrical case N, provided with nozzles and ports O^1, and O^2, an oscillating stem S, and plates V, V, the latter hinged to the stem S, so as to prevent a back flow when either port is opened, and acting as a check valve for the opposite port, substantially as herein described and for objects set forth. 4th. In a combined stop and check valve, the cylindrical case N, provided with nozzles and ports O^1, and O^2, an oscillating stem S, hinged plates V, V, the latter so arranged as to close automatically over either port when the other is opened without movement of the stem S, and independent of the external actuating gearing, substantially in the manner described and for the purposes specified. 5th. In a combined stop and check valve, an oscillating stem S, hinged plates V, V, arranged in a cylindrical casing N, provided with ports O^1, and O^2, and end covering plates P, held by through belts Q, so the stem S, and plates V, V, can be readily removed from either end, substantially as herein shown and for the purposes specified.

No. 37,226. Rotary Knitting Machine.

(*Machine à tricoter rotative.*)

Joseph Emory Gearhart, Clearfield, Pennsylvania, U.S.A., 27th August, 1891; 5 years.

Claim.—1st. The combination of the grooved cylinder provided with teeth upon its lower end, an operating shaft provided with a crank, a vertically moving slide, and a pivoted toothed plate connected to the slide and which is given a lateral movement by the inner cranked end of the shaft to cause the cylinder to revolve. 2nd. The combination of a vertically moving slide provided with a projection at its upper end, and a horizontal plate below the projection, the cylinder, the needles, mechanism for raising and lowering the slide which operates the needles, and means for revolving the cylinder, substantially as described. 3rd. The combination of a revolving cylinder in a circular knitting machine, with a spiral spring and hooks connected thereto at its upper end for engaging with the work, the lower end of the spring being turned inward to receive a weight, substantially as set forth. 4th. The grooved cylinder having teeth formed upon its lower outer edge, substantially as specified. 5th. A tension device consisting of the perforated bent plate, and the spring which is secured to the plate at one end, and has a movement at its other, substantially as described. 6th. The combination of the hooked circular plate, with the spring which is secured inside thereof, and which has one of its ends turned inward so as to receive the weight, substantially as set forth. 7th. The combination of the standard, the sliding slotted plate, the crank shaft, the plates for raising and depressing the needles, and the pivoted toothed plate for causing the cylinder to revolve, substantially as specified. 8th. The combination of a suitable frame work, a grooved cylinder having teeth formed upon its lower end, an operating shaft and a pivoted toothed plate which is operated by the shaft and which has both a vertical and a lateral movement for causing the cylinder to revolve, substantially as described.

No. 37,227. Machine for Rubbing and Polishing Paint and Varnish.

(*Appareil pour frotter et polir la peinture et le vernis.*)

Francis Harrington and Isaac Hutchins, both of South Bend, Indiana, U.S.A., 27th August, 1891; 5 years.

Claim.—1st. In a paint and varnish rubbing and polishing machine, a bracket provided with parallel shafts having removable extensions e, e^1, to said shafts, whereof one of said extensions is a flexible, and the other a vertically adjustable shaft, and each provided with a chuck, in combination with trucks g, g^1, to move on tracks h, h^1, crossing each other, substantially as specified. 2nd. In a paint and varnish rubbing and polishing device, a bracket provided with parallel vertical shafts, whereof one is vertically adjustable by a lever, and the other provided with a flexible shaft, and each provided with a chuck, in combination with trucks g, g^1, adapted to move on rails h, h^1, crossing each other, substantially as specified.

No. 37,228. Combined Steam Engine and Thresher. (*Machine à vapeur et à battre combinées.*)

Robert Day Scott, (assignee of Ephraim Howland), both of Pontiac, Michigan, U.S.A., 28th August, 1891; 5 years.

Claim.—1st. The combination, with a working shaft geared by belts with the drive shaft of an engine, of a steam governor geared with the said working shaft, substantially as described. 2nd. The combination, with a portable machine mounted upon one truck and a portable boiler mounted upon another truck, of an engine mounted upon the machine and engaged with and adapted to drive its working shaft, and a flexible steam conduit connecting the steam boiler with said engine whereby steam is led thereto, substantially as and for the purposes described. 3rd. The combination, with a portable machine mounted upon a truck, of a steam boiler mounted upon an independent truck, a steam engine mounted upon the machine and having its drive shaft engaged with and adapted to operate the working shaft of the machine, a flexible steam conduit uniting the boiler with the said engine, and a steam governor located upon the machine and geared directly with its working shaft, substantially as described. 4th. The combination, with a threshing machine of an engine mounted thereon, adapted to actuate its threshing cylinder, a steam boiler mounted on an independent truck with a steam hose leading therefrom to the said engine, and traction mechanism upon the machine adapted to be engaged or disengaged at will with the said engine, substantially as described.

No. 37,229. Portable Steam Boiler.

(*Chaudière à vapeur portative.*)

Robert Day Scott, (assignee of Ephraim Howland), both of Pontiac, Michigan, U.S.A., 28th August, 1891; 5 years.

Claim.—1st. The combination, with a truck of a steam boiler sustained upon said truck by universal suspension supports, whereby the boiler is enabled to maintain always a vertical position, substantially as described. 2nd. The combination, with a wheeled vehicle or truck of a steam boiler journalled to a supporting ring or frame, and the latter journaled at right angles to the boiler journals in bearings upon the said truck, substantially as and for the purposes described.

No. 37,230. Combined Boiler, Thresher, and Interchangeable Engine.

(*Chaudière à vapeur, machine à battre et machine échangeable combinées.*)

Robert Day Scott, (assignee of Ephraim Howland), both of Pontiac, Michigan, U.S.A., 28th August, 1891; 5 years.

Claim.—1st. The combination, with a threshing machine or separator, of a steam engine located thereon, and a portable steam boiler adapted to supply steam to said engine through a connecting conduit, said steam engine and boiler constructed with relation to each other and to the machine, that the engine may be transferred at will from the machine to the boiler, and *vice versa*, substantially as described. 2nd. The combination, with a portable steam boiler and threshing machine or separator, of a steam engine and drive shaft provided with fittings whereby it may be readily connected with the threshing machine, and also provided with fittings whereby it may be readily connected with the steam boiler, substantially as described.

No. 37,231. Machine for Bending Horse-Shoe Blanks. (*Machine à plier les ébauches des fers à cheval.*)

John Douglas Billings, New York, George Jacob Washington Kirk, Philadelphia, and Abraham Heckman Rothermel, Reading, both in Pennsylvania, all in U.S.A., 24th August, 1891; 15 years.

Claim.—1st. A machine for forming blank horse shoe bars into shoe shapes, consisting of a raised, cast iron bed or table plate laying or resting in an horizontal position, provided with an aperture or space U, whereby and through which the shoe after being formed from the blank shoe bar into shoe shape drops, and is released by its own weight for the purpose and substantially as described. 2nd. A raised cast iron bed or table plate resting in an horizontal position, provided with an "aperture or space" through which the shoe after being formed is released, the ways O, O, together with the punch die P, and rod beam N, for the purpose and substantially as described. 3rd. A raised cast iron bed or table plate resting in an horizontal position, provided with an aperture or space through which the shoe after being formed is released, the ways O, O, together with the punch die rod beam N, the gauges V, V, and rollers w, w, together with the adjustable spring c, c, for the purpose and substantially as described. 4th. A raised cast iron bed or table plate resting in an horizontal position, provided with an "aperture or space" through which the shoe after being formed is released, the ways O, O, together with the punch die P, rod beam N, the gauges V, V, and rolls w, w, the adjustable spring c, c, in combination with the jaw dies C, C, the pulley H, pulleys B, and S, cams G, and T, clutch M, and I, clutch bar J, and K, clutch brace L, and cutter X, for the purpose and substantially as described.

No. 37,232. Folding Chair. (*Chaise pliante.*)

Lemuel Andrus Chichester, Phoenicia, New York, U.S.A., 28th August, 1891; 5 years.

Claim.—In a cross-leg folding-chair, the legs being pivoted at the crossing, the combination therewith, of a link hung by one end to one of said legs and so as to swing in the plane of the legs, the link constructed with a slot, a pivot on the other leg working in said slot, said slot running from the said pivot so working therein oblique to a line drawn between the two pivots, substantially as described.

No. 37,233. Omnibus. (*Omnibus.*)

William Alexander Russell and Albert W. Brickwood, both of Chicago, Illinois, U.S.A., 28th August, 1891; 5 years.

Claim.—1st. A car-omnibus body having longitudinal seats f, cross-seats g, and longitudinal seats i, substantially as specified. 2nd. The combination, with low forward wheels B, and rear wheels J, of a car body having curved panels a, at its forward end, and longitudinal seats over said panel a, cross-seats g, between the forward and rear wheels, and longitudinal seats i, between the rear wheels, substantially as specified. 3rd. The combination, with low forward wheels B, and rear wheels J, of the car body having longitudinal seats at its front and rear ends, and long cross-seats g, extending the entire width of the body between the wheels, substanti-

ally as specified. 4th. The combination, with low forward carrying wheels B, and rear wheels J, of a car body having panels *a*, longitudinal seats *f*, over the panel *a*, cross-seats *g*, entrance spaces *h*, *h*, at the sides of the car in front of the forward cross seats *g*, longitudinal seats *i*, between the rear wheels and platform *j*, in rear of the body A, substantially as specified. 5th. In a car-omnibus, a sliding door, in combination with the body A, having an enclosing partition open at the bottom for the passage of the door partly out of the body, and preventing clogging at the bottom, substantially as specified. 6th. In a car-omnibus, the combination of a body A, having lower inwardly curved panels *a*, the front bent axle C, the small wheels B, located in rear of the front end of the body, low down hounds F, the flat springs D, attached to the hounds and turning therewith, a fifth wheel and a tongue G, secured to the forward end of the hounds, substantially as and for the purpose specified. 7th. In a car-omnibus, the combination, with the body A, having curved panels *a*, of low front wheels B, bent axle C, flat springs D, low down hounds F, a fifth wheel circle tongue G, rear wheels J, and bent axle K, substantially as specified. 8th. In a car-omnibus, the combination of the body A, having lower inwardly curved panels *a*, the front bent axle C, the small front wheels B, located in rear of the front end of the body, the low down hounds F, the flat springs D, attached to the hounds and turning therewith, the fifth wheel E, a circle, the tongue G, secured between the forward ends of the hounds and bent upward at about the point of the attachment of the double-tree, the foot-board I, having horizontal portions *b*, and upward curved portion *c*, a double-tree H, attached to the hounds beneath the curved portion *c*, of the foot-board, substantially as described. 9th. In a car-omnibus, the combination, with the body A, having lower inwardly curved panels *a*, the front and rear bent axles C, K, small front wheels B, large rear wheels J, flat springs D, footboard I, having upwardly curved front portions *c*, low down hounds F, having the double-tree H, attached thereto beneath the curved portion of the foot-board and the rear platform *j*, having side steps *k*, substantially as described.

No. 37,234. Saw Gummer. (*Eviduer des scies.*)

James Burnside Baird and John Holloran, both of Noblesville, and Joseph Walter Littler, Indianapolis, all in Indiana, U.S.A., 28th August, 1891; 5 years.

Claim.—1st. The combination, in a saw gummer, of the main frame or casting having barrels in which the cutting tool is placed, and said cutting tool provided with collars or enlarged portions at both ends which fit closely within said barrels, whereby said cutting tool is rigidly supported, substantially as set forth. 2nd. The combination, in a saw gummer, of the main frame or casting, the cutting tool, a screw-shaft for driving said cutting tool, a chamber in the frame having an interior cam formation, and a nut composed of two parts and similarly formed and thereby adapted to clamp or release said screw-shaft, substantially as set forth. 3rd. The combination, in a saw gummer, of the main frame or casting, the cutting tool, a screw-shaft for driving said cutting tool, a cam-chamber in the frame surrounding said screw-shaft, a parted nut located within said chamber, of a cam formation on the exterior, and pins or thumb-pieces extending through slots, whereby it may be operated, substantially as set forth. 4th. The combination, in a saw gummer, of the main frame or casting, the cutting tool, a screw-shaft for driving said cutting tool, a cam-chamber in the frame surrounding said screw-shaft, a parted nut located within said chamber of a cam formation on the exterior pins or thumb-pieces extending through slots, whereby it may be operated, and a spring adapted to engage with and separate the halves of the nut when released. 5th. The combination, in a saw gummer, of a main frame or casting having barrels in which the cutting tool and its driving shaft are placed and said cutting tool and shaft that bearing into which the cutting tool travels as the gumming progresses, having an opening or slit through its side through which the chips formed by the tool in operation are discharged, substantially as set forth.

No. 37,235. Rotary Plow. (*Charrue rotative.*)

Joseph Drader, (assignee of Andrew Bean McKay), both of London, Ontario, Canada, 28th August, 1891; 5 years.

Claim.—1st. The plow spindle C, journaled at its outer end in a bearing formed on a bracket rigidly secured to a board supported above the said spindle, in combination with a diagonal brace pivoted at one end on the bracket, and at its other end on a block adjustably held upon the tongue of the machine, substantially as and for the purpose specified. 2nd. A semi-elliptical spring, the ends of which rest on the top of the boards connected to the spindles of the machine, in combination with a lever pivoted on the seat-standard and arranged to compress the said semi-elliptical spring for the purpose of directing pressure on the plow, substantially as and for the purpose specified. 3rd. A ferrule fitted onto the plow-spindle and having teats to project through holes made through the curved plow-blade, and into holes formed in the face of a ferrule located on the opposite side of the said plow-blade, substantially as and for the purpose specified. 4th. A ring pivoted on a fixed bracket and held between two washers curved to fit the contour of the ring within which they fit, the said washers being connected to the plow-spindle and to each other, substantially as and for the purpose specified. 5th. A block F, grooved to fit on to the plate N, and fixed to the tongue E, the diagonal braces D, each pivoted at one end to the block F, and each pivoted at its other end to the outer bracket of each plow-spindle, in combination with the hand-lever O, link P, and notched quadrant Q, substantially as and for the purpose specified. 6th. A semi-elliptical spring, the ends of which are connected to the top of the board B, between plates S, and S', in combination with a lever pivoted on the seat-standard, in such a manner that it may depress or elevate the ends of the said semi-elliptical spring, substantially as and for the purpose specified. 7th. A semi-elliptical spring, the ends of which are connected to the top of the board B, between plates S, and S', in combination with a lever pivoted on the vertically-adjustable seat-standard in such a manner that it may depress or elevate the ends of the said semi-elliptical spring, substantially as and for the purpose specified. 8th. A series of scrapers located one between each pair of blades, and supported on a rod located above the said blades, substantially as and for the purpose specified.

No. 37,236. Machine for Cutting Nails.

(*Appareil pour couper le clou.*)

Sir Donald Alexander Smith, assignee of Edwin H. Bissett, both of Montreal, Quebec, Canada, 28th August, 1891; 5 years.

Claim.—1st. The combination with the nipper bar 23, provided with an arm G, the shaft 25, journaled to the front of the main frame I, and carrying a cam wheel 24, and the reacting spring H, to reciprocate said nipper bar, as set forth. 2nd. The combination of the feed carriage 37, having geared feed rollers 46, provided with sprocket wheels 48, and the shaft 25, journaled to the front of the main frame I, and carrying a two-arm wiper 51, to intermittently feed the nail plate 52 to the knife, as set forth. 3rd. The combination of the feed carriage 37, provided underneath with anti-friction rollers N, and the shaft 25, journaled to the front of the main frame I, and carrying a wabble wheel 42, rotating between said rollers to oscillate the feed carriage, as set forth. 4th. The combination of the supplementary shaft 34, geared to the main driving shaft 2, said shaft 34, carrying cams 33, the side levers 31, 32, resting near one end on one of said cams, and pivoted near the opposite end to the main frame I, the links 30, respectively bearing endwise on said levers, and the heading blocks 28, 29, pivoted to the main frame and tilting by the movement of said levers to operate the heading dies 26, 27, alternately, as set forth. 5th. The combination of the feed carriage 37, pivoted near the inner end to the anvil block 15, and having two pairs of geared rollers 46, one roller provided with a sprocket wheel 50, to operate the feed gear, and the shaft 25, journaled to the main frame I, in front said shaft carrying a wabble wheel 42, and wiper 51, for oscillating the feed carriage and driving the feed gear, as set forth.

No. 37,237. Manufacture of Soda and Potash. (*Fabrication de la soute et de la potasse.*)

Soda Improvement Company, London, assignees of Francis Ellershausen, Hebburn-on-Tyne, both in England, 28th August, 1891; 5 years.

Claim.—1st. The described process for the manufacture of caustic soda, and potash, from their respective sulphides, such process consisting in passing solutions of such sulphides through a bed of ferrate in a granular condition, the spent ferrate being subsequently treated to obtain valuable bi-products and to reconvert the same into peroxide of iron, substantially as described. 2nd. The described process for the manufacture of caustic soda and potash, from their respective sulphides, by the use of ferrate, substantially as hereinbefore described. 3rd. In the process for the manufacture of caustic soda and potash from their respective sulphides by the use of ferrate, the ferrate in a granular form, substantially as described. 4th. The process for the manufacture of caustic soda and potash from their respective sulphides, such process consisting in treating a solution of the sulphide by means of a filter-bed composed of granulated ferrate, substantially as described. 5th. In the described process for the manufacture of caustic soda and potash from their sulphides, roasting the spent ferrate, and, after lixiviating it, concentrating the solution, substantially as and for the purposes described. 6th. In the described process for the manufacture of caustic soda and potash from their sulphides, treating the spent ferrate by exposing it to the action of atmospheric air, and, after lixiviating it, concentrating the solution, substantially as and for the purposes described.

No. 37,238. Set Works for Saw Mills.

(*Déclic de chariot de scierie.*)

The Edward P. Allis Company, assignees of Edwin Reynolds, Alton J. Shaw and William H. Trout, all of Milwaukee, Wisconsin, U.S.A., 28th August, 1891; 5 years.

Claim.—1st. In combination, with a saw mill carriage and the knees thereof, mechanism mounted upon the carriage for advancing or receding, or advancing and receding the knees, and a cable or other wrapping connection for imparting the necessary motion to the mechanism mounted upon the carriage, substantially as shown and described. 2nd. In combination with a saw mill carriage and the knees thereof, a power mechanism for advancing the knees, and an automatically-operated device to throw the operative mechanism out of action when the knees have been moved forward a predetermined distance. 3rd. In combination, with a saw mill carriage and the knees thereof, a power mechanism for advancing the knees, a variable or adjustable device for determining the distance the knees may advance, and means, substantially such as shown, for automatically throwing the power mechanism out of action when the limit of advance has been reached. 4th. In combination, with a saw mill carriage and its knees, a setting mechanism for advancing the knees, a scale or indicator for determining the distance the knees may advance at each operation of the setting mechanism, and a second scale or indicator which shall indicate the total advance of the knee, all substantially as shown. 5th. In combination, with a saw mill carriage and its knees, mechanism for advancing the knees, and an indicator receiving motion from the setting mechanism and indicating the total advance of the knees. 6th. In combination, with a saw mill carriage and its knees, a setting mechanism for the knees, a lever for throwing the setting mechanism into and out of action, and a device (such as *l*) forming part of the setting mechanism and serving to actuate the lever and thereby automatically throw the setting mechanism out of action. 7th. In

combination, with a saw mill carriage, a power setting and receding mechanism, a hand lever for throwing the setting mechanism into and out of action, and a hand lever for throwing the receding mechanism into and out of action. 8th. In combination, with a saw mill carriage and its knees, a set shaft for advancing the knees, and an index plate or band geared to the set shaft and having a definite relation to the advance of the knees, the said index being graduated to express that relation, substantially as shown and described. 9th. In combination, with a saw mill carriage and its knees, a set shaft for advancing the latter, and an adjustable stop arranged substantially as shown to automatically throw the set shaft out of action when the knees have been advanced a predetermined distance. 10th. In combination, with a saw mill carriage and its knees, a set shaft, a power mechanism for imparting motion thereto, and a stop for automatically disconnecting the power mechanism and set shaft. 11th. In combination, with a traveling saw mill carriage, a setting mechanism carried thereby, a continuously rotating power mechanism also mounted upon the carriage, intermediate connections, substantially such as shown and described, between the two mechanisms, and a cable or other flexible connection arranged, substantially as shown for imparting motion to the power mechanism. 12th. In combination, with a saw mill carriage having knees, and a set shaft and connections between the knees and shaft, a worm-wheel D, secured to the shaft, a hinged or pivoted frame G, carrying a continuously rotating worm E, and means for raising and lowering the frame. 13th. In combination, with a saw mill carriage having knees, and a set shaft and connections between the knees and shaft, a worm-wheel D, secured to the shaft, a hinged or pivoted frame G, carrying a continuously rotating worm E, a cross-head q^1, provided with slots o^1, p^1, s^1, a shaft X, provided with a lug d, and a hand lever W, secured to the shaft. 14th. In combination, with a saw mill carriage, its knees and set shaft, a worm-wheel D, secured to the shaft, a counter balanced frame G, provided with a worm E, and means for raising and lowering the frame. 15th. In combination, with a saw mill carriage and its set shaft, and knees, a wheel D^1, provided with a series of holes or openings h, an arm F^1, a pin adapted to lock the arm to the wheel, a fixed scale j, and gearing for imparting motion to the wheel D^1. 16th. In combination, with a saw mill carriage and its set shaft, and knees, a wheel D^1, provided with openings h^1, an arm F^1, provided with a pin, a fixed scale j, gearing for imparting motion to the set shaft and from the set shaft to the wheel D^1, and a lever as W, in the path of the pin, all combined, substantially as and for the purpose set forth. 17th. In combination, with a saw mill carriage and its set shaft and knees, a wheel D^1, provided with holes h, an arm F^1, provided with a pin, a fixed scale j, mounted upon the face of the wheel, an indicator ring E^1, monnted upon the rim of the wheel, a pointer t, carried by scale j, gearing for imparting motion to the set shaft and from the set shaft to the wheel D^1, and ring E^1, and a lever arranged in the path of the pin and serving to connect and disconnect the set shaft from its operating gear. 18th. In combination, with a saw mill carriage and its set shaft and knees, mechanism for imparting motion to the shaft, a wheel D^1, geared to the shaft and provided with holes h, an arm F^1, provided with a pin, a cross-head q^1, carrying a part of the mechanism, a shaft X, connected with the cross-head and provided with a hub m, and a lever W, pivoted to the hub in the path of the pin. 19th. In combination, with shaft C, and pinions c, d, wheel D^1, provided with hub e, and holes h, pinion q, secured to the hub, a shaft r, provided with pinions q, and s, and a band E^1, applied to the wheel D^1, all substantially as shown. 20th. In combination, with a saw mill carriage and its set shaft, a worm-wheel D, carried by the shaft, a hinged frame provided with a shaft F, having a worm E, and pinion H, a shaft J, provided with a gear I, and a sheave L, and a cable M, passing over the sheave. 21st. In combination, with a saw mill carriage and its set shaft C, a shaft J, intermediate connections between the shafts C, and J, a bevel-wheel S, secured to the shaft C, a shaft Q, provided with a bevel gear to engage the wheel S, sheaves L, and O, secured respectively to the shafts J, and Q, a cable passing about the sheaves, and means, substantially as shown, for throwing either of the shafts J, and Q, into gear with the set shaft. 22nd. In combination, with a saw mill carriage and its set shaft, a shaft I, provided with a sheave L, intermediate connections between the shafts for rotating the shaft C, in one direction, a shaft Q, provided with a sheave O, intermediate connections between the shafts Q and C, whereby the direction of rotation of shaft C may be reversed, and a cable passing about the sheaves L, O. 23rd. A saw mill carriage provided with an extension A^1, on that face away from the saw. 24th. In combination, with a saw mill carriage and the setting mechanisms mounted thereon, sheaves N, L, O, forming a part of the mechanism sheaves V, V^1, fixed in position near the floor, sheaves m^1, n^1, located below the floor, and a cable M, passing about the sheaves. 25th. In combination, with a head block, its knee and operating screw, a guard or plate i^1, covering the screw. 26th. In combination, with a head-block, a knee d^1, provided with a slot h^1, a plate i^1, passing through the slot, and a screw g^1, engaging the knee and located below the plate. 27th. In combination, with a head-block, a screw journaled therein, a knee provided with a perforated lug, and a threaded collar carried by the lug to receive the screw.

No. 37,239. Combination Lock.

(*Serrure à combinaison.*)

Alfred C. Lawrence, Toronto, and Edward J. Wheeler, Port Perry, both in Ontario, Canada, 31st August, 1891; 5 years.

Claim.—1st. A lock, consisting of a series of circular tumblers, each provided with a slot, a locking bolt provided with stops to enter the slots in said tumblers, means for bringing the slots in said tumblers into alignment, and indicating when said slots are in alignment spaces formed on the periphery of said tumblers into which engages the double-acting pawl, substantially as described. 2nd. A lock, consisting of a series of circular tumblers, each of which is provided with a number of notches around its periphery, a slot extending from the periphery inward towards the hub, locking bolt provided with a series of stops to engage with the slots in said tumblers, a double acting pawl engaging with the notches on the periphery of said tumblers, means for setting the tumblers to different combinations, and means for bringing the slots in said tumblers in alignment so that the locking bolt can be thrown backward, substantially as described. 3rd. A lock, consisting of a series of tumblers having formed on their periphery a series of notches, and a slot extending from the periphery inward towards the hub, a stop on one of the side faces running in the circular guide way formed in the adjacent side face of regestering plate, a registering plate having formed in it a circular guide way in which is located a stop with which the stop on the tumbler comes in contact, a double acting pawl to engage with the notches on the edge of said tumblers, a locking bolt provided with a series of stops to engage with the slots in said tumblers, means for bringing said slots into alignment and indicating the fact, and means for throwing the locking bolt backward, substantially as described. 4th. A lock, consisting of a series of tumblers, each of which has formed on its periphery a series of spaces, and a slot extending from said periphery inward towards the hub, a pawl engaging with spaces on the periphery of said tumblers to hold the tumblers while in their closed position, and to indicate by sound the distance each tumbler has been turned, a stop on one of the side faces of each of said tumblers, a registering plate having a circular guide way, the side face adjacent to said tumbler in which moves the stop on said tumbler, a stop in said guide way with which the stop on said tumbler comes in contact, a locking bolt provided with a series of stops which engages with the slots of said tumblers, means for setting said tumblers to different combinations and turning the slots into alignment, and means for throwing the locking bolt backward when said slots are in alignment, substantially as described. 5th. A lock, consisting of a series of tumblers, each of which has formed on its periphery a series of spaces with which engages a double acting pawl, a slot extending from the periphery inward towards the hub, a locking bolt provided with a series of stops to engage with the slots of said tumblers, a latch of said locking bolt operated from the inside independent of the operation of said locking bolt, substantially as described. 6th. A lock, consisting of a series of circular tumblers, each of which has formed on its periphery a series of notches, and a slot extending inward from the periphery, means for setting the tumblers to different combinations, and means for bringing the slots of said tumblers into alignment, and indicating the fact by sound, a locking bolt provided with a series of stops which engage with the slots of said tumblers, means for operating the locking bolt, and means for locking the tumblers into a closed or open position, substantially as described. 7th. In a lock, in combination with tumblers, a double acting pawl consisting of a U-shaped arm pivoted at one end to some convenient portion of the casing, and provided on the inner side of the elbow with a notch which engages with a notch formed on the pivot end of the pawl, the outer end of said pawl engaging with a series of notches formed on the periphery of said tumblers, substantially as described. 8th. In a lock, the combination of a tumbler having formed on its edges a series of notches, and a slot extending from the periphery inward towards the hub, a stop on one of the side faces of said tumbler, a registering plate journaled on the same spindle as said tumbler is journaled on, and having formed on its side face adjacent to said tumbler a guide way in which works said stop on the side face of said tumbler, a stop in said guide way with which the stop of said tumbler comes in contact, a dial on the outer face of said registering plate, and means for locking said registering plate into any adjusted position, substantially as described. 9th. In a lock, a series of circular shaped tumblers, each of which has formed on its periphery a suitable number of notches, and a slot extending from the periphery inward towards the hub, a stop formed on one of its side faces engaging in a circular guide way formed on the side face of the registering plate adjacent to said tumblers, a stop in said guide way with which a stop on said tumbler comes in contact, said registering plate and tumbler journaled on the same spindle, the tumbler rigidly fastened to the spindle and the registering plate loosely journaled thereon, a dial on the outer side of said registering plate, a series of notches on the periphery of said registering plates, said notches of equal pitch and corresponding in number with the number of numerals on said dial, and means for setting said registering plates to any desired combination, and means for bringing the slots in the tumblers into alignment and announcing by sound that fact, a locking bolt provided with a series of stops to engage with the slots of said tumbler when said slots are in alignment, and suitable means for throwing said locking bolt backward, substantially as described. 10th. A lock, consisting of a series of tumblers circular in form, each of which has formed on its periphery a suitable number of notches, and a slot extending inward from the periphery towards the hub, in combination with a pawl consisting of a U-shaped arm pivoted at one end to suitable bearing and having formed at the inner side of the elbow a notch, which notch engages with the notched end of a pawl pivoted at said notched end to a suitable bearing, and a free end engaging with a space on the periphery of said tumbler, a locking bolt provided with stops engaging with the slots in said tumblers when in alignment, substantially as described. 11th. In a lock, a series of tumblers circular in shape and having formed on their periphery a suitable number of notches, and a slot extending from the periphery inward towards the hub, a pawl consisting of a U-shaped arm pivoted at one end and having formed on the inner side of its elbow a notch, a dog pivoted at one end provided with notches, which notched end engages with the notch on the U-shaped arm, the free end of the dog and U-shaped arm each provided with an upwardly extending pin, the free end of said dog engaging with the notches on the periphery of said tumbler, a locking bar provided with a series of stops acting as male wards to engage with the slots in the tumblers, acting as female wards, a stop on one of the side faces of said tumblers working in the circular guide way formed in the side face of the registering plate, said side face being adjacent to the side face of said tumblers provided with a stop, a stop in said guide way with which the stop on said tumbler comes in contact, a dial on the outer face of said registering plate, a series of notches around the periphery of said registering plate to correspond with the number of numerals on said dial, a pin engaging with the notches on the periphery of said registering plate to lock said registering plate in any said position, means for bringing the slots in said tumblers into alignment, and means for throwing said locking bolt backward, substantially as described.

No. 37,240. Sieve for Threshing Machines.

(*Crible pour machines à battre.*)

John O'Brian, Thornhill, Manitoba, Canada, 31st August, 1891; 5 years.

Claim.—1st. In a threshing sieve, the combination, with the main frame, a bar having a longitudinal, vertically disposed slot, a bolt and nut adjustably connecting the bar to the frame, and a suitable means for fixing the bar in its adjusted position, of a slot pivotally connected to the frame at one end and to the frame and the adjustable bar at its opposite end, substantially as specified. 2nd. In a threshing sieve, the combination, with the rectangular frame and the bridge bar rigidly connected at its ends to opposite bars thereof, of an adjustable bar having a vertically disposed longitudinal slot, a bolt taking through the bridge bar and the slot in the adjustable bar, a nut on said bolt adapted to adjust the adjustable bar, set screws taking through the adjustable bar and bearing upon the bridge bar, and slats pivotally connected at their outer ends to the opposite sides of their frame and at their inner sides to the rigid bridge bar and the adjustable bar, substantially as specified.

No. 37,241. Street Railway. (*Tramway.*)

Charles A. L. Fisher, Montreal, Quebec, Canada, 31st August, 1891; 5 years.

Claim.—1st. The upright circular shaped ties C, for steadying the rails of an elevated track, as set forth. 2nd. The combination of the perpendicular arms F, resting on springs G, and bearing on axles or journals H, of running gear E, and the slots I, therein, as set forth, and for the purposes described. 3rd. The combination of the windlasses J, or other hoisting power, the cog wheels K, attached to windlasses J, the drop lock L, for said cog wheels K, and the lever arms M, as set forth, and for the purposes described. 4th. The combination of the pulleys X, the windlass Y, the gear wheels Z, and *a*, *a*, the arms *b*, *b*, the ratchet lock *c*, *c*, and the lever wheel *e*, *e*, as set forth, and for the purposes described. 5th. The tubular arms or frame *f*, *f*, and braces *g*, *g*, as set forth, and for the purposes described. 6th. The combination of supporting and raising cables, and supporting steadying and guiding arms, as set forth, and for the purposes described. 7th. The combination of the frame Q, as set forth, and for the purposes described. 8th. The combination of the angular slotted plates T, the angular slots U, and the oval shaped slots V, therein, and the lock W, thereon, for the purpose set forth. 9th. The adjustable stairway or ladder R, with the sliding braces and rods S, arranged as set forth. 10th. The combination of suspended cars O, elevated cars D, and the running gear E, with the frame Q, the plates T, the windlasses J, or the pulleys X, the windlass Y, the tubular arms *f*, *f*, and the cables N, and the stairway or ladder R, as set forth, and for the purposes described. 11th. An elevated railroad having cars suspended beneath and between the rails, said cars being adjustable for summer or winter traffic, as set forth. 12th. An elevated railroad, having cars suspended beneath and between the rails, said cars supported by cables, arms, or other means, bearing above the rails, and running gear of elevated cars, as set forth. 13th. In an elevated railroad having cars suspended beneath the rails, the principle of raising or lowering said cars, when in motion, or when stationary, by lever, or wheel, or other equivalent motive power, the bearing of which is above the elevated rails and running gear. 14th. The combination of a suspended railroad and an elevated railroad, each having cars running, one above the other, on the same track, with one motive power, the rails being suspended between the two.

No. 37,242. Tea Kettle. (*Bouilloire à thé.*)

John L. Clark, Bangor, Maine, U.S.A., 31st August, 1891; 5 years.

Claim.—1st. An improved tea-kettle, consisting of the combination of a kettle body with usual spout and bail-ears, small studs cast near one of the bail-ears for the purpose described, a cover with hinged tongue and projecting spur, pivoted to said studs, a bail having one end hooked in one of the bail-ears in the usual manner, and its opposite end after passing through the opposite bail-ear, bent upward and backward upon itself and then over and outward to form a hook extending in a plane at or nearly a right-angle with the bail, said extending hook adapted to engage the spur upon the kettle-cover to operate the latter, substantially in the manner shown and for the purpose described. 2nd. In a tea-kettle, an improved bail for operating hinged covers, consisting of the curved bail-wire having one end bent in the usual manner to engage a bail-ear, and its opposite end after being curved to pass through the opposite bail-ear bent upward and backward upon itself, and then curved outward to project at a right-angle plane from the remainder of the bail, substantially as shown and described. 3rd. An improved cover for tea or other kettles consisting of a cover constructed to close the opening in the kettle, and provided with a projection hinged to the kettle body said projection constructed beyond the hinge with a small shoulder and extending spur for the purpose described and substantially as shown and set forth. 4th. An improved tea-kettle, consisting of the combination of a kettle-body with bail-ears and studs cast thereon, for the purpose described, with a hinged cover adapted to close the opening in said kettle, said cover provided with a projection extending beyond said hinge, so located and constructed that certain movements of the kettle-bail tend to open or close the kettle-cover, substantially as shown and for the purpose described.

No. 37,243. Manufacture of Cigar Bunches.

(*Fabrication des bottes de cigares.*)

Walter Asa Peck, Providence, Rhode Island, U.S.A., 31st August, 1891; 5 years.

Claim.—1st. The method of making cigar bunches, which consists in first holding the fillers in tapering form at the head end of the bunch and then winding the binder thereon spirally toward and from the head, whereby the fillers will be bound in proper tapering form, as set forth. 2nd. A cigar bunch, having its mass of fillers tapering toward the head end of the bunch, and having a binder wound spirally thereon, toward and from the head, whereby the fillers are bound firmly in proper tapering form, substantially as described.

No. 37,244. Waterproof and Sensitized Photographic Mount and Process of Making the Same. (*Carton photographique impermeable à l'eau et sensitif, et procédé de fabrication.*)

Henry Kuhn, Springfield, Missouri, U.S.A., 31st August, 1891; 5 years.

Claim.—1st. A ready prepared waterproofed sensitized photographic card mount, of cardboard, and cut to printing-size, substantially as and for the purpose set forth. 2nd. A waterproofed sensitized photographic-mount, in the form of a paper card, and the edges whereof are water-proof, substantially as set forth. 3rd. A photographic-mount, having a series of different-coloured layers or coatings of surfacing material applied to its surface, substantially as set forth. 4th. A waterproof card coated with differently colored sensitized-emulsions, substantially as set forth. 5th. A waterproof card, of paper, having characters or designs printed thereon, and a sensitive-coating applied over the characters or designs so printed, substantially as set forth. 6th. The method herein described of making sensitized photographic-cards, which consists in first waterproofing a paper card or sheet, then applying to one side of said card or sheet, a coating of surfacing-material, and then applying to the coating of surfacing-material a sensitive-coating, substantially as set forth.

No. 37,245. Steering Gear for Vehicles.

(*Appareil pour gouverner les vaisseaux.*)

Ephraim Howland, Pontiac, Michigan, U.S.A., 31st August, 1891; 5 years.

Claim.—1st. The combination, with a vehicle of a cable C^1, extending from the extremities of the forward axle back and around a pulley or pulleys at the rear, and provided with a shifting block or cable C, for the attachment of the pole of a rear vehicle, the construction being such that as the forward axle of the leading vehicle is turned, the forward axle of the rear vehicle will be turned in the opposite direction, substantially as and for the purposes described. 2nd. The combination, with a vehicle of a cable C^1, extending from the extremities of its forward axle back and around a pulley or pulleys at the rear, and a steam actuated piston coupled into the circuit of the said cable, and means for governing the admission of steam in front of or back of said piston, the construction being such that the movement of said piston is communicated through said cable, and caused to turn the forward axle of the leading vehicle to the right or left at the will of the operator, substantially as described. 3rd. The combination, with a vehicle of a cable C^1, extending from the extremities of its forward axle back and around pulleys *c*, and engaged at the rear of the vehicle with means C, whereby the pole of a rear vehicle may be coupled with said cable, and in connection therewith, a steam cylinder having its piston coupled with said cable, the construction being such that the motion of the steam actuated piston may be communicated to the forward axle of the leading vehicle to guide the same, substantially as and for the purposes described.

No. 37,246. Switch for Incandescent Electric Lamps. (*Commutateur pour lampes électriques et incandescentes.*)

Norman Marshall, Boston, Massachusetts, U.S.A., 31st August, 1891; 5 years.

Claim.—1st. In a device of the character described, an insulating base, a circular cam thereon provided with four equidistant vertically inclined tracks, a rotary key and contact plate mounted loosely thereon, a spring for forcing said plate into engagement with the face of said track and connectors for the line wires, said connectors being extended to cover the working faces of alternate cam-tracks. 2nd. The combination of the base-plate with a four-track cam secured thereon, alternate tracks being in electrical connection with the line-wire binding posts, substantially as described. 3rd. The combination of the base-plate, with a circular cam secured to said plate, the face of said cam being divided into four or more vertically inclined tracks, and alternate tracks being in electrical connection with the line-wire binding-posts, substantially as described. 4th. The combination of the base-plate with a four-track cam alternate tracks being in electrical contact with the line wire connectors, a contact plate, a key for rotating said plate and a spring for holding the plate in engagement with said tracks, substantially as described. 5th. The base-plate and four track circular cam, in combination with the wire connectors elongated to cover the faces of alternate cams, the key and the spring pressed contact plate fitted to slide on said key and be rotated thereby, substantially as described. 6th. In a circuit controller for incandescent electric lights the cam H, provided with the vertically inclined tracks *g*, *h*, *i*, *j*, alternate tracks having their faces in electrical contact with the line binding posts, substantially as described. 7th. In a circuit controller for incandescent electric lights, the base-plate and the four track cam, in combination with a spindle fitted to rotate in said base and a spring-pressed contact plate in engagement with said tracks, said plate being fitted to slide on the spindle and be rotated thereby, substantially as set forth. 8th. In a circuit controller for incandescent electric lights, the base-plate and rotary spindle C, having the flattened portion Z, in combination with the

four track cam having alternate tracks being in electrical contact with the wire connectors and the spring-pressed contact plate H mounted on said spindle, substantially as described.

No. 37,247. Changeable Speed Gearing.

(*Engrenage à vitesse variable.*)

George Wilson Kirkpatrick, (assignee of Andrew Jackson Martin and Lawrence Heath), all of Macedon, New York, U.S.A., 31st August, 1891; 5 years.

Claim.—1st. In combination, with the rotatable casing, the variant pinions mounted therein, the center pinion with which they engage, the internal gear attached to the center pinion, and the primary driving-pinion engaging the internal gear. 2nd. The driving shaft and its pinion, and the shell or casing mounted to revolve around said shaft, in combination with the variant pinions mounted therein, and a pinion engaging all the variant pinions and driven by an intermediate gear from the pinion on the main shaft.

No. 37,248. Roll-way for Lumber. (*Chemin-rouleau pour bois de construction.*)

Micajah M. Ford, Dallas, and Hardy N. Revelle, Buchanan, both in Georgia, U. S. A., 31st August, 1891; 5 years.

Claim.—1st. In a device of the class described, the base or bed A, the rollers B, and C, mounted on said base or bed, said rollers C, being mounted at one end in swivel boxes pivoted in said base or bed, and mounted at the other end in swivel-boxes pivoted in a bar D, adapted to be reciprocated on the bed or base, substantially as and for the purpose set forth. 2nd. In a device of the class described, the base or bed A, the rollers C, journaled at one end in the swivel-boxes c, pivoted in the said base or bed, and at the other end in the swivel-boxes pivoted in the reciprocating bar D, mounted on said base or bed, and the mechanism for operating said bar consisting of the pitman F, attached to the same, and the lever E, substantially as and for the purpose specified.

No. 37,249. Furnace Grate and Shaker.

(*Grille de foyer et appareil pour secouer.*)

Edmund Mather, Harrisburg, Pennsylvania, U.S.A., 31st August, 1891; 5 years.

Claim.—1st. In a furnace grate, the combination, with the parallel grate-bars, of the rocking bar having oppositely arranged cranks engaging adjacent grate-bars and the bearing-bars extending across beneath the grate and having end and intermediate bearings therein for the rocking bars, substantially as described. 2nd. In a furnace-grate, the combination, with the bearing-bars extending across beneath the grate and having the longitudinal end and intermediate bearings, and the rocking bars journaled in said bearings and having the oppositely arranged cranks, of the grate-bars resting on said cranks and adapted to be moved thereby, substantially as described. 3rd. In a furnace-grate, the combination, with the bearing-bars, having the sides and connecting-webs with bearings therein, and the rocking bar having oppositely arranged cranks and journaled in said bearings, of the grate-bars resting on said rocking bar and adapted to be moved thereby, substantially as described. 4th. In a furnace-grate, the combination, with the bearing-bars having the web with the bearings therein, of the rocking bar having oppositely-arranged cranks with the journals for co-operation with the bearings in the webs formed on the under surface of the upwardly-projecting cranks, and the grate-bars engaging said cranks and adapted to be moved thereby, substantially as described. 5th. In a furnace-grate, the combination, with the bearing bars having the webs with bearings thereon, and the rocking bars having oppositely-arranged cranks journaled in said bearings, of the parallel grate-bars having notches or depressions engaging the upwardly-extending cranks and the alternate grate-bars having the downward extensions engaging the downwardly-extending cranks, substantially as described. 6th. In a furnace-grate, the combination with the bearing-bars, composed of the sides spread apart at the bottom and the connecting webs having bearings in the top, of the rocking bars having oppositely-arranged cranks journaled in said bearings, and the grate-bars engaging said cranks and adapted to be moved thereby, substantially as described. 7th. In a furnace-grate, the combination, with the bearing-bars, composed of the sides spread apart at the bottom, and the connecting-webs having bearings in the top, of the rocking-bars having oppositely arranged cranks and a downward extension for the attachment of a rocker handle journaled in said bearings, and the grate-bars engaging said cranks and adapted to be moved thereby, substantially as described. 8th. In a furnace-grate, the combination, with the bearing-bars composed of the sides spread apart at the bottom and the connecting-webs having bearings in the top, of the rocking-bars having oppositely-arranged cranks and a downward extension for the attachment of a rocker-handle journaled in said bearings, and the grate-bars having notches therein engaging the upwardly-extending cranks, and the intermediate grate-bars having the downward extensions engaging the downwardly-extending cranks, substantially as described.

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

2249. CLARENCE LESLIE BARNHART, 2nd five years of No. 24,688, from the 10th day of August, 1891. Improvements in Car Movers, 1st August, 1891.

2250. HENRY SIMS, 2nd five years of No. 24,645, from the 4th day of August, 1891. Improvements in Automatic Boiler Cleaners, 4th August, 1891.

2251. LOUIS PETER BOUVIER, JOHN FITZALLEN ELLIS, PHILIP THOMAS PERROTT and THOMAS JAMES CLARK, 2nd five years of No. 24,663, from the 5th day of August, 1891. Improvements in Envelope Machines, 5th August, 1891.

2252. JASPER BATES, 2nd five years of No. 27,109, from the 2nd day of July, 1892. Improvements in Manual Powers, 6th August, 1891.

2252. JOHN SCOTT, 2nd five years of No 24,810, from the 25th day of August, 1891. Improvements in Process for Dry Cleaning Textile Fabrics, 7th August, 1891.

2254. BENJAMIN TANNER, 2nd five years of No. 24,690, from the 10th day of August, 1891. Improvements on Hay Rakes, 10th August, 1891.

2255. THOMAS KANE, 2nd five years of No. 25,817, from the 20th day of January, 1892. Improvements in Candy and the Process for making the same, 10th August, 1891.

2256. WILLIAM FLEMING, 2nd five years of No. 24,809, from the 25th day of August, 1891. Improvements in Fleming's Cabbage Maggot Preventive, 13th August, 1891.

2257. THE CANADIAN OFFICE AND SCHOOL FURNITURE COMPANY (assignees), 2nd five years of No. 24,782, from the 21st day of August, 1891. Improvements in Desks, 13th August, 1891.

2258. DAVID TAPLEY, 2nd five years of No. 24,835, from the 28th day of August, 1891. Improvements in Semaphores, 15th August, 1891.

2259. STILLMAN WILLIAM ROBINSON, 2nd five years of No. 24,884. from the 4th day of September, 1891. Improvements in Machines for Uniting Soles and Uppers of Boots and Shoes, 17th August, 1891.

2260. ISAIC FRECHETTE, 2nd five years of No. 24,759, from the 18th day of August, 1891. Improvements in Car Axle Lubricators, 17th August, 1891.

2261. DAVID DIETRICH KUHLMAN and JOHN SEATON, 2nd five years of No. 25,069, from the 13th day of September, 1891. Improvements in Automatic Grain Weighing Machines, 17th August, 1891.

2262. CHARLES ERASTUS PATRIC, 2nd five years of No. 24,786, from the 23rd day of August, 1891. Improvements on Force Feed Sewing Machines, 17th August, 1891.

2263. JOHN CALVIN SHEPHERD, 2nd five years of No. 24,859, from the 3rd day of September, 1891. Improvements in Machines for Making Wooden Hoops, 24th August, 1891.

2264. HENRY EDWARDS, 3rd five years of No. 13,473, from the 25th day of September, 1891. Compound for Curing Cancers, 24th August, 1891.

2265. JOHN THOMAS UNDERWOOD and FREDERICK WILLIS UNDERWOOD, 2nd five years of No. 24,934, from the 10th day of September, 1891. Improvements in Transfer Surfaces for Producing Copies of Typewriting or other Printed or Written Impressions and in the Process of Manufacturing the same, 27th August, 1891.

2266. TIMOTHY GINGRAS, 2nd five years of No. 24,906, from the 7th day of September, 1891. Improvements in Bell-fastenings, 27th August, 1891.

2267. CARLTON ELLIS BAILY, 2nd five years of No. 24,816, from the 27th day of August, 1891. Improvements in Wrenches, 27th August, 1891.

2268. THE KNICKERBOCKER COMPANY (assignee), 2nd five years of No. 24,854, from the 3rd day of September, 1891. Improvements in Dust Collectors for Flour Mills, Factories, etc., 28th August, 1891.

2269. FREDERICK SAMPSON BRAGG, 2nd five years of No. 24,943, from the 11th day of September, 1891. Improvements in Spark Arresters, 29th August, 1891.

AUGUST LIST OF TRADE MARKS.

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4108. } JOHN TAYLOR, of Toronto, Ont.
4109. } Soap, 7th August, 1891.

4110. WILLIAM H. GRIFFITH, of Sherbrooke, Que. Horse and Cattle Medicine, 7th August, 1891.

4111. SIMPSON, HALL, MILLER & CO., of Montreal, Que. Hollow-ware, 8th August, 1891.

4112. SIMPSON, HALL, MILLER & CO., of Montreal, Que. Table Implements, 8th August, 1891.

4113. FREDERICK AUGUSTUS ROE, of 27 Princes St., Hanover Square, London, England. A Chemical Preparation for use in Medicine and Pharmacy, 17th August, 1891.

4114. THE ADAMS & SONS CO., of Brooklyn, N.Y., U.S.A. Chewing Gum, 18th August, 1891.

4115. } THE INDEPENDENT MATCH CO., de Louiseville, Qué. Allumettes chimiques,
4116. } 18 Août, 1891.

4117. THE ADAMS & SONS CO., of Brooklyn, N.Y., U.S.A. Mexican Fruit Chewing Gum, 25th August, 1891.

4118. ROTH & GOLDSCHMIDT, of New York, N.Y., U.S.A. Ladies' and Children's Corsets, 25th August, 1891.

4119. P. DUTOICT & CO., of Brussels, Belgium. Ladies' and Children's Corsets, 25th August, 1891.

4120. DAVID MORTON & SONS, of Hamilton, Ont. Laundry Soap, 26th August, 1891.

4121. CHARLES R. COUSINS, of St. Johns, Qué. Flour, 27th August, 1891.

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6041. MONEY OR LIFE. } Songs. Words by George Arthur Binnie.
6042. BY OLD VERONA. } Music by Edward St. Quentin.
I. Suckling & Sons, Toronto, Ont., 1st August, 1891.

6043. THE AMERICAN COMMONWEALTH. In two volumes. }
6044. THE HOLY ROMAN EMPIRE. }
By James Bryce, Macmillan & Co., London, England, 3rd August, 1891.

6045. ANECDOTAL LIFE OF SIR JOHN MACDONALD, by E. B. Biggar, Montreal, Que., 4th August, 1891.

6046. PORTRAIT OF SIR JOHN MACDONALD'S MOTHER. E. B. Biggar, Montreal, Que., 6th August, 1891.

6047. ASSAULT-AT-ARMS MARCH, (for the cornet), by A. W. Hughes. Whaley, Royce & Co., Toronto, Ont., 6th August, 1891.

6048. HIGH SCHOOL HISTORY OF ENGLAND AND CANADA, by Arabella B. Buckley and W. J. Robertson, B. A., L. L. B. The Copp, Clark Co., L'd., Toronto, Ont., 7th August, 1891.

6049. GEOGRAPHIE à l'usage des élèves de la Congregation de Notre Dame. COURS PRIMAIRE ET INTERMÉDIAIRE, Les Soeurs de la Congregation de Notre Dame, Montreal, Que., 7 Août, 1891.

6050. GEOGRAPHIE, à l'usage des élèves de la Congregation de Notre Dame. COURS SUPERIEURE. Les Soeurs de la Congregation de Notre Dame, Montreal, Qué., 7 Août, 1891.

6051. NOTES ON SELECTIONS FROM TENNYSON, by A. W. Burt. The Copp, Clark Co., L'd., Toronto, Ont., 10th August, 1891.

6052. SALVE REGINA. (Praise ye the Lord). Solo for Contralto or Bass, by J. A. Fowler. I. Suckling & Sons, Toronto, Ont., 12th August, 1891.

6053. GUIDE ILLUSTRÉ DU SYLVICULTEUR CANADIEN, par J. C. Chapais, L. L. B. J. A. Langlais, Québec, Que., 15 Août, 1891.

6054. BELL TELEPHONE COMPANY OF CANADA, LONDON EXCHANGE, SUBSCRIBER'S DIRECTORY, ONTARIO DEPARTMENT, AUGUST, 1891. The Bell Telephone Company of Canada, Montreal, Que., 15th August, 1891.

6055. A BOTANICAL NOTE-BOOK for the use of Students of Practical Botany, by F. W. Merchant, M. A. The Copp, Clark Co., L'd., Toronto, Ont., 18th August, 1891.

6056. NOTES AND VOCABULARY re "La Perle Noire" by Victorien Sardou, and "Le Voyage autour de ma Chambre," by Count Xavier de Maistre; the said Notes and Vocabulary edited by E. J. McIntyre, B. A., and Fred H. Sykes, M. A. The Copp, Clark Co., L'd., Toronto, Ont., 18th August, 1891.

6057. SOUVENIR OF HAMILTON, CANADA, (book). The Mail Printing Co., L'd., Toronto, Ont., 19th August, 1891.

6058. INTERFERENCE, by Mrs. B. M. Croker, (book). Wm. Bryce, Toronto, Ont., 25th August, 1891.

6059. RECUEIL D' INTROIT ET DE MOTETS, par Pierre Ludger Paré, Ptre. Ange Gardien de Rouville, Qué., 26 Août, 1891.

6060. A COMMENTARY, to "SESAME" and "LILIES" of John Ruskin, L.L.D., Including Biography, Notes and Appendix, by Fred H. Sykes, M. A. The Copp, Clark Co., L'd., Toronto, Ont., 27th August, 1891.

6061. MR. PERKINS OF NOVA SCOTIA; or THE EUROPEAN ADVENTURES OF A WOULD-BE ARISTOCRAT, by Carrie J. Harris, Wolfville, N.S., 27th August, 1891.

6062. MARRIAGE: being a Thesis for the Degree of Doctor of Laws, by William Johnston, M.A., L.L.B., Athens, Ont., 28th August, 1891.

6063. THE CANADIAN ALBUM:—Men of Canada, or Success by Example. Part I. Edited by Rev. Wm. Cochrane, D.D. Thomas S. Linscott, Brantford, Ont., 29th August, 1891.

6064. THE CANADIAN ALBUM:—Men of Canada, or Success by Example. Part II. Edited by Rev. Wm. Cochrane, D. D. Thomas S. Linscott, Brantford, Ont., 29th August, 1891.

6065. WILL HE NOT COME BACK? Words and Music by John Marchant Whyte. Toronto, Ont., 29th August, 1891.

6066. THE BELL TELEPHONE COMPANY OF CANADA, QUEBEC, LEVIS, ST. JOSEPH, ETCHEMIN, THREE RIVERS, BERTHIER, JOLIETTE AND LOUISVILLE, SUBSCRIBERS' DIRECTORY, SEPTEMBER, 1891. The Bell Telephone Company of Canada, Montreal, Que., 31st August, 1891.

6067. PLAN OF CITY OF VANCOUVER, WESTERN TERMINUS OF THE CANADIAN PACIFIC RAILWAY; Compiled and Prepared by R. E. Palmer, C. E., (Map). Rand Bros., Vancouver, B. C., 31st August, 1891.

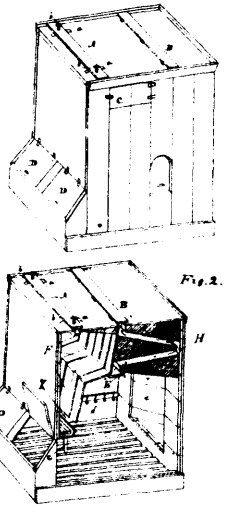
6068. PLAN OF NORTH VANCOUVER, British Columbia, Drawn and Compiled by Vaughan & McCartney. Rand Bros., Vancouver, B. C., 31st August, 1891.

THE

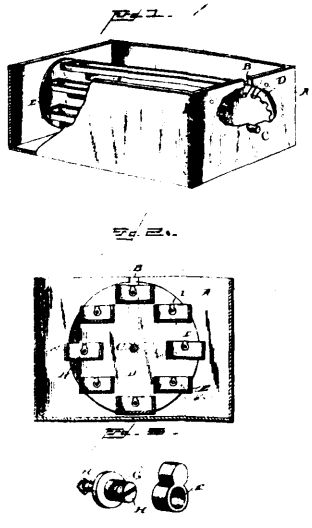
CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

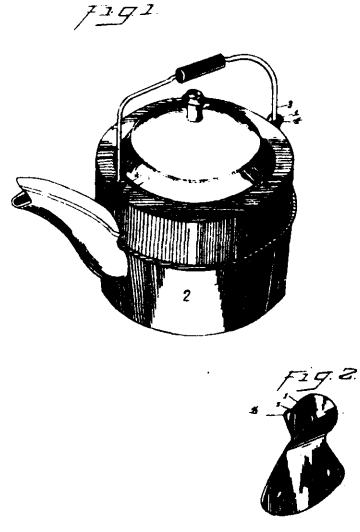
Vol. XIX. AUGUST, 1891. No. 8.



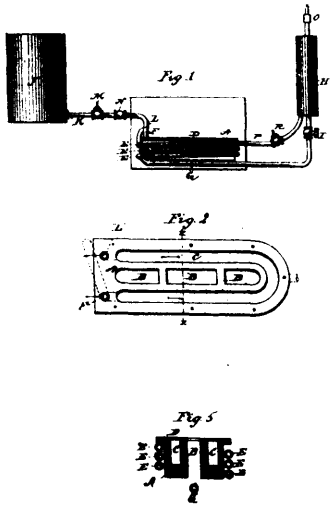
37101 Outhet's Refrigerator.



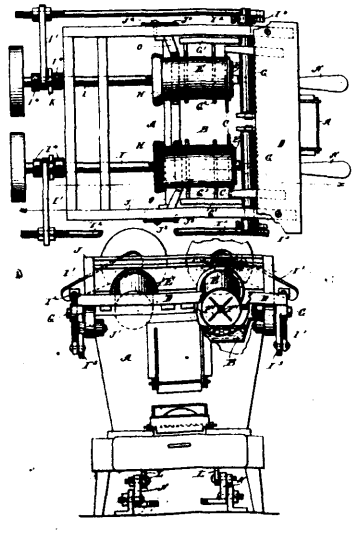
37102 Franklin's Tool Chest.



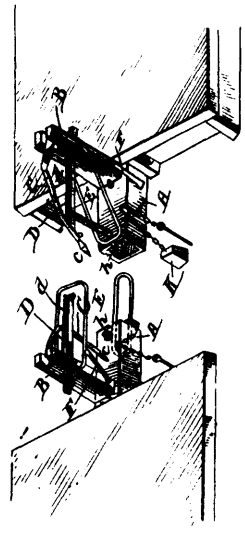
37103 Naber's Ears for Vessels.



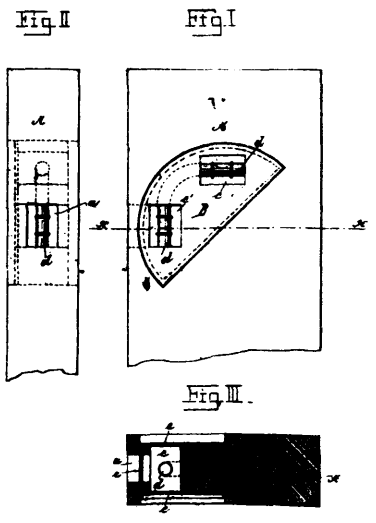
37104 Rathford's Hydrocarbon Oil Vaporiser and Burner.



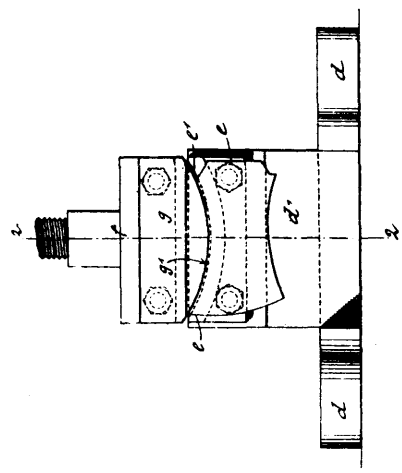
37105 Loggie and Mearoll's Can Soldering Machine.



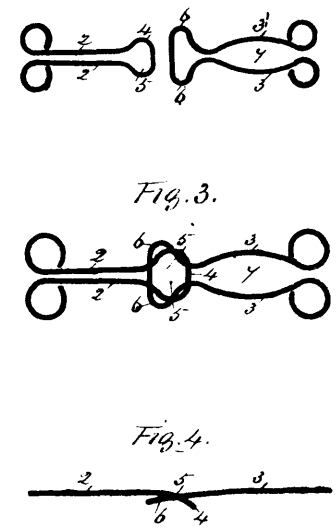
37106 Merritt's Car Coupler.



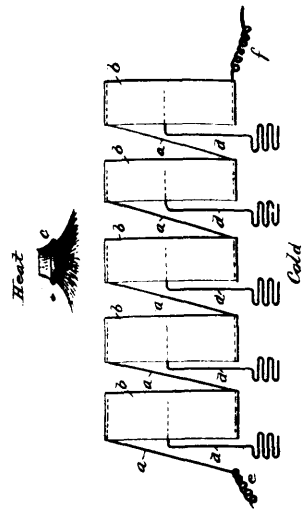
37107 Mens's Water Poise.



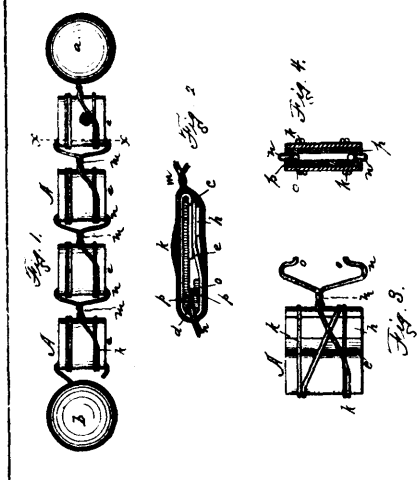
37109 Jones and Bridger's Apparatus for Forming Metal Waists for Boots and Shoes.



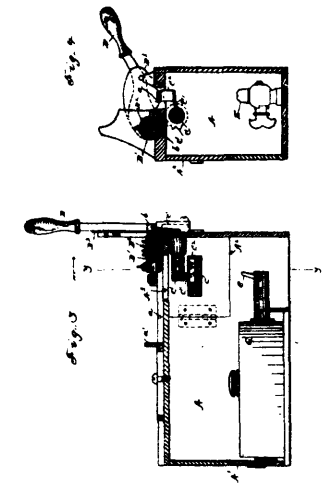
37111 Smith and Secord's Hook and Eye.



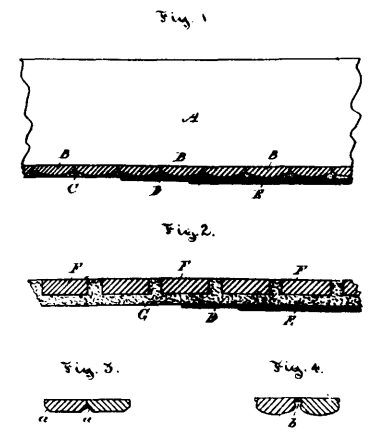
37112 Cox's Thermo-Electric Generator.



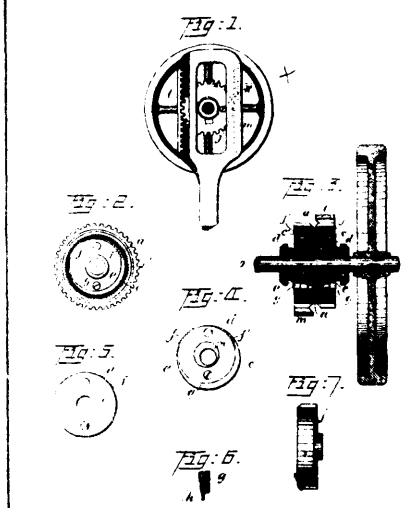
37113 Bogardus' Electric Belt.



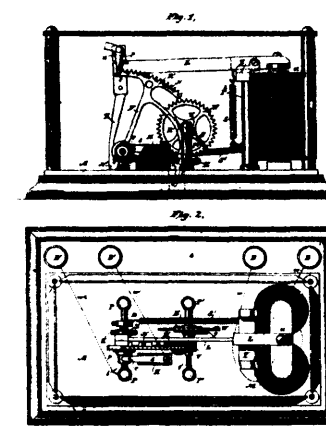
37114 Garretson's Machine for Trimming and Branding Cigars.



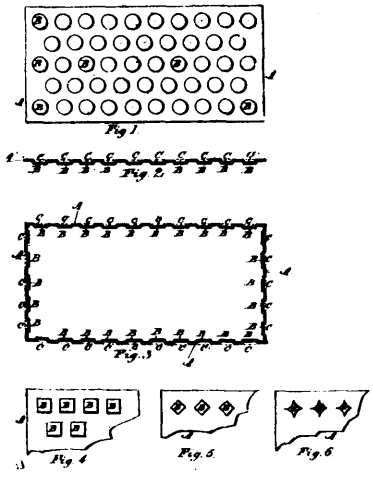
37116 Chartier's Plastering Compound.



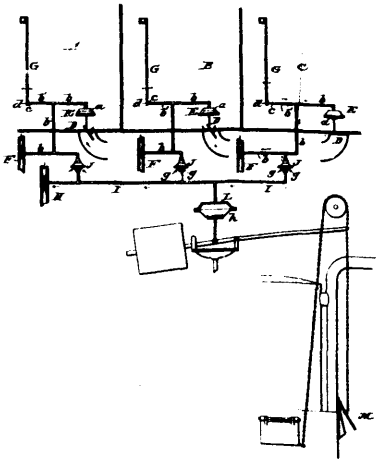
37117 Sloan's Apparatus for Converting Motion.



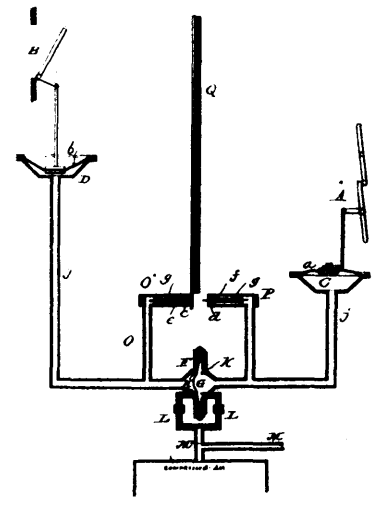
37118 Foote and Moore's Electric Signal Receiving Instrument.



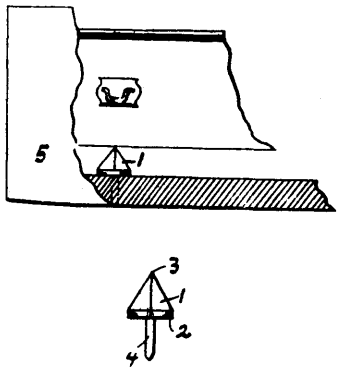
37119 Gobeille's Stove Plate.



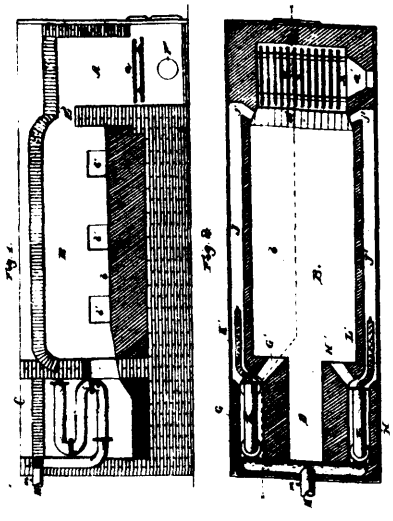
37120 Easton's Temperature Regulator.



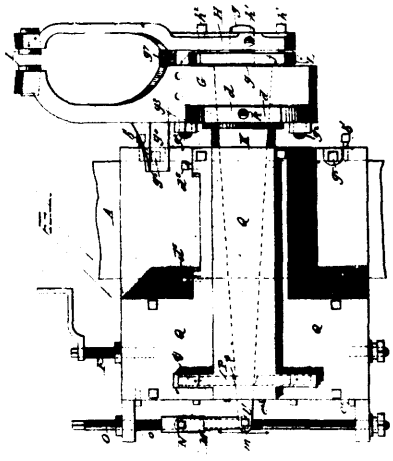
37121 Easton's Temperature Regulator.



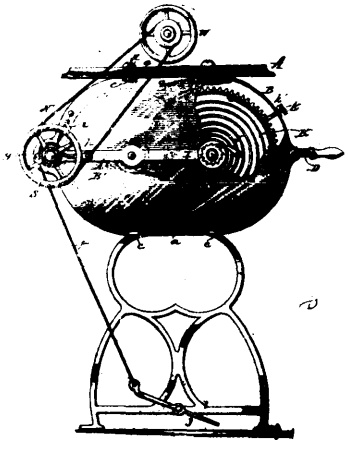
37122 Breeze's Casket Support.



37123 Stubblebine's Reverberatory Furnace.

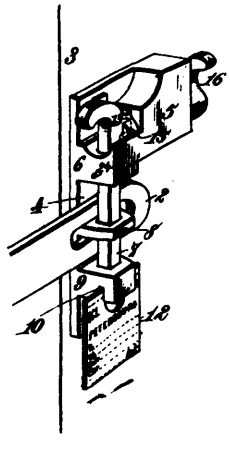


37124 Mayer's Saw Guide.

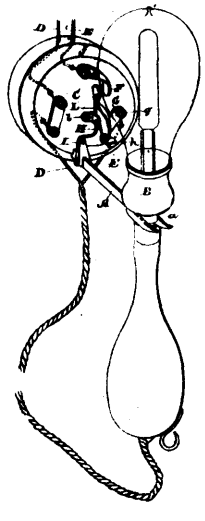


37125 Loring's Spring Motor.

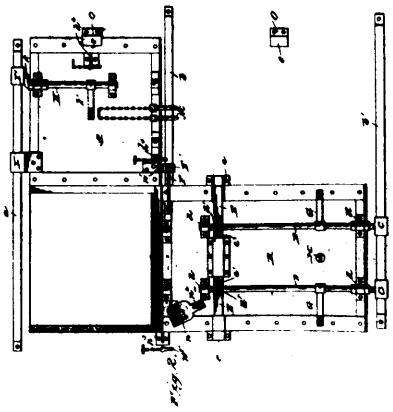
Fig 2.



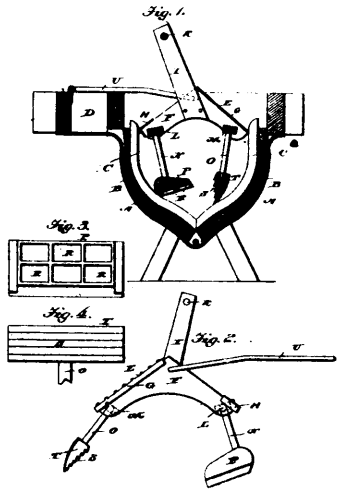
37126 Sully's Seal Lock.



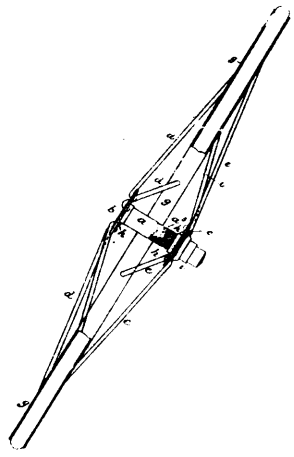
37127 Savage's Automatic Switch and Holder for Portable Electric Lamps.



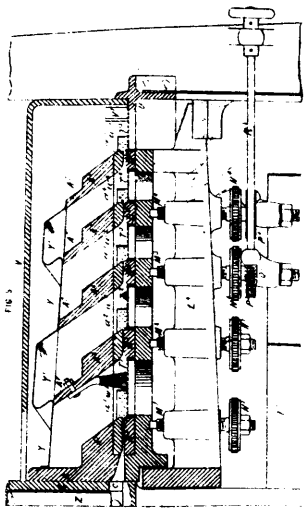
37128 Dougherty's Freight Car Door.



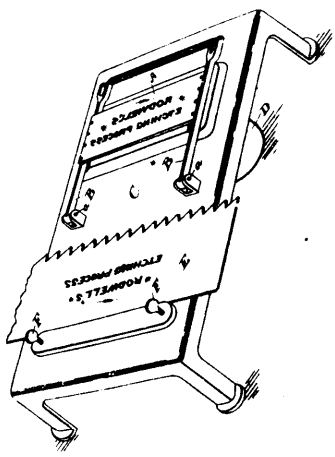
37129 Huffman's Washing Machine.



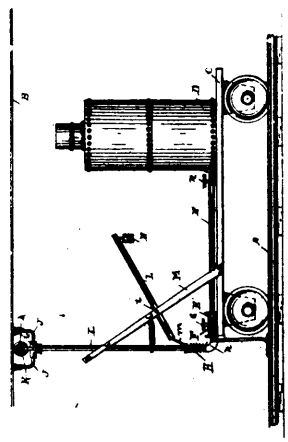
37130 Dunkley's Metallic Spoked Wheel for Velocipedes, etc.



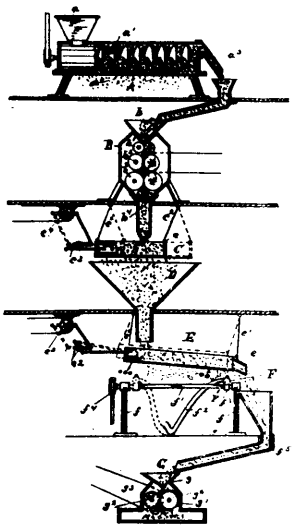
37131 Dolbire and Golay's Apparatus for Grinding Grain.



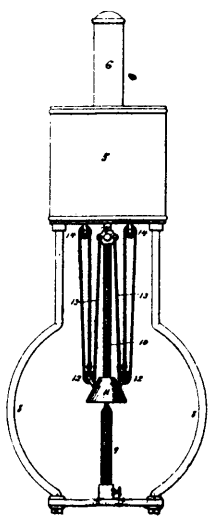
37132 Rodwell's Machine for Preparing Metal Surfaces for Etching.



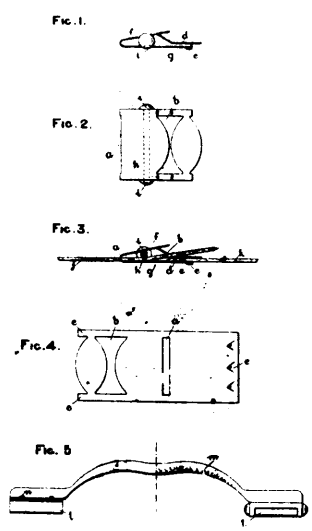
37133 Bauer's Wire and Track Cleaner.



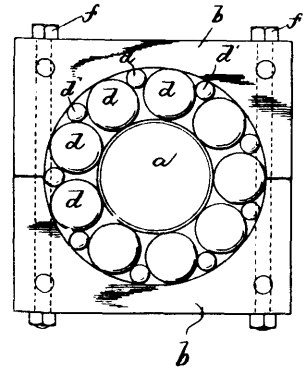
37134 Taylor's Cereal Food and Manufacture Thereof.



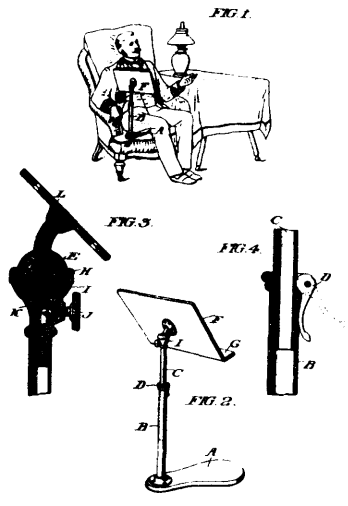
37135 Haseltine's Electric Arc Lamp.



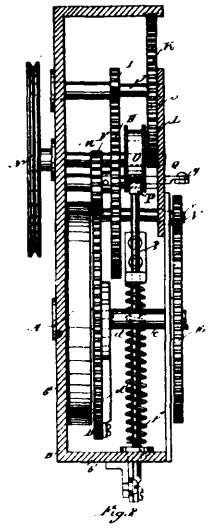
37136 Manners' Buckle for Waist Belts, etc.



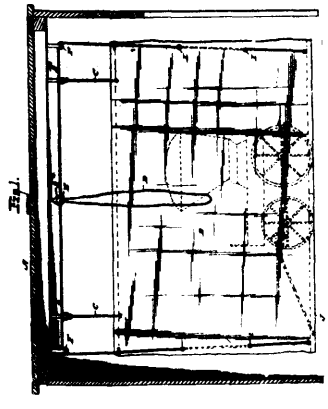
37137 Wellman's Artificial Bearing.



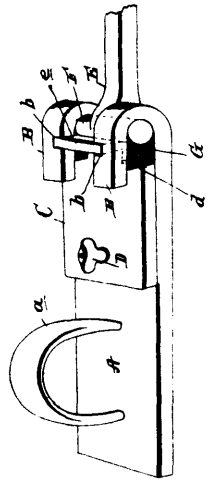
37138 Dawson's Book Rest.



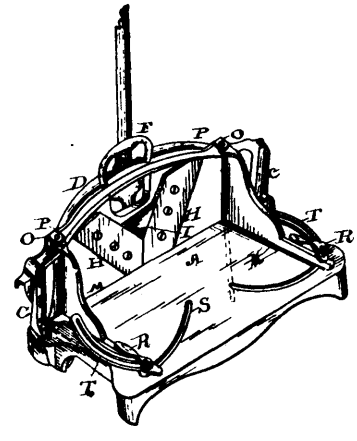
37139 Bonner and Schoch's Spring Motor for Sewing Machines.



37140 Partridge's Carriage Cover.

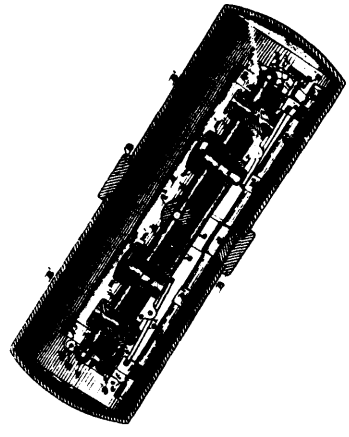


37141 Maddy's Thill Coupling.

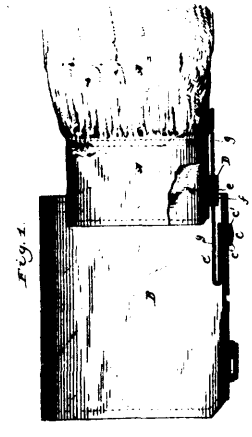


37142 Perkins' Miter Cutting Machine.

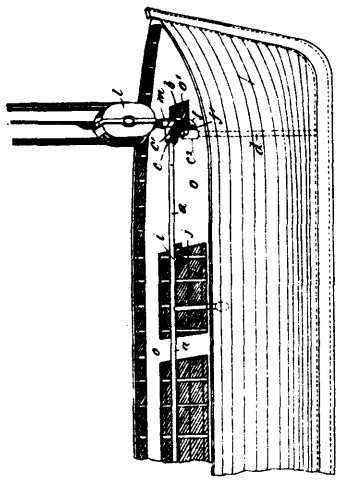
37143 Thomas' Corset Fastening.



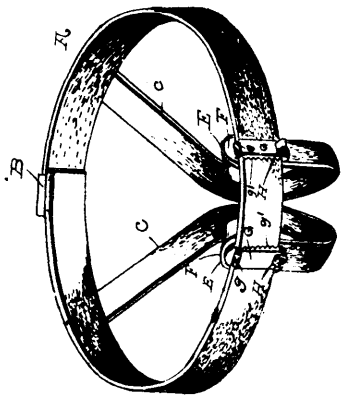
37144 Rogers' Water Meter.



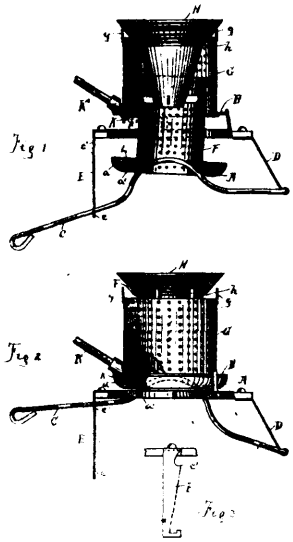
37145 Baker's Cuff Holder.



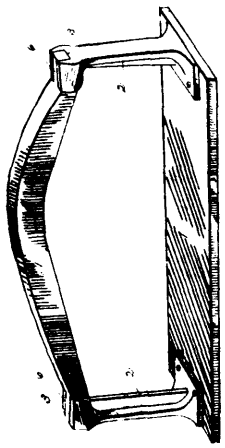
37146 Simpson and Hosack Ship's Boat Disengaging Gear.



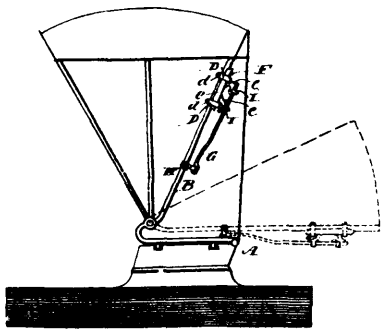
37147 Park and Perkins' Truss.



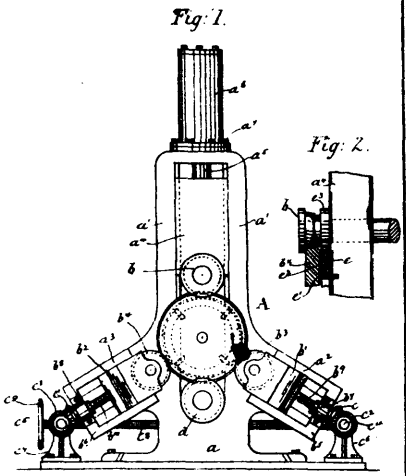
37148 Lannert and Jeavons' Vapor Burner.



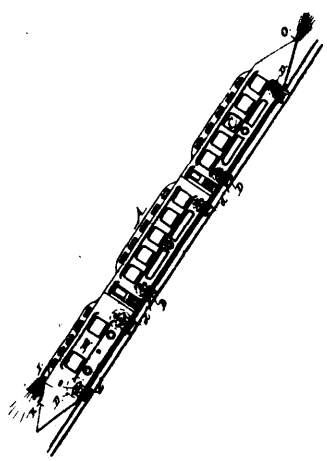
37149 Hibler's Press Board.



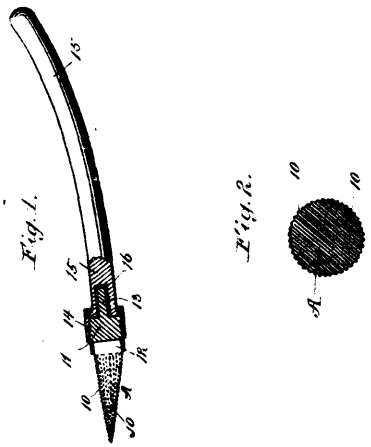
37150 Sanders' Vehicle Top Support.



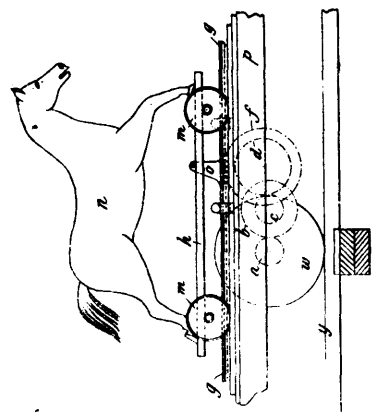
37151 Washburn's Apparatus for Rolling Car Wheel Tires, &c.



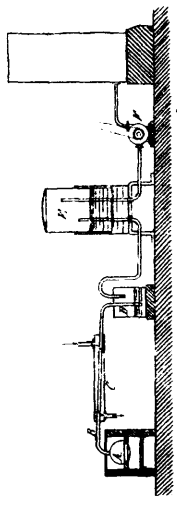
37152 Weems' Electric Railway System.



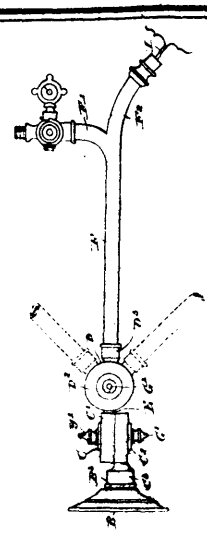
37153 Arnold's Brush for Lithographic Stipple Work.



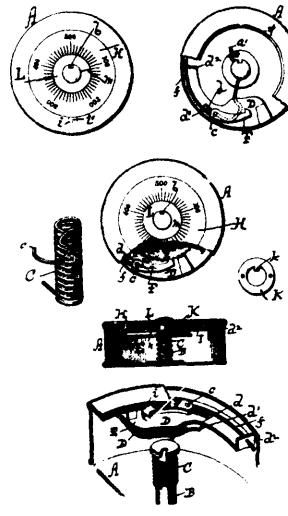
37154 Towell's Round About.



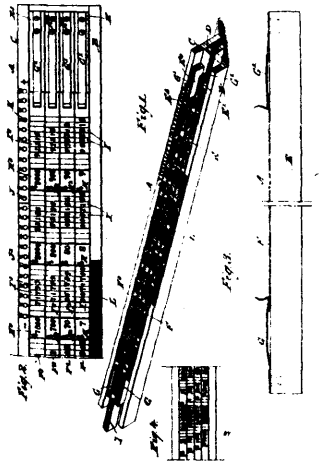
37155 Desmond and Rozes' Appliance for Preserving Meat Fresh.



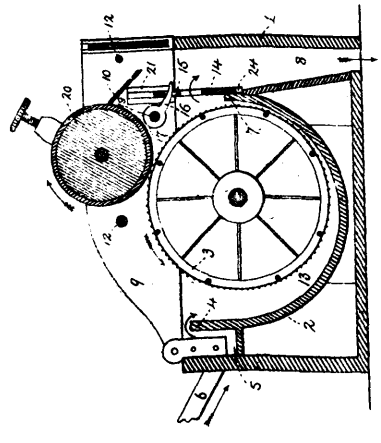
37156 Fitzgerald's Combined Gas and Electric Bracket.



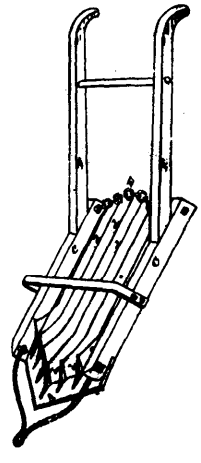
37157 Booth's Registering Toy Bank.



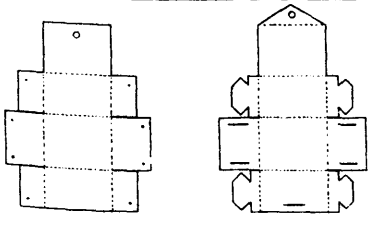
37158 Dennis' Calculator for Percentages.

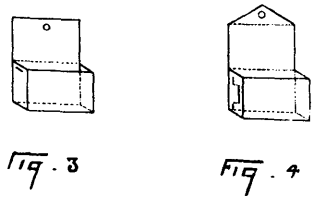


37159 Decker and Goebel's Apparatus for Regulating the Consistency of Pulp.

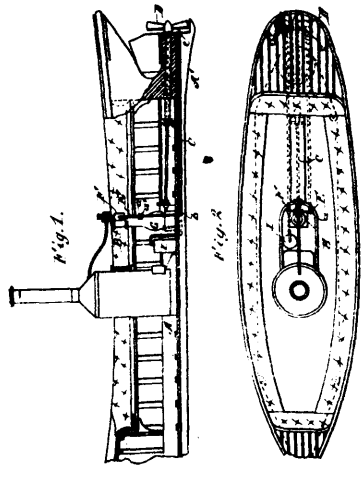


37160 Head's Machine for Harvesting Potatoes.

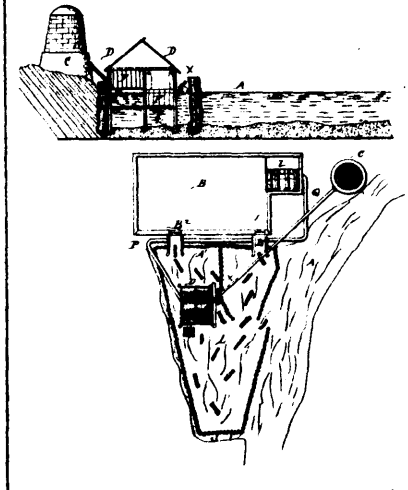




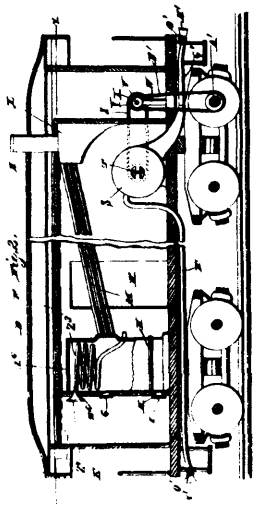
37161 Curtis, Williams, and Paton's Match Box.



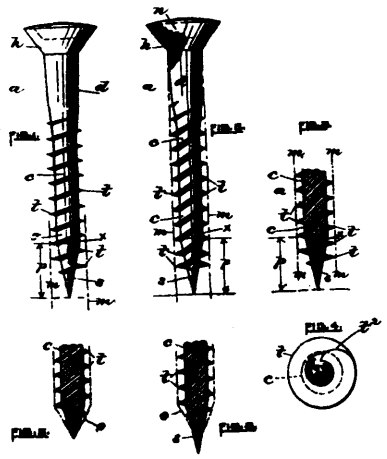
37162 Decker's Electric Insulator for Marine Condensers.



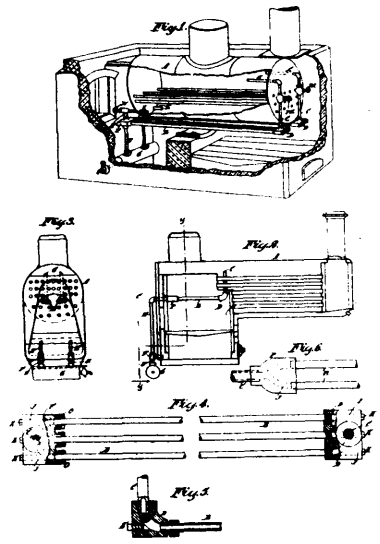
37163 Crittenton's Apparatus for Thawing Logs Preparatory to Sawing.



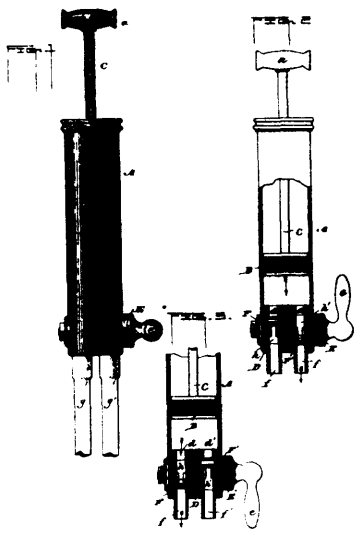
37164 Collins' Apparatus for Heating or Ventilating Railroad Cars.



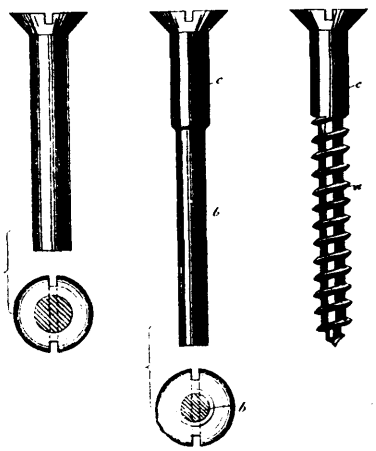
37165 Rogers' Wood Screw.



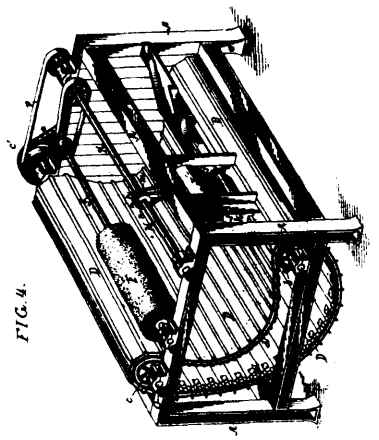
37166 Bush's Steam Generator.



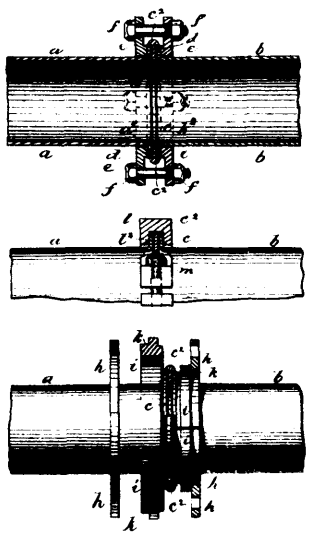
37167 Lottridge's Stomach Pump.



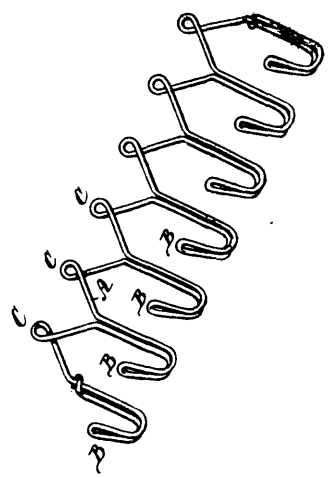
37168 Nettlefold and Sheldon's Screw.



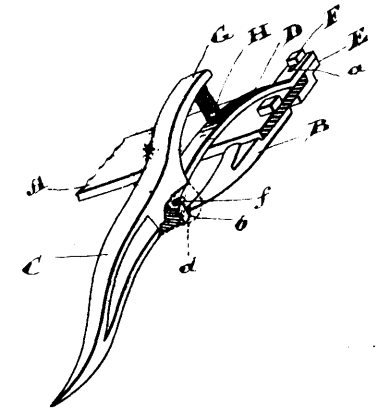
37169 Carter's Tobacco Spraying Machine.



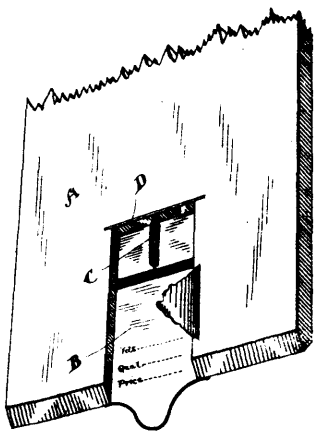
37170 Lewis' Coupling for Pipes.



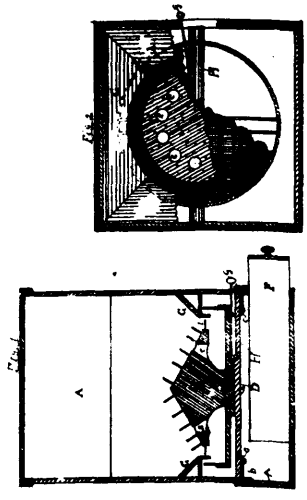
37171 Church's Wire-made Rack for Wardrobes, etc.



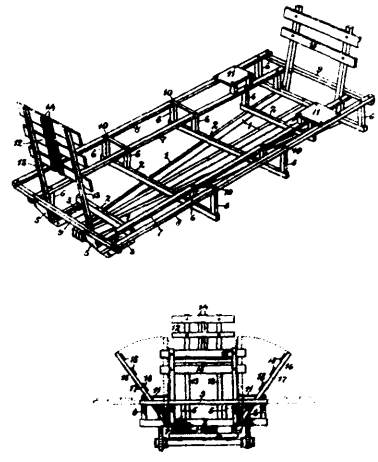
37172 Wettlaufer's Pea Harvester.



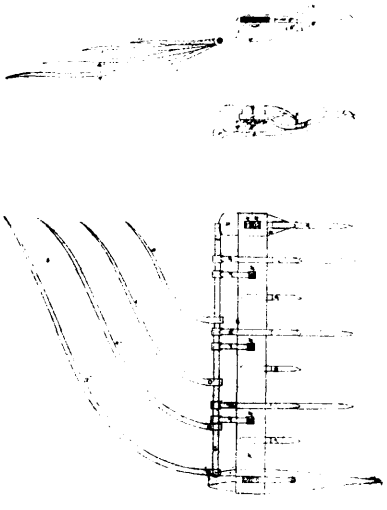
37173 Clarke's Price Tag for Blocked Goods.



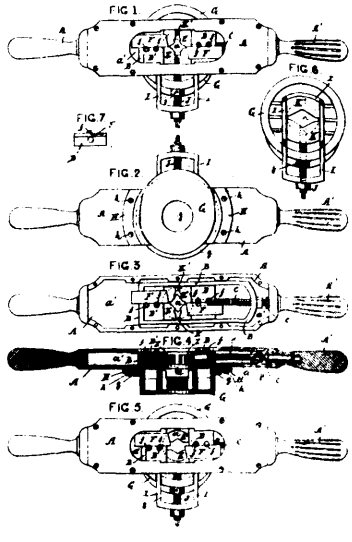
37174 Alpaugh's Flour Bin.



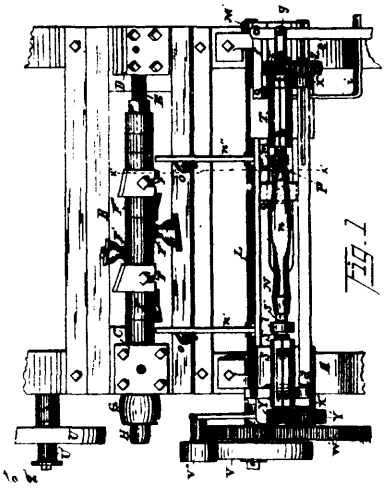
37175 Verney's Hay Rack.



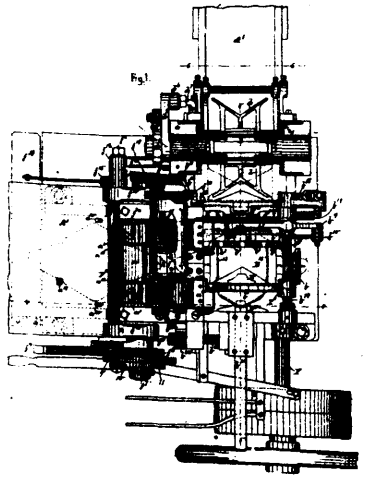
37176 Burden's Pea Harvester.



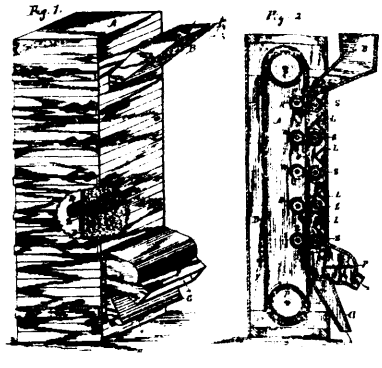
37177 Bartholomew's Thread Cutting Tools.



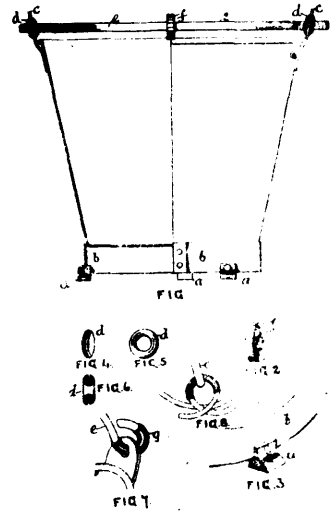
37178 Ober's Lathe for Turning Wood.



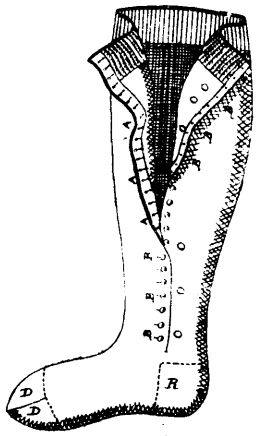
37179 Grant's Machine for Making Envelopes, etc.



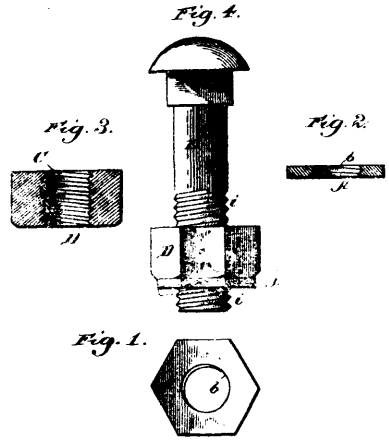
37181 Sibley's Machine for Scouring Grain.



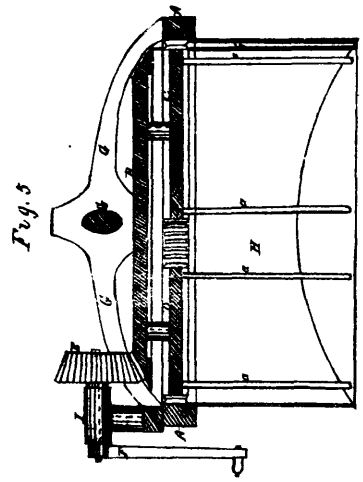
37182 McLauchlan's Iron Bucket, etc.



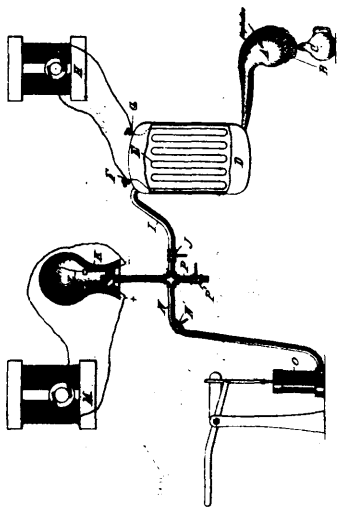
37183 Bellerive's Gaiter.



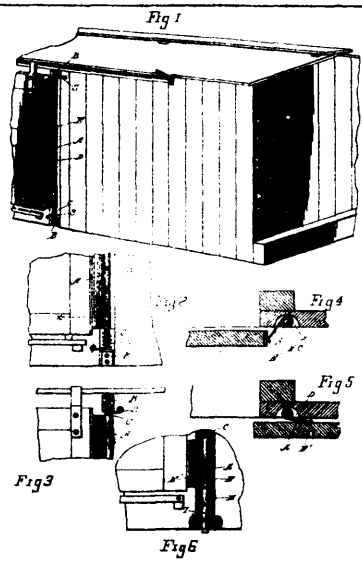
37184 Fougere's Nut Fastening on Bolts.



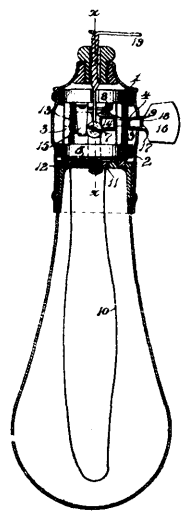
37185 Simons' Machine for Mixing Dough.



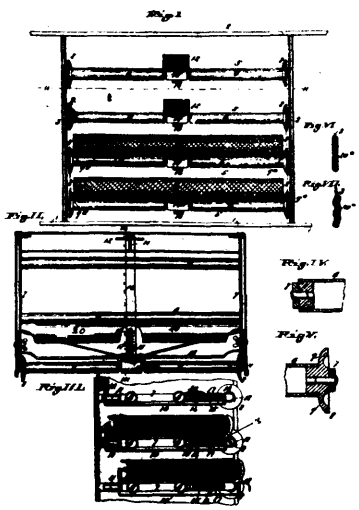
37186 Bottome's Method of Treating Filaments for Incandescent Electric Lamps.



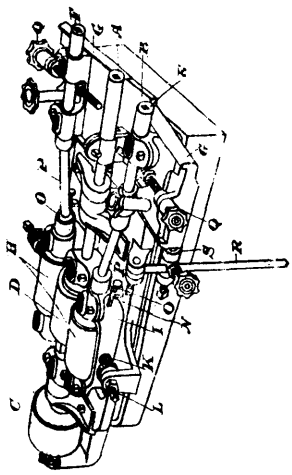
37187 Betham's Weather Strip for Car Doors.



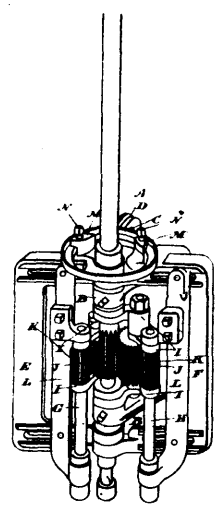
37188 Bryant's Switch for Incandescent Lamp Sockets.



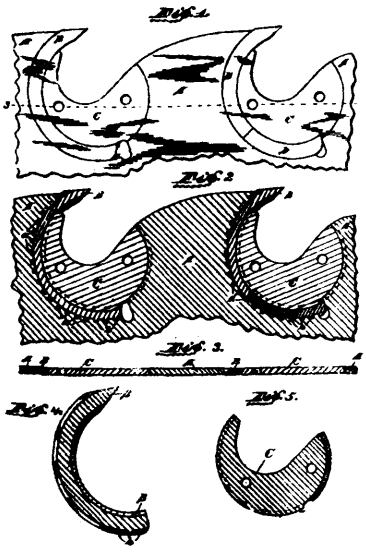
37189 Stockstrom's Book Shelf.



37190 Mickler's Three-Spindle Boring Machine.

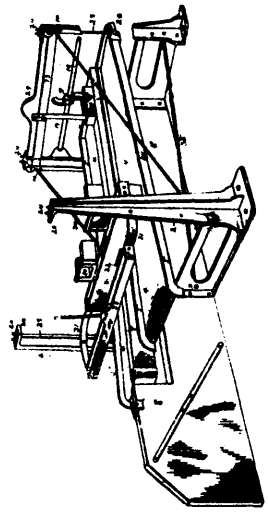


37191 Mickler's Drilling Machine.

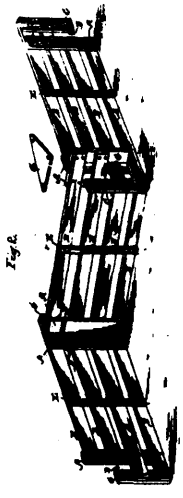


37192 Krieger's Saw.

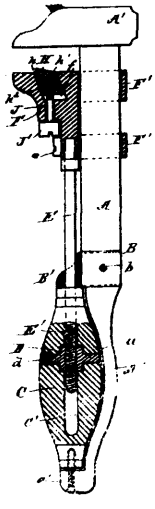
37193 Watton's Window Sash.



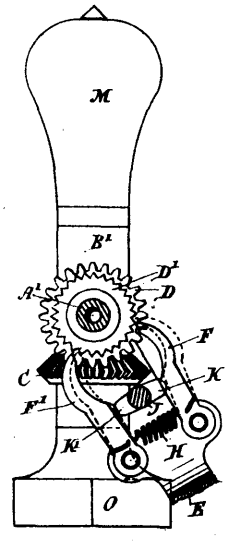
37194 Bertenshaw's Concentrator



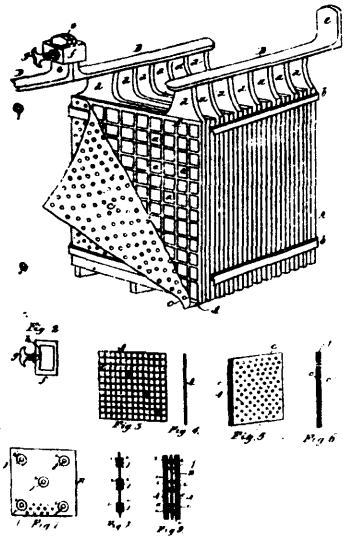
37195 Swickard's Portable Fence.



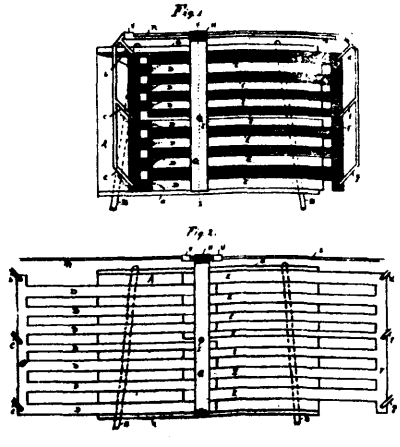
37196 Chaney's Wrench.



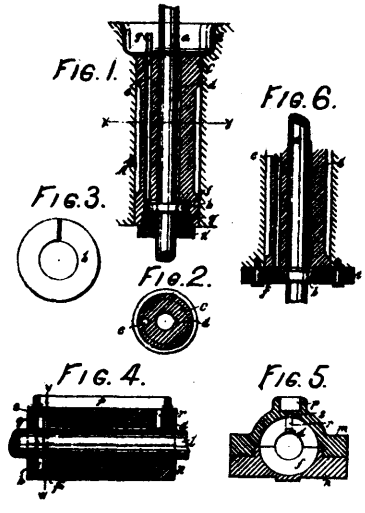
37197 Lord's Device for Imparting Rotary Motion.



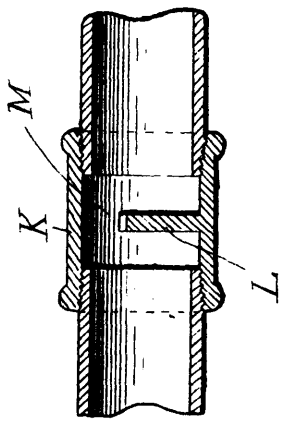
37198 Kay's Storage Battery.



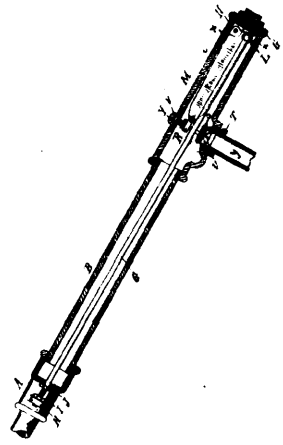
37199 Timmons' Extension Vehicle Seat.



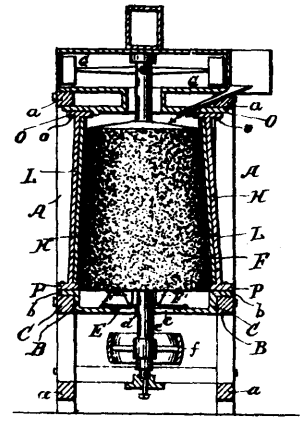
37201 Sharples' Centrifugal Lubricator.



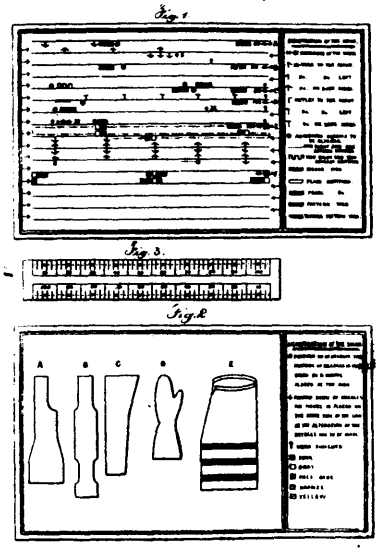
37202 McElroy's Heating System.



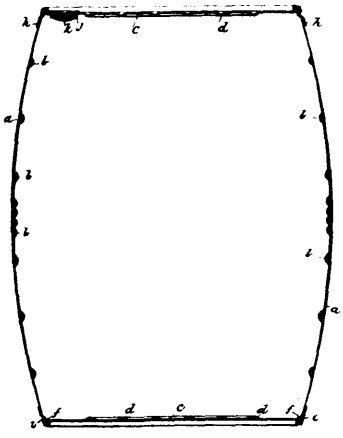
37203 McElroy's Steam Trap.



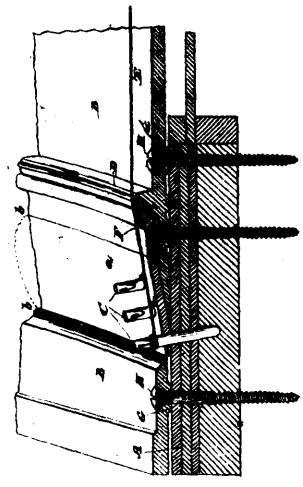
37204 Bartholomew's Grain Scouring Machine.



37205 Olsson's Pattern Card for Knitting



37207 Caird's Metal Barrel.



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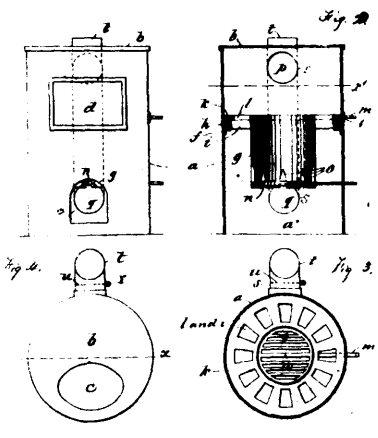

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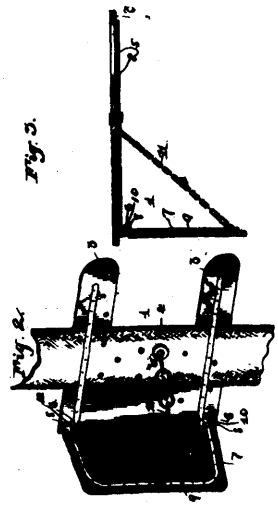

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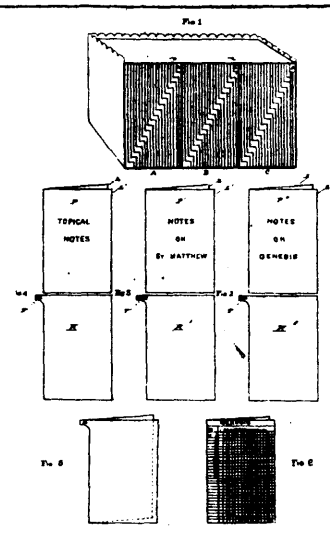

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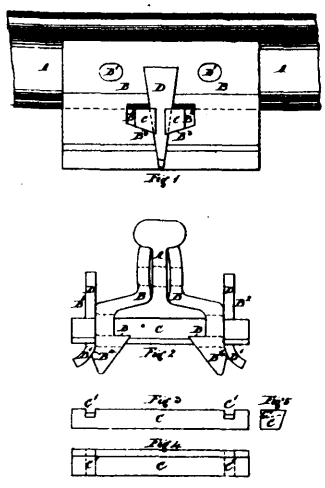

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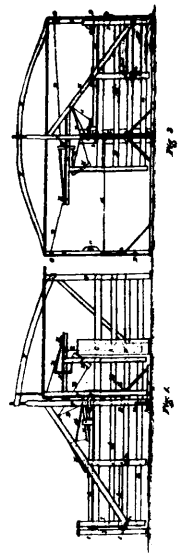

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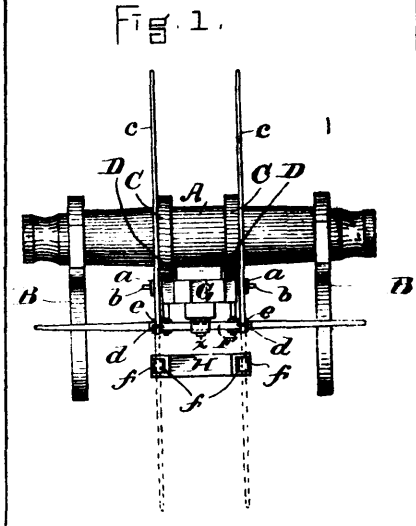

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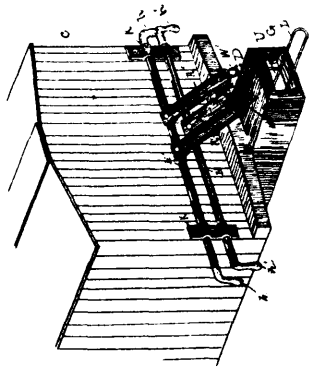

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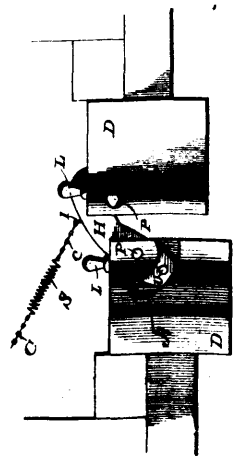

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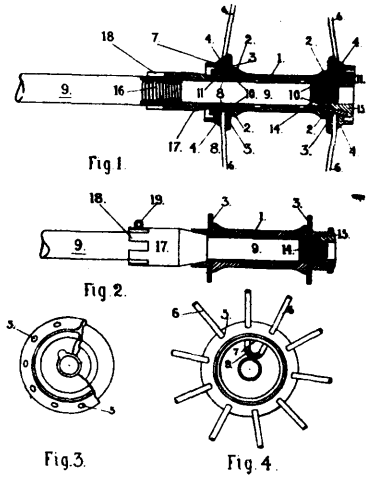

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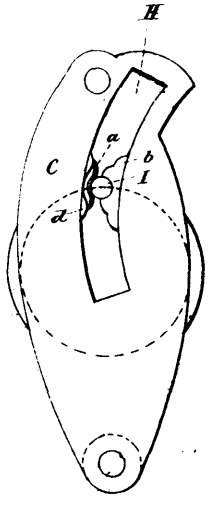

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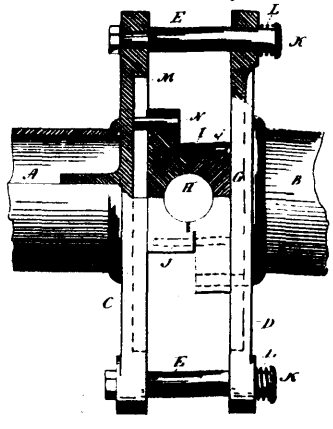

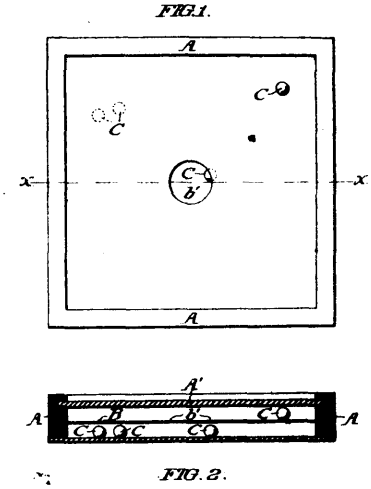

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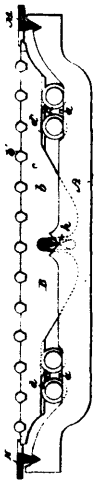

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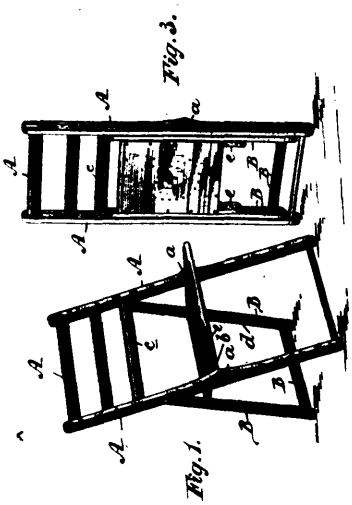

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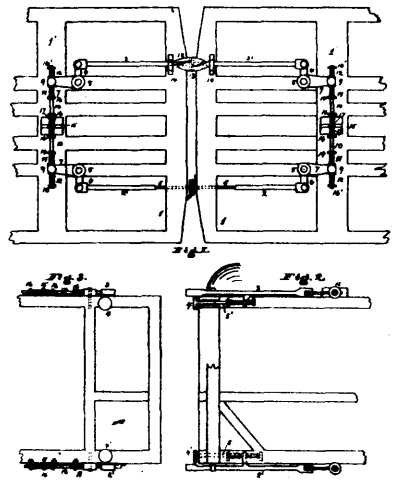

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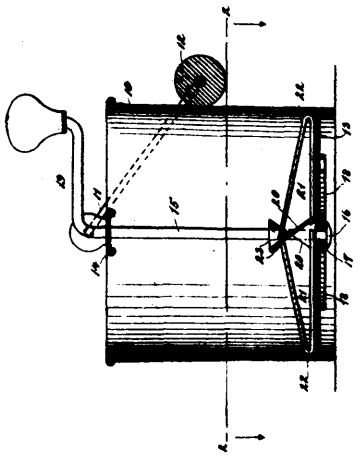

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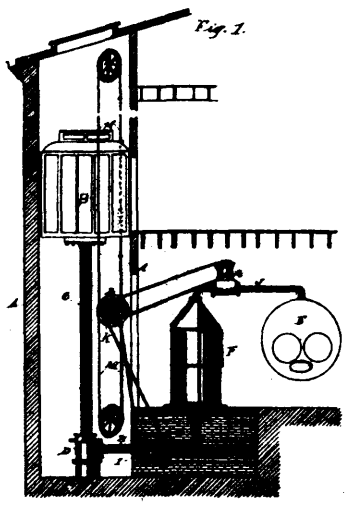

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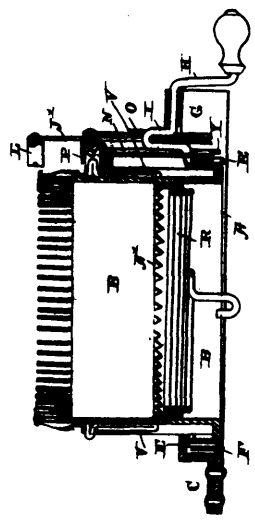

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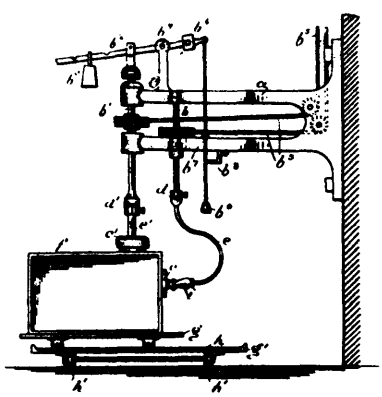

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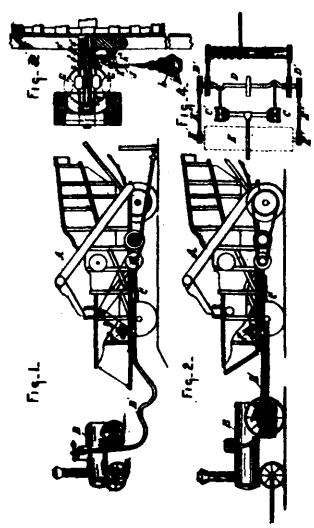

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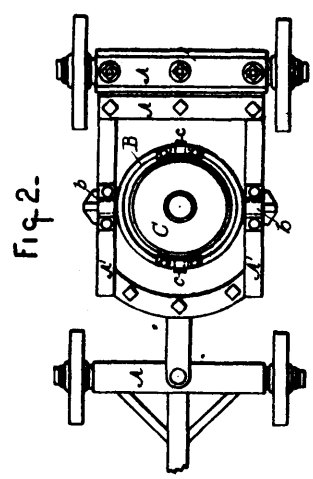

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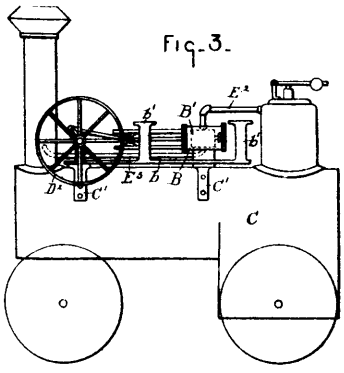

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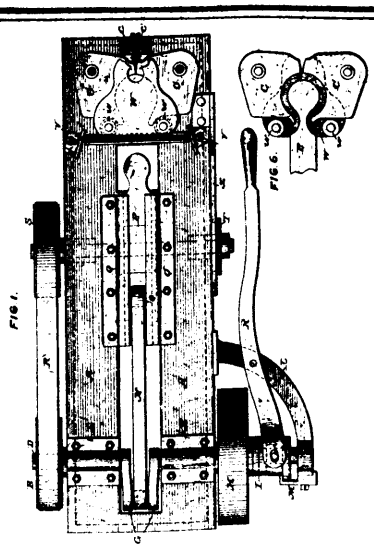

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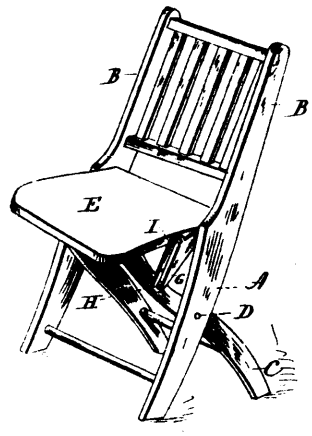

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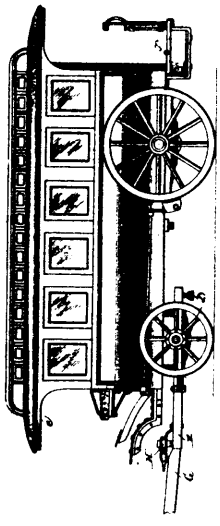

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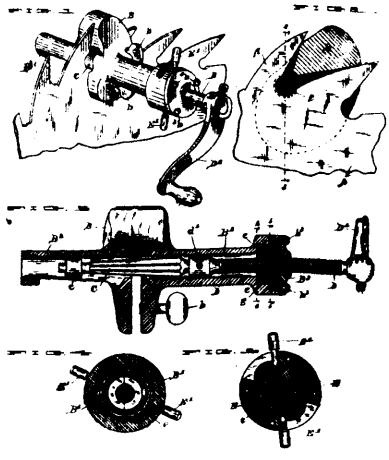

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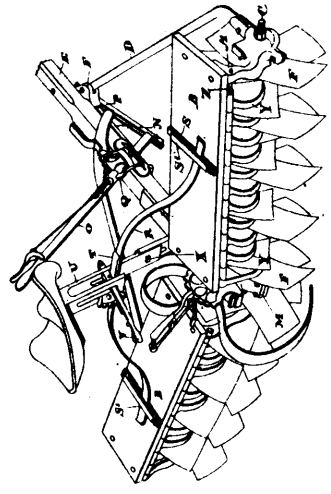

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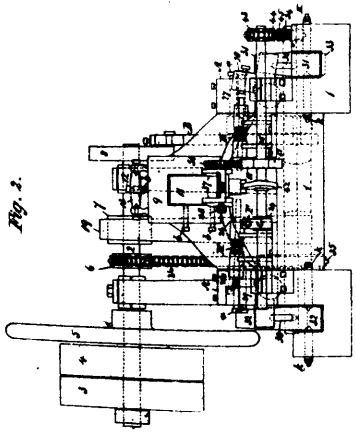

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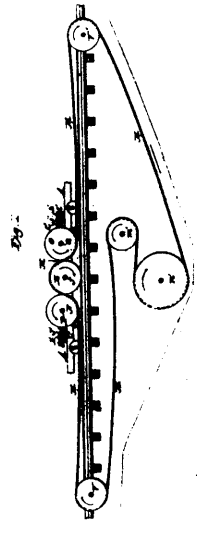

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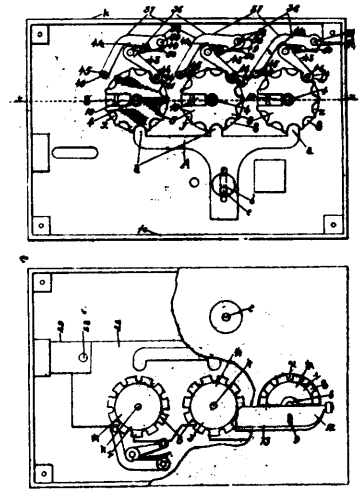

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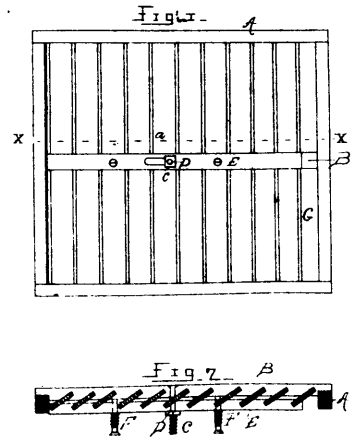

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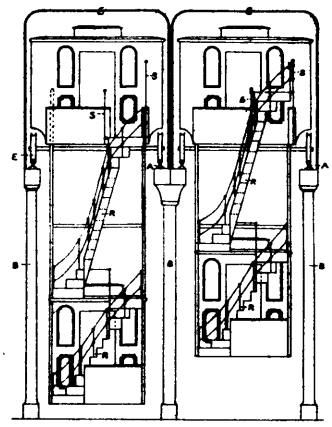

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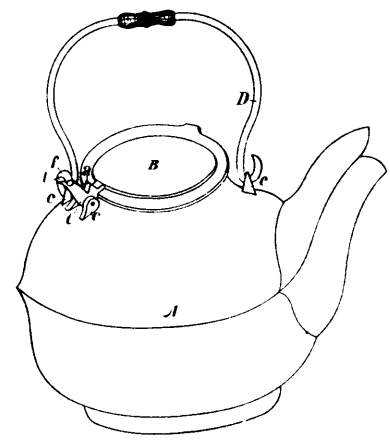

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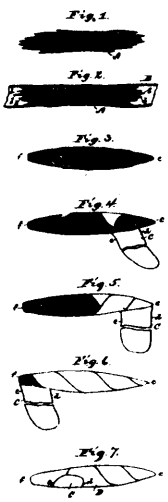

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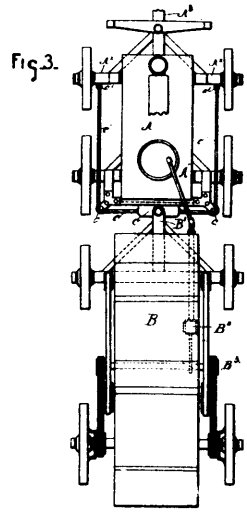

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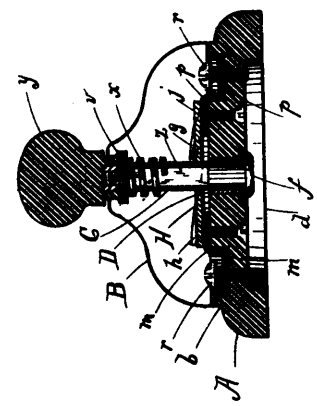

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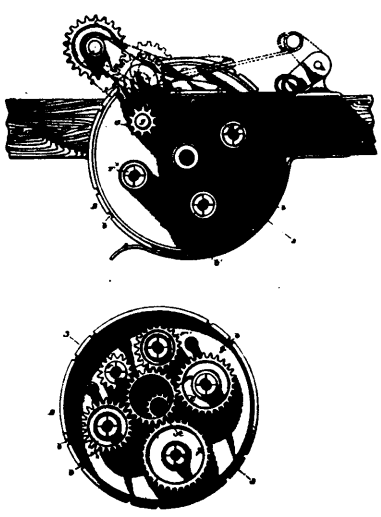

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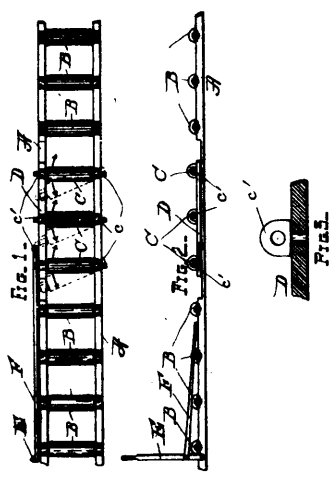

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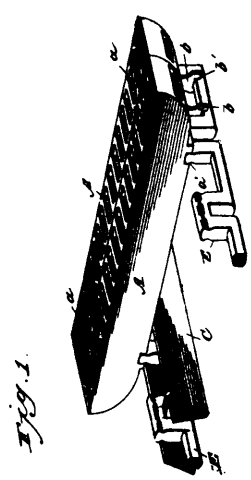

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