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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. 33,822. Thill Coupling.

(*Armon de limonière.*)

Robert W. Campbell, Hamilton, Ont., 1st March, 1890; 5 years.

Claim.—1st. In a thill coupling, the thill G formed with a plane I, in combination with the combined plate c' and spring c, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, in a thill coupling, of an axle clip having jaws F, the thill G formed with the plane I, and the construction of the plate c' and spring c, substantially as and for the purpose hereinbefore set forth.

No. 33,823. Sleigh Knee.

(*Courbe de traîneau.*)

William H. Spear, Humboldt, Iowa, U.S., 1st March, 1890; 5 years.

Claim.—1st. A sleigh knee composed of two parts, the first terminating in a circular disk united to the part at one side by a narrow neck in its own plane, and the second having a recess receiving and closely fitting said disk, whereby the two parts are articulated in a manner permitting limited motion in a single vertical plane only, substantially as set forth. 2nd. The combination, with the runner C and the beam K, of the plate I secured to said beam and bearing the integrally formed neck J and disk H, the knee body A provided with the recess in its upper end to receive said disk and bolted at its lower end to said runner, and the plate F retaining said disk in said recess, substantially as set forth.

No. 33,824. Grate for Burning Saw Dust and other Fuel.

(*Grille pour brûler le bran de scie et autre combustible.*)

James M. R. Kennedy, Shepherd, Mich., U.S., 1st March, 1890; 5 years.

Claim.—1st. In a grate for burning sawdust, the combination of the imperforate bed B, the distributing air chamber C having the annular rows of perforations c, the distributing pipes D underneath the bed, the vertical connections E with the distributing chambers, and the fan or blower, all constructed and operated substantially as described. 2nd. In a grate for burning sawdust, the combination of thereon and consisting of the spherical-shaped casting a provided with the annular row of perforations c, the annular flange b, the bed substantially as described.

No. 33,825. Hot Water Apparatus.

(*Calorifère à eau.*)

Thomas Doherty, Sarnia, Ont., 1st March, 1890; 5 years.

Claim.—1st. In a hot water apparatus, the above described regulating cover plates G, G', constructed and arranged so as to control the admittance of the heat of the fire through suitable apertures to the surfaces of the sections B, B', substantially as shown and specified. 2nd. In a hot water apparatus, the herein described arrangement of sections B, B', for securing the system of surface heating to all their parts and allowing of contract of same, substantially as shown and specified.

No. 33,826. Washing Machine.

(*Machine à blanchir.*)

James H. Coleman and Jacob S. Shafer, Hamilton, Ont., 1st March, 1890; 5 years.

Claim.—In a washing machine, the combination of a cap C having a slot G with opening, the projection F and the valve D with spring fastening I and button E, substantially as and for the purpose hereinbefore set forth.

No. 33,827. Treadle.

(*Marche.*)

Jno. B. Grimes, (assignee of Leonidas G. Woolley,) Grand Rapids, Mich., U.S., 1st March, 1890; 5 years.

Claim.—1st. The combination of two parallel shafts provided with cranks at each of their ends, two treadles each one connected to the two cranks at one end of the two shafts, gear wheels secured to the two shafts, a driven shaft and a wheel secured to the driven shaft and which meshes with the two gear wheels, substantially as shown. 2nd. The combination of two driven shafts upon the four cranks, gear wheels attached to the driven shafts, and a driven shaft provided with a pinion which meshes with both of the gear wheels, substantially as described. 3rd. The combination of a suitable frame work provided with suitable bearings, the two driving shafts C and the driven shaft D, the cranks secured to the ends of the two driving shafts, the treadles which are mounted upon these cranks, the pinion secured to the driven shaft and meshing with the two gear wheels and a band wheel secured to the driven shaft, substantially as specified. 4th. The combination of the driving shafts, cranks secured thereto, and the treadles provided with bearings through which the cranks pass, the bearings of the treadles being cut away as shown at J, substantially as set forth.

No. 33,828. Storage Battery and Cut Out for the Same.

(*Accumulateur et commutateur.*)

Phoebus H. Alexander, Hyde Park, Mass., (assignee of Harry E. Dey, New York, N.Y.) U.S., 1st March, 1890; 5 years.

Claim.—1st. In a secondary or storage battery, the combination with the plates, of a sheet of flexible insulating material formed with grooves or corrugations into which the edges of the plates extend forming separate compartments or cells between each pair of plates and means for clamping the same sheet and plates together to form water tight joints, as set forth. 2nd. The combination, with an outer box or cell, of a lining or inner cell composed of the corrugated or grooved rubber sheet A on the bottom and two opposite sides, and the insulating sheets on the other sides, battery plates with their lower and side edges entering the grooves in the sheet A, and means for clamping or binding together the grooved sheets and the plates to form water-tight joints, as set forth. 3rd. The combination, with the box or cell B, of the corrugated or grooved sheet of rubber applied to the bottom and to opposite sides of the interior of the cell, the plates E with their lower and side edges entering the grooves in the said sheet, and means for clamping and binding together the sheet and the plates to form water-tight joints, as set forth. 4th. The improvement in the art of forming secondary battery plates, which consists in applying to the lead plates an active material in the form of a dry powder, then confining or retaining the material in place by a conducting support, then forming the material by an electric current while so confined, and then removing the support, as set forth. 5th. The improvement in the art of forming plates for secondary batteries, which consists in preparing lead plates with recesses or receptacles, filling the recesses with minium or its equivalent in the form of a dry powder, then placing said plates together with interposed sheets of felt or fibrous material moistened with a conducting solution, and then passing a current through the same to form the material, as set forth. 6th. A thermostatic cut out combined and associated with a secondary battery, in substantially the manner set forth, and adapted to be operated by the heat of the battery fluid when the temperature of the same rises to a given point, as set forth. 7th. The combination, with a secondary battery, of a cut out attached to a part of the battery capable of expansion as the result of a rise of temperature of the battery fluid, and adapted to be operated by such expansion, as herein set forth. 8th. The combination, with a secondary battery, of a band or strip having a different coefficient of expansion under varying temperatures from the material composing the jar or cell, and secured to said cell so as to be moved by the expansion of the same by the heating of the battery fluid, and a contact plate arranged to be encountered by the said strip or band, these parts being constructed as a circuit closer or cut out to divert the charging current from the battery when the fluid therein becomes heated. 9th. The com-

bination, with the expansible cell or case of a secondary battery, of a bent or bowed metal strip E secured to the side of the cell at two points, the contact strip F extending under the same, an electrical connection between the poles of the battery and the said strips whereby the contact of the two strips will shunt the battery, as herein set forth. 10th. The combination, with a secondary battery, of a body or receptacle containing a liquid and supported in the solution in such position that the liquid therein will be displaced by gas evolved from the solution, and a cut out device adapted to be operated by the movement of said body due to the displacement of liquid by the ascending gas, as set forth. 11th. The combination, with a secondary battery, of a receptacle, containing liquid, open at one end and supported in an inverted position in the battery solution, and a cut out device in position to be encountered, and adapted to be operated by the said receptacle when movement is imparted thereto by the displacement of the liquid by gas evolved from the solution, as set forth. 12th. The combination, with a secondary battery, of a U-shaped tube filled with liquid and supported in an inverted position in the solution and contact terminals of a cut out device in position to be brought into engagement by an upward movement of the tube due to the displacement of liquid therefrom by gas evolved from the solution, as set forth.

No. 33,829. Drive Chain. (*Chaîne sans fin.*)

Thomas Maxon, Daniel E. McSherry and Edward Brenneman, Dayton, Ohio, U.S., 1st March, 1890; 5 years.

Claim—The combination of the frames *b, b*, provided with hooks *c, c*, the hook of one frame being larger than the hook of the other frame and adapted to embrace it, substantially as set forth.

No. 33,830. Shoe Last adjustable to all directions. (*Forme brisée.*)

Bernhard Thorner and Muller and Holzweissig, Leipsic, Saxony, 1st March, 1890; 5 years.

Claim—1st. A mechanical shoe or boot last comprising 4 main parts, of which two parts A and two parts B are movably connected by means of hinges *c* and whose displacement vertically is effected by means of the fork *d d* and by the hollow screw spindle D on the shaft *a*, whilst their displacement horizontally is produced by the shaft *a*, the bevel wheels *f* and *k*, the screw spindle *g* and the wedge *l*, substantially as described. 2nd. In the mechanical boot and shoe last specified in claim 1, the connection of the front parts F, F', with the after parts H, H', of the last, by means of adjustment screw *s* for the purpose of lengthening or shortening the last, substantially as described.

No. 33,831. Car Mover. (*Impulseur de char.*)

Abraham L. Wiley, Bethel, and Belle Thompson, Richmond, Ind., U.S., 1st March, 1890; 5 years.

Claim—A car mover consisting of clamp B¹ and lever B², formed and combined as set forth and shown.

No. 33,832. Harrow and Clod Crusher. (*Herse et brise-motte.*)

Alice Snauld and Ellen Phelps, Detroit, Mich., (assignees of Lucius B. Phelps, Eagleville, Ohio, U.S.), 1st March, 1890; 5 years.

Claim—1st. The combination of the frame, the clod crusher sections arranged side by side and having their front ends loosely connected with the frame, and the harrow bar connected to the frame in the rear of the clod crusher sections, as set forth. 2nd. The combination of the frame, the clod crusher sections loosely connected thereto, the harrow bar loosely connected to the frame in the rear of the clod crusher sections, and the markers carried by the harrow bar and adjustable both vertically and longitudinally thereon, as set forth. 3rd. The combination of the frame, the arched bar secured to the rear portion of the same, the clod crusher sections having their front ends loosely connected with the frame, and the chains secured to the rear portions of said sections and adapted to suspend the same from the side arched bar, as set forth. 4th. The combination of the frame of the clod crusher sections having the teeth L and the pulverizing bar M, and the links N having their front ends pivoted to the frame and their rear ends pivoted to the clod crusher sections, as set forth. 5th. The combination, with the harrow bar having a longitudinal series of bolt holes, of the markers having longitudinal slots or notches in their upper portions, and the securing bolts passing through said slots or notches into one of bolt holes in the harrow bar, as set forth.

No. 33,833. Curry-Comb. (*Etrille.*)

James Du Shane, South Bend, Ind., and Thomson H. Alexander, Washington, D.C., U.S., 1st March, 1890; 5 years.

Claim—1st. The herein described curry-comb consisting of a series of rings or loops formed of serrated strips of flat metal arranged one within the other and lying in the same horizontal plane, washers interposed between the rings or loops at one point only, a handle and a bolt passing through the rings or loops and washers and confining or securing the rings to the handle at one point only, substantially as specified. 2nd. As an improved article of manufacture, the curry comb composed of a series of rings or loops formed of serrated strips of flat metal lying in the same horizontal plane, washers placed between said rings or loops at one side thereof at the point of attachment to the handle, and also having a flattened head extending over the washers, and also having a depending lug and a bolt passing through said rings or loops, washers and lugs to secure the rings to the handle, all substantially as described.

No. 33,834. Machine for Covering Card Board Boxes with Paper. (*Machine à couvrir les boîtes de carton avec du papier.*)

Louis P. Bouvier and Arthur J. Phillips, Toronto, Ont., 1st March, 1890; 5 years.

Claim—1st. A gumming roller G suitably journaled within a gum dish H, a roller K journaled in proximity to the roller G, in combination with the scraper L supported on the arms M which are adjustably connected to the bracket N, substantially as and for the purpose specified. 2nd. The combination, with the box-supporting table X, of the side Y and end Z adjustably connected to the said table, substantially as and for the purpose specified. 3rd. A box supporting table X pivoted at H¹ on the bracket I¹, in combination with the horn K¹ rigidly connected to the table X, and adjustably connected to the bracket I¹ by the clamping jaws J¹ and bolt L¹, substantially as and for the purpose specified. 4th. The shaft O¹ driven by any suitable motor and having a bevel pinion P¹, fixed to its inner end, and meshing with the bevel pinion Q loosely journaled on the counter shaft R¹, and having a hub S¹ formed on it to project into a recess in the split clutch T¹, in combination with the bolt X¹ and spring Y¹, to elastically press the halves of the clutch T¹ against the hub S¹, and a plate Z¹ inserted between the halves of the clutch T¹ arranged to open the said clutch sufficiently to relieve the pressure on the hub, substantially as and for the purpose specified. 5th. A split clutch T¹ connected to the counter shaft R¹ and encircling the hub S¹ formed on the beveled pinion Q meshing with the pinion P¹, but loosely journaled on the counter shaft R¹, a plate Z¹ inserted in the split in the clutch T¹, the bolt X¹ and spring Y¹, in combination with mechanism designed to direct pressure against the plate Z¹ so as to open the clutch T¹, substantially as and for the purpose specified. 6th. A forked bracket b held in its normal position by the spring *d*, and having pivoted upon it the dog *e* arranged to engage with the upper end of the treadle V, in combination with the said treadle V actuated by the spring *f* and designed to operate the pivoted bracket *b*, substantially as and for the purpose specified. 7th. The lever *g* pivoted in the frame of the machine, and connected by the links *h* to the carriage *i*, which is supported on the guide rods *j* and carries the disc-knife W, in combination with the rod *k* connected to the lever *g* and to a crank on the disc *m*, which is connected to the counter shaft R¹, so that the revolving of the disc *m* shall impart a rocking movement to the lever *g*, substantially as and for the purpose specified. 8th. The cord *n* fastened at both ends to the frame of the machine and carried around the pulleys *o* and *p*, in combination with the movable carriage *i*, arranged substantially as and for the purpose specified. 9th. The bent rod *q* connected to the rod *r*, which is journaled in the frame of the machine and has fixed to it a crank *s* connected to the vertical rod *t*, in combination with a cam *u* fixed to the counter shaft R¹ and caused to act on the roller *v*, so that the revolving movement of the counter shaft R¹ shall impart a rocking movement to the rod *r*, substantially as and for the purpose specified.

No. 33,835. Device for Leveling Railroads. (*Appareil pour niveller les voies de fer.*)

William Rose, Lerado, Kan., U.S., 1st March, 1890; 5 years.

Claim—1st. The combination, with a rail, of a telescope stand clamped thereon adjustably and having an adjustable telescope support, and of a target stand carrying an adjustable target and provided with a base clamped upon the rail in front of the telescope stand, substantially as specified. 2nd. A stand for targets or sight telescopes consisting of a U-shaped base adapted to embrace and to be secured upon the head of a rail, and a laterally and longitudinally adjustable glass or target carrying standard having a longitudinal slot provided with a scale and for the reception of a telescope or target supporting set screw, substantially as specified. 3rd. The combination, with the base having an adjustable clamping side adapted to embrace the head of a rail and a vertical set screw, of an L-shaped standard, the lower portion of which is longitudinally slotted and connected to the base by set screw, and the upper portion of which is longitudinally slotted and provided with a scale, and a glass supporting cross piece mounted on the standard and having spring glass retaining arm, and a set screw passing through the cross piece and through the slot in the standard, substantially as specified.

No. 33,836. Wheel. (*Roue.*)

Jacob Dunstedter, Edwardsville, Ill., U.S., 1st March, 1890; 5 years.

Claim—1st. In a car wheel, the combination, with the rim provided with an interior rib having grooves *a*², *a*², and the inclined bearing surfaces *a*², *a*², of the disks having the flanges *b* and *b*¹ substantially as described. 2nd. In a car wheel, the combination, with the axle and the rim provided with the interior rib *a*, grooves *a*² and bearing surfaces *a*², inclined as described, of the disks B having the flanges *b, b*¹, and hub portions C and bolts E, substantially as specified.

No. 33,837. Fastener for a Trace to a Single Tree. (*Crochet de palonnier.*)

Jehiel F. Wynkoop, Corsica, Penn., U.S., 1st March, 1890; 5 years.

Claim—In a new article of manufacture, a clamp or fastener for attaching a trace to a single tree, said device being adjusted on each end of a single tree by means of a bolt passing through same, the lower portion of bolt being threaded and a nut placed thereon, said nut being securely held in position by means of one end of said fastener being driven against same, substantially as described and for the purpose set forth.

No. 33,838. Bee Hive. (Ruche.)

Jackson B. Wilcox, Manistee, Mich., U.S., 1st March, 1890; 5 years.

Claim.—1st. In a bee hive, the combination, with a hive having a removable lid and bottom, of a series of comb frames detachably supported in the said hive, a spacing device consisting of a body bar and downwardly projecting spaced arms adapted to be introduced between the several comb frames, and a transversely extending fastener rigidly securing the body bar to the body of the hive, whereby the hive may be inverted and its bottom removed without disarranging the frames, substantially as described. 2nd. In a bee hive, the combination, with a body provided with a removable lid and bottom and a recess in the inner face of each of its opposite ends or sides, of a series of comb frames, spacing devices extending transversely over the several frames and entering the said frame recesses, comprising a body bar contacting with the upper surface of the said frames, and arms downwardly projected from the said body bar between the several frames, and a lock introduced through the hive bearing upon the said spacing devices, substantially as and for the purpose specified. 3rd. In a bee hive, the combination, with a body provided with removable lid and bottom and a recess in the inner face of each of its sides, and a series of comb frames entered in the said recesses, of a spacing device extending transversely across the several comb frames comprising a body bar contacting with the upper face of the said comb frames at or near their ends, and arms projected from the under face of the said body bar between the sides or ends of the body of the hive and the opposed comb frames, and also between the intermediate comb frames, and a set or thumb screw passing through the hive and bearing upon the said body bar, all combined for operation substantially as shown and described. 4th. In a bee hive, the combination, with the hive, of a series of comb frames supported therein, spacing devices contacting with and bearing upon the said comb frames, comprising a body bar and arms perpendicularly projected downward between the several comb frames, and a set or thumb screw passing through the hive bearing upon the body bar, substantially as described, whereby the hive may be inverted when desired and the comb frames be rigidly held within the said hive yet rendered capable of being removed on occasion, substantially as and for the purpose specified.

No. 33,839. Household Furniture. (Meuble.)

Martin J. Walsh, Parsons, Penn., U.S., 1st March, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a piece of furniture consisting of a box-like body having a chair seat pivoted therein, which seat is provided with suitable front hinged legs, arms hinged to the side pieces of the body, and a desk supported by and secured to the arms when the latter are sustained in a horizontal position, substantially as and for the purpose specified. 2nd. As an improved article of manufacture, a piece of furniture comprising a body portion having a wide base, a chair seat hinged at one end between the side pieces of the body and provided with hinged legs, arms hinged to the side pieces of the body at or near the top having bifurcated outer ends, a brace bar hinged in the bifurcated extremities of the arms adapted to rest in sockets secured to the side pieces of the body, a writing desk table provided with battens upon the under surface adapted to fit in the bifurcated ends of the arms when the latter are in a horizontal position, and buttons pivoted upon the said battens, substantially as shown and described, whereby the article of furniture may be employed as a writing desk and seat, or as a seat, or as a kneeling or prayer bench, as set forth. 3rd. The combination, with a body comprising vertical side pieces, a top piece and a base of greater width than the side pieces, said base provided with a series of apertures or sockets, and blocks containing cavities attached to each of the side pieces of the body, legs hinged to the base, arms bifurcated at their outer ends hinged to the sockets at the body at or near the top, each arm provided with an attached pivoted brace capable of entering the cavities of the side blocks, and a writing table provided with battens upon the under surface capable of entering the space between the members of the arms, and buttons pivoted to the said battens, substantially as shown and described, whereby the table is secured to the said arms over the chair, as and for the purpose specified.

No. 33,840. Nut Lock. (Arrête-écrou.)

Isaac S. Humbert, Staunton, Va., U.S., 1st March, 1890; 5 years.

Claim.—1st. The combination, with the bolt having an integral thread, and the nut having a transverse groove in its threaded portion, the bottom of said groove being curved, substantially as and specified, of the transversely wedge shaped and longitudinally curved and tapered key C having a hardened or steel body and soft tip to adapt it to cut the bolt thread and clasp in the nut groove, as shown and described. 2nd. The tapered curved nut locking key C, whose convex side is beveled and thus forms a sharp edge adapted to make an indentation in the thread of a bolt, and whose body and tip are made of hard and soft metal respectively, as and for the purpose set forth.

No. 33,841. Hay Press. (Presse à foin.)

Henry C. Hall, Augusta, Ga., U.S., 1st March, 1890; 5 years.

Claim.—The combination, with the press box having slotted ends, and the ratchet bars secured thereto, of the heel block, the follower bar having longitudinally sliding bolts provided with cross pieces at their outer ends, springs to force the said bolts in an inward directing motion, links pivoted to the cross pieces of the bolts, and upwardly extending pins to engage the said links, and the hooks pivoted to the operating levers having eyes to engage the said hooks, and beveled ends to engage the ratchet bars, substantially as set forth.

No. 33,842. Thill Coupling.

(Armon de limonière.)

Zora B. Custer and Charles W. Woollever, Dansville, N.Y., U.S., 1st March, 1890; 5 years.

Claim.—1st. In a thill-coupler, the combination, with an elastic washer thereon, of a hood provided with spiro-radial serrations in its roof, adapted to engage or bear upon said elastic washer and be locked in any position to which it may be turned thereon, as and for the purpose described. 2nd. In a thill-coupler, the combination, with a round elastic washer, of one or more hollowed and grooved metal caps having thereon spiro-radial serrations adapted to engage with an elastic washer when pressed thereon, for the purposes set forth. 3rd. In a thill-coupler, the combination of the body A having a cup shaped socket b', shaft-iron B having ball d and trunnions e, metal hood E and cap C, both provided with spiro-radial serrations, and the cap adapted to fit over the ball d and trunnions e, substantially as and for the purposes described.

No. 33,843. Shoe Upper. (Oreille de soulier.)

Robert W. Smith, Frankfort, Ky., U.S., 1st March, 1890; 5 years.

Claim.—1st. The combination, in a shoe upper, of a quarter and a bottom fly secured together by a seam of stitches extending part way down the front, the quarter having a flap extending across the lower end of the said front seam, the said flap being joined to the lower end of the fly by a transverse seam, substantially as shown and described. 2nd. The combination, in a shoe upper, of a quarter and a bottom fly secured together by a seam of stitches extending down the front so far as the shorter of the two extends, one of the said portions being provided with a flap extending across the said front seam, and joined to the other by a transverse line of stitches, substantially as described.

No. 33,844. Tailor's Heating Stove.

(Poêle de tailleur.)

George Hay, Pictou, N.S., 1st March, 1890; 5 years.

Claim.—A tailor's heating stove, consisting of the fire chamber D, surrounded by the walls of the stove, an ash-pit E below the fire-chamber, an oven M above the fire chamber flues O, from opposite sides of the fire chamber, and connecting with flues N at opposite sides of the oven and outlet in the top of the stove and dampers to regulate the draft, substantially as set forth.

No. 33,845. Churn. (Baratte.)

Thomas Clarke, Wolfville, N.S., 1st March, 1890; 5 years.

Claim.—The combination of the body A, having an annular rim B, the cover C provided with a cap N, and having a bracket D, cog segment E, cog pinion J provided with a shank K, bolt H, pinching screw I, and the dash L having a socket into which said shank fits, as set forth.

No. 33,846. Veneer Cutting Machine.

(Machine à bois de placage.)

Edwin F. Smith, Syracuse, N.Y., U.S., 1st March, 1890; 5 years.

Claim.—In a veneer cutting machine, the combination of a rectilinearly reciprocating knife, having a straight cutting edge obliquely to the line of travel, and a block holder having the plane of the block seat at an acute angle to the cutting edge of the knife, whereby the knife is caused to cut the block endwise of the grain, and at an acute angle uniformly throughout the depth of the block, substantially as set forth and shown.

No. 33,847. Boat. (Bateau.)

Alfred Evans, Toronto, Ont., 1st March, 1890; 5 years.

Claim.—A boat, composed of the sections A, B, and C, and angle plate D fastened to the edge of each of the sections, which are jointed together by the bolts E and packing F, substantially as and for the purpose specified.

No. 33,848. Internal Combustion Thermo-Motor. (Thermo-moteur à combustion interne.)

James Hargreaves, Farnworth, Eng., 3rd March, 1890; 5 years.

Claim.—1st. In an internal combustion motor or cylinder 2, jacket 3, regenerator 4 and cover 5, disposed substantially as set forth and shown, in combination with means for supplying air and fuel to the cylinder and for discharging the products of combustion. 2nd. In an internal combustion motor, a cylinder 2, having a refractory lining 9 held in position by rings 10, as shown and described. 3rd. In an internal combustion motor, a cylinder 2, provided with a piston 13 and fitted with a scraper ring 17, as shown and described. 4th. In an internal combustion motor, the combination of the parts 20, 22, 23 and 26, as shown and for the purpose set forth. 5th. In an internal combustion motor, the combination of a jacket 3, way 42, valve chest 43, valve 44 and actuating gear, as shown and for the purpose set forth. 6th. In an internal combustion motor, a regenerator cover having closely and loosely packed spaces, for the purpose set forth.

No. 33,849. Therapeutic Magnet.

(Aimant thérapeutique.)

Thomas H. Hicks, Detroit, Mich., U.S., 3rd March, 1890; 5 years.

Claim.—1st. In a therapeutic magnet, the combination, with a magnet, of a series of metallic contacts or poles in the magnetic

field thereof, and in graduated proximity to the poles of said magnet, and of a metallic frame supporting said magnet, and series of poles in fixed relation to each other, substantially as described. 2nd. In a therapeutical magnet, the combination, with a magnet, of a series of metallic contacts or poles located in different parts of the magnetic field thereof, a hollow metallic casing inclosing and supporting the magnet, and a series of metallic rods secured thereto at right angles to the axis of the magnet and carrying the series of metallic poles, substantially as described. 3rd. In a therapeutical magnet, the combination of the magnet, the enclosing metallic globe A, the screw plugs C and D supporting the magnet, the tubular rods E, E', secured to the screw plugs, the intermediate tubular rods E', E'', etc., secured to the globe A, the cross-bar G, the metallic contacts of poles K secured to the free ends of the tubular rods, and the iron cores secured in the tubular rods, all arranged substantially as described. 4th. The magnet B enclosed in a metallic frame, adapted to be used as an electrode in producing galvanic currents, substantially as and for the purpose described.

No. 33,850. Clock Movement and the like.

(*Mouvement d'horlogerie et autre.*)

Henry S. Prentiss, Elizabeth, N.J., U.S., 3rd March, 1890; 5 years.

Claim.—1st. In a clock movement, an equalizing spring for the governing member, and a main spring for actuating the train normally held out of action and released at determinate intervals to rewind the equalizing spring and to actuate the movement, substantially as described. 2nd. In a clock movement, a main spring for actuating the train normally held out of action, an equalizing spring for the governing member adapted to be coiled by said main spring, and a device actuated by the uncoiling of the equalizing spring to release the main spring, said main spring on its release recoiling the equalizing spring and actuating the train, substantially as described. 3rd. In a clock movement, a stop for holding the main spring out of action, an equalizing spring for the governing member incorporated in said movement, and a device for releasing the main spring to coil the equalizing spring and to actuate the train, substantially as described. 4th. In a clock movement, a timing device, an equalizing spring for the timing device controlled thereby, a main spring for recoiling the equalizing spring at determinate intervals and for actuating the train during such periods of recoiling, a stop for the main spring, and a device actuated through the uncoiling of the equalizing spring to release the main spring from the action of the stop, substantially as described. 5th. In a clock movement, a main spring for actuating the train normally held out of action, an equalizing spring for the governing member adapted to be coiled by said main spring through the intermediate train, and a device actuated by the uncoiling of the equalizing spring to release the main spring, said main spring, when released, recoiling the equalizing spring and actuating the movement during such period of recoiling, substantially as described. 6th. In a clock movement, an equalizing mechanism incorporated in the train or hand actuating mechanism and controlling the main spring, said main spring recoiling the spring of the equalizing mechanism and actuating the said train during the period of recoiling said spring, substantially as described. 7th. The combination, of a main spring, an equalizing spring, a winding arm arranged to be actuated through an intermediate train by the main spring to coil the equalizing spring, and suitable stopping and starting devices, substantially as described. 8th. The combination of a main spring, an equalizing spring, a winding arm arranged to be actuated through an intermediate train by the main spring, an escapement for controlling the uncoiling of the equalizing spring, and suitable stopping and releasing devices, substantially as described. 9th. The combination of a main spring, a revoluble shaft, a train of gear wheels between the shaft and the main spring, all constituting a motor, a winding device carried by one of the gear wheels of the train, an equalizing spring having one end attached to the shaft and the other to the winding device, a regulator or governing member, a stop for holding the main spring out of action, and a releasing device actuated at determinate intervals, substantially as described. 10th. In a mechanical motor, the combination of the main spring, a main shaft, a winding arm, a spring having its inner end attached to the main shaft and its outer end to the winding arm, a tripping mechanism actuated by the main shaft, and a gear connection between the main spring and the winding arm, substantially as described. 11th. The combination, with the main spring and the main shaft, of a winding arm having two stops, a spring attached to the main shaft and to the winding arm, a stop for successively engaging the stops on the winding arm, a cam or eccentric on the main shaft for actuating the latter stop, and a connection between the main spring and the winding arm for actuating the latter when released from the stop, substantially as described. 12th. An equalizing mechanism for spring motors, consisting of a revoluble shaft, a winding arm arranged to turn about a centre in line with the shaft and provided with two stops, an equalizing spring having one end attached to the revoluble shaft and one to the winding arm, an arm provided with a stop adapted to engage with the stops of the winding arm, a cam on the revoluble shaft, and an arm engaged by the said cam and connected with the stop bearing arm, substantially as described. 13th. In a mechanical motor, the combination of a main spring, a winding arbor, and gears connecting the winding arbor with the spring gear, said gears forming a part of the train of the motor, substantially as described. 14th. In a mechanical motor, the combination of two or more main springs, a common winding arbor, gears connecting the winding arbor to the spring gears, and a train of gears connecting the winding arbor to the centre arbor, said gears forming a part of the train of the motor, substantially as described. 15th. In an equalizing mechanism for spring motors, a revoluble shaft, an escapement wheel mounted on said shaft, a winding device, a spring having one end attached to the shaft and the other to the winding device, and a gear connected with the motor and actuating the winding device, all said parts being arranged about one and the same centre line or axis, substantially as described. 16th. The combination, with the frame A, of a post secured in said frame, a shaft E arranged in line with the post and having a bearing therein,

a winding device F mounted on the post, a spring H connected with the shaft and the winding device, a stop and a cam engaging said stop, substantially as described.

No. 33,851. Drinking Fountain. (*Fontaine.*)

James W. Black, Toronto, Ont., 3rd March, 1890; 5 years.

Claim.—1st. A fountain, having one or more apartments so arranged to permit the ready removal or placing the cylinder containing the hot or cold drinks, and having a set of drawers fitted with suitable crocks, one drawer containing a set of crocks fitted with suitable taps and filled with cold or summer drinks, and the other drawer fitted with suitable crocks, provided with spoons or ladies, and filled with extracts for winter or hot drinks, substantially as and for the purpose set forth. 2nd. In a fountain, having one or more apartments, the combination of the hot drink cylinder C, heater G, cold drink cylinder C', tap c, plunger d, plunger rod e, treadle H and connecting rod f, substantially as and for the purpose set forth. 3rd. In a fountain, having one or more apartments, the combination of the hot drink cylinder C, heater G, cold drink cylinder C', tap c, plunger d, plunger rod e, treadle H, connecting rod f, substantially as and for the purpose set forth. 4th. In a fountain, having one or more apartments, the combination of the hot drink cylinder C, heater G, cold drink cylinder C', tap c, plunger d, plunger rod e, treadle H, connecting rod f, valve g, spring i, substantially as and for the purpose set forth. 5th. In a fountain, having one or more apartments, the combination of the hot drink cylinder C, heater G, cold drink cylinder C', tap c, syrup drawer D, provided with crocks fitted with suitable taps, and the extract drawer E provided with crocks fitted with spoons or ladies, substantially as and for the purpose set forth.

No. 33,852. School Slate, Drawing Board and the like. (*Ardoise d'école, de dessin et autre.*)

George C. Graham, Montreal, Que., 4th March, 1890; 5 years.

Claim.—1st. The combination, with a school slate, drawing board, or the like, of a pocket formed in the frame of same, for the reception of a pencil, etc., and a slide or cover for holding such pencil in place and adapted for use as a ruler, as described. 2nd. The combination of a frame A having a recess or vacancy D, with dovetailed edges and depression or pocket D, or slide B suitably graduated to form a rule, and catch C, as shown and described.

No. 33,853. Vent. (*Event.*)

William B. Malcolm and Benjamin Kirk, Toronto, Ont., 4th March 1890; 5 years.

Claim.—1st. A vent consisting of a suitable chamber A, provided with an inlet pipe B, an outlet pipe G, and a ball E suspended in the said chamber A, substantially as and for the purpose set forth. 2nd. A vent consisting of a suitable chamber A provided with an inlet pipe B, fitted with a flange D, an outlet pipe C, and a ball E, suspended in the said chamber A, substantially as and for the purpose set forth.

33,854. Pile Covering. (*Couverture de pieu.*)

Henry Anderson, San Francisco, Cal., U. S., 4th March, 1890; 5 years.

Claim.—1st. A pile covering consisting of the semi-cylindrical plates having longitudinal meeting flanges on opposite sides, slots made through said flanges, and bolts fitting said slots, and holes made through the shanks of said bolts, with rods passing through said holes parallel with the flanges, whereby they are locked together, substantially as herein described. 2nd. A pile covering consisting of the semi-cylindrical plates, with flanges, perforated bolts and locking rods, in combination with bands or straps inclosing the meeting or abutting ends of the covering sections, these straps having outwardly turned, perforated flanges and bolts, whereby said flanges are secured in conjunction with the main section, substantially as herein described. 3rd. A pile covering consisting of the semi-cylindrical plates with meeting flanges, perforated bolts passing through the flanges, and locking-rods passing through the bolts, bands encircling the plates at their joints and secured to the flanges by the bolts and rods, and butt straps on the inner surface of the plates at their joints, substantially as herein described.

No. 33,855. Arm Support for Telephones.

(*Appui-bras pour les téléphones.*)

Isaac Holzmark, Kansas, Kan., U. S., 4th March, 1890; 5 years.

Claim.—1st. An adjustable arm-support for telephones composed of main column B secured in the base C, said column B being provided with a suitable dog F, which catches in ratchets i, of the adjustable ratchet rod I, thus holding the arm in position at any desired height, substantially as set forth and described. 2nd. An adjustable arm support for telephones having the ratchet bar I operating in the supporting column B, said supporting column B being screwed or otherwise rigidly secured in the metallic base C, and supported by suitable braces D, adjustable rod I being also provided with a metallic plate H at its top on which is secured the upholstered or other suitable pad h, to form a cushion for the arm when said support is being used, substantially as set forth and described. 3rd. An arm support for telephones having the main column B properly secured in base C, being braced if found necessary by suitable braces D, said column B being also provided with a suitable dog F which operates in notches i of the ratchet rod I, and is held in position by a flexible steel spring G, in the manner and substantially as set forth and described.

No. 33,856. Machine for Playing Games of Chance. (*Machine pour jouer les jeux de hazard*).

Anthony Harris, Middlesborough, Eng., 4th March, 1890; 5 years.

Claim.—1st. An apparatus for playing games of chance or the like, in which the weight or impact of a predetermined coin automatically imparts to the rotatable member or an indicating device an uncertain amount of rotation in one direction, substantially as described. 2nd. A machine for playing games of chance or the like, in which the movable member of a suitable indicating or exhibiting device is connected with a ratchet wheel or its equivalent, such as described, which is driven in one constant direction by the successive forward strokes of a split pawl, the said split pawl being mounted upon or connected with the vibratory armature of an automatic electric circuit making and breaking device, the coil or coils of which is comprised in an electric circuit having a pair of contacts which stand normally open, but are adapted to be closed for a short time on the insertion of a predetermined coin into the machine, through the medium of suitable balanced mechanism operated by said coin, substantially as described. 3rd. In a machine for playing games of chance, exhibiting pictures or the like, the combination of parts consisting of a ratchet wheel or its equivalent, such as described, movable synchronously with the movable member of the indicating or exhibiting device, a vibratory or reciprocal piece adapted to be operated directly or indirectly by the user, and a split pawl spring pivoted upon the said vibratory or reciprocal piece, and adapted to engage and rotate the said ratchet wheel or its equivalent, such as described, at each successive forward stroke, but to slip over the periphery of the same at each return stroke, substantially as described. 4th. In a machine of the kind described, the combination of a rotatable spindle carrying a ratchet wheel or its equivalent, such as described, and of a split pawl suitably mounted in proximity to said wheel upon the vibratory armature of an automatic electric circuit making and breaking device, and adapted to engage the wheel and rotate its spindle in one constant direction whenever the said armature is caused to vibrate, substantially as described.

No. 33,857. Tecter. (*Escarpolette*).

Robert E. Stewart, Toronto, Ont., 4th March, 1890; 5 years.

Claim.—1st. In a tecter as an amusement for children, a lever arm suitably formed at one end to support a seat provided with two legs equally divergent laterally and doubly divergent in depression from the line of said arm, provided on the upper side at the which a spiral spring is hooked and secured at its opposite end to a suitable support, substantially as shown and described and for the purpose specified. 2nd. In a tecter, the legs converging upwards and web thereon, providing means for a changeable leverage on an attached spiral spring suitably secured at its opposite end, and exerting said seat having a lazy-back and tie strap, substantially as shown and described and for the purpose specified. 3rd. In a tecter, and attached at its lower end to a web, providing changeable leverage depressing at an angle therefrom, said arm divided into divergent ends, a suitable seat having a lazy-back and tie strap, and reversible on the end of said arm, substantially as shown and described and for the purpose specified. 4th. In a tecter, the seat provided with a lazy-back and tie straps, and reversible on its support on the end of an arm divided at its opposite end into legs laterally and equally divergent and vertically depressing from the line of said arm, providing holes providing changeable leverage on a suitably attached spiral spring secured at its opposite end, substantially as shown and described and for the purpose specified.

No. 33,858. Clamping Mechanism for Wood Working Machines. (*Clameau de scierie*).

Joseph Balsley, Seymour, Ind., U. S., 4th March, 1890; 5 years.

Claim.—1st. In a clamping or dogging mechanism for sawing machines, the combination, with a stationary lumber supporting table 2 formed with a transverse slot 4, and provided with a guide on its rear edge, of a movable stop or dog 9 arranged and supported said stop or dog, substantially as and for the purpose specified. 2nd. In a clamping or dogging mechanism for sawing machines, the combination, with the main frame 1 and the movable saw-carriage 6, of slot 4, and provided with a guide on its rear edge, of a transverse and a vertical strip or flange 3 on its rear edge, a sprocket-chain 10 lower end within said guide groove, and means for operating said chain and dog, substantially as and for the purpose described. 3rd. In a clamping or dogging mechanism for sawing machines, the combination, with a stationary lumber supporting table 2 formed with a transverse slot 4, and provided with a guide groove 8, at one side of a sprocket chain 10 and a vertical movable stop or dog 9 arranged and supported at its lower end within said guide groove, and a sprocket wheel 11 for operating said chain and dog, substantially as described. 4th. In a clamping or dogging mechanism for sawing machines, the combination, with a stationary lumber supporting table 2 formed with a transverse slot 4 and provided with a guide

on its rear edge, of a sprocket chain 10, a vertical dog 9 arranged and supported at its lower end within said guide groove, a partly cogged sprocket wheel 11, the shaft 12 upon which it is fixed, and the weight 19 also secured to said shaft, substantially as and for the purpose described. 5th. The combination, with a transversely slotted table 2 provided with a vertical strip or flange 3 on its rear edge, of a movable dog 9, a sprocket chain 10 secured thereto, a partly cogged sprocket wheel 11, a shaft 12 upon which said wheel is fixed, another wheel 14, and a weight 19 also fixed to said shaft, and means for partially revolving said shaft and wheels from the saw carriage, substantially as described. 6th. The combination, with a transversely slotted table provided with a vertical strip or flange 3 on its rear edge, of a movable dog 9, a sprocket chain 10 secured thereto, a partly cogged sprocket wheel 11, a shaft 12 upon which said wheel is fixed, another wheel 4, and a weight 19 also fixed to said shaft, and means for partially revolving said shaft and wheels from the saw carriage, said means including a bell crank lever 18, substantially as described. 7th. The combination, with a transversely slotted table 2 provided with a vertical strip or flange 3 on its rear edge, of a movable dog 9, a sprocket chain 10 secured thereto, a partly cogged sprocket wheel 11, a shaft 12 upon which said wheel is fixed, another wheel 14, and a weight 19 also fixed to the said shaft, and means for partially revolving said shaft and wheels from the saw carriage, said means including a bell crank lever 18, a chain or band 15 connecting said wheel and lever, and the saw carriage 6 for operating said lever, substantially as described. 8th. The combination, with a transversely slotted table 2 provided with a vertical strip or flange 3 on its rear edge, of a movable dog 9, a sprocket chain 10 secured thereto, a partly cogged sprocket wheel 11, a shaft 12 upon which said wheel is fixed, another wheel 14, and a weight 19 also fixed to said shaft, and means for partially revolving said shaft and wheels from the saw carriage, said means including a pivoted bell crank lever 18 having a vertical arm 17 and a long rearwardly projecting arm 21, a chain or band 15 connecting the vertical arm of said lever and wheel, and a saw carriage 6 for depressing and releasing the long arm of said lever, substantially as described. 10th. The combination, with a transversely slotted table 2 provided with a vertical strip or flange 3 on its rear edge, of a movable dog 9, a sprocket chain 10 secured thereto, a partly cogged sprocket wheel 11, a shaft 12 upon which said wheel is fixed, another wheel 14, and a weight 19 also fixed to said shaft, and means for partially revolving said shaft and wheels from the saw carriage, said means including a pivoted bell crank lever 18, having a vertical arm 17 and a long rearwardly projecting arm 21, a chain or band 15 connecting said wheel and the vertical arm of said lever, and provided with a spiral spring 16 intermediate of its inner end and the upper end of the vertical arm of said lever, and the saw carriage 6 for depressing and releasing the long arm of said lever, substantially as described. 11th. The combination, with a vertical stationary strip or flange 3, a movable stop or dog 9, and a sprocket chain 10 attached to said dog, means for actuating said dog and chain, said means including a pivoted bell crank lever 18 provided with a vertical arm 17, and a long rearwardly extending arm 21 having a straight portion 23 and a curved rear end, and a saw carriage 6 for operating said lever, substantially as described. 12th. The combination, with a vertical stationary strip or flange 3, a movable stop or dog 9, and a sprocket chain 10 attached to said dog, means for actuating said dog and chain, said means including a pivoted bell crank lever 18 provided with a vertical arm 17 and a long rearwardly extending arm 21, having a straight portion 23 and a curved rear end, and a saw carriage 6 for operating said lever, provided with an anti-friction roller 22 and a guide groove 24, substantially as described. 13th. The combination, with a transversely slotted table 2 provided with a vertical strip or flange 3 on its rear edge, of a movable dog 9, a sprocket chain 10 secured thereto, a partly cogged sprocket wheel 11, a shaft 12 upon which said wheel is fixed, another wheel 14, and a weight 19 also fixed to said shaft, and means for partially revolving said shaft and wheels from the saw carriage, said means including a pivoted bell crank lever 18, provided with a vertical arm 17 and a long rearwardly extending arm 21, having a straight portion 23 and a curved rear end, and a saw carriage 6 provided with an anti-friction roller 22 and a guide groove 24, substantially as described.

No. 33,859. Cash Carrier. (*Chien de magasin*).

Joseph M. Caille, East Saginaw, Mich., U. S., 4th March, 1890; 5 years.

Claim.—1st. In a store service apparatus, the combination, with the taut wire and the car adapted to travel thereon, of a spool or drum located above the wire, a cord or strap engaged to said drum and adapted to be wound thereon, said car having a projection for engaging the loop of said cord or strap, and means for revolving the spool or drum, the construction being such that, when the spool or drum is revolved, the cord or strap will be wound upon the drum and the car be projected over the wire, substantially as described. 2nd. In a store service apparatus, the combination, with the taut wire and the car adapted to travel thereon, of a spool or drum located above the wire, a cord or strap engaged to said drum and adapted to be wound thereon, said car having a projection for engaging said cord or strap, and an actuating cord or strap engaged to said spool or drum and adapted to revolve the same, substantially as described. 3rd. In a store service apparatus, the combination, with the car, of the actuating spool or drum and cord or strap G, said car having a hooked projection for engaging the loop of the actuating cord or strap, substantially as described. 4th. In a store service apparatus, the combination, with the standard, the taut wire and the car adapted to travel thereon,

of an arm extending from said standard above the wire, a spool or drum journaled in said arm, a cord or strap having its ends engaged to said spool or drum, and adapted to be wound thereon, said car having a projection for engaging the loop of said cord or strap, and an actuating cord or strap for revolving said spool or drum, substantially as described.

No. 33,860. Ball Bearing. (*Coussinet à roulettes.*)

Charles F. Lavender, Toronto, Ont., 4th March, 1890; 5 years.

Claim.—1st. The combination, with an axle, having an annular groove, and a fork arm having a threaded opening, of an adjusting sleeve or cone surrounding the axle and having an external screw thread engaging with the threaded opening of the fork arm, a cup enclosing the end of the axle and having an internal screw thread, which engages with the outer portion of the externally threaded adjusting sleeve or cone, and balls interposed between the groove of the axle and the adjacent bearing of the cap and adjusting cone, substantially as set forth. 2nd. The combination, with the axle, having an annular groove, and the fork arm having an opening provided with an inner threaded portion and an outer enlarged portion forming an internal annular shoulder, of an adjusting sleeve or cone having an external screw-thread engaging with the threaded portion of the fork opening and extending into the enlarged portion thereof, a cap having an internal screw-thread engaging with the outer portion of the externally-threaded sleeve and abutting against the internal shoulder of the fork opening, and balls interposed between the groove of the axle and the adjacent bearing faces of the cap and sleeve, substantially as set forth.

No. 33,861. Matrix Plate and Clamp therefor, for the Production of Curved Electrotype Plates. (*Plaque de matrice et crampon pour la production des planches stéréotypes.*)

Gilbert H. Benedict, Ellenville, and Patrick M. Furlong, New York, N.Y., U.S., 4th March, 1890; 5 years.

Claim.—1st. An apparatus for producing curved matrices for electrotype plates, consisting essentially of a curved elastic matrix plate, having its mass reduced from the middle toward the edges in the direction of the curvature, and a clamping frame for flattening the matrix plate provided with guards for the retention of the matrix material, substantially as described. 2nd. An elastic matrix plate for the production of an electrotype plate for cylinder presses, having a set curvature, corresponding curvatures of the printing cylinder of the press, and having its mass reduced from the middle line to the edges in the direction of the curvature, substantially as described. 3rd. A matrix support for the production of electrotype plates for cylinder presses, consisting of a plate of spring metal bent to a definite set curvature, and having its mass gradually reduced from the middle toward the edges in the direction of the curvature, whereby the matrix plate may be flattened out without buckling to receive the matrix material, and to recurve to its original shape when released, substantially as described. 4th. A matrix support for the production of curved electrotype plates for cylinder presses, consisting of a plate of spring metal bent to a definite set curvature, and having its mass reduced step by step from the middle toward the edges in the direction of the curvature, substantially as described. 5th. A matrix support for the production of curved electrotype plates for cylinder presses, consisting of a plate of spring metal having parallel series of slots from near the middle to the edges in the direction of the curvature, substantially as described. 6th. A matrix support for the production of curved electrotype plates, consisting of a plate of spring metal having its mass reduced from the middle toward the edges in the direction of curvature by a series of perforations, substantially as described. 7th. A clamp for curved elastic matrix supports, consisting essentially of a flat bed plate, and a frame fitted to the bed plate and constituting a clamp jaw and a moulding guard for the same, substantially as described. 8th. In a combined clamp and moulding pan for curved elastic matrix supports, the combination of a flat bed plate having one edge provided with a moulding guard, with a frame fitted to the bed plate constituting a clamp jaw and a guard for the other sides of the same, substantially as described. 9th. In a combined clamp and moulding pan for curved elastic matrix supports, the combination of a flat bed plate, having one edge provided with a moulding guard, recessed on its under side for the reception of one edge of the matrix support, with a three-sided open frame fitted to the bed plate, constituting a clamp jaw and moulding guard for the other sides of the same, substantially as described. 10th. In a combined clamp and moulding pan for curved elastic matrix supports, the combination of a flat bed plate with a frame hinged to move in planes at right angles to the face of the bed plate, and constituting a clamp jaw and a moulding guard for three sides of the same, substantially as described. 11th. In a combined clamp and moulding pan for curved elastic matrix supports, the combination of a flat bed plate having one edge provided with a moulding guard recessed on its under side for the reception of one edge of the matrix support, with a three-sided open frame fitted to the bed plate constituting a clamp jaw and a moulding guard for the other sides of the same, and clasps for holding the frame to the bed plate and for releasing it from the same, substantially as described.

No. 33,862. Lubricator for Elevators.

(*Graisseur pour les monte-charges.*)

James M. Arnold, Chicago, Ill., U.S., 5th March, 1890; 5 years.

Claim.—1st. In a lubricator for elevators, a cup for containing the lubricant, having suitable bifurcations or projections to overlap or straddle the elevator guide, said cup being adapted to automatically lubricate the guide, substantially as described. 2nd. An elevator

guide lubricator, comprising the combination of a cup for containing the lubricant; a suitable support for said cup, and a weighted lever or equivalent means for forcing the cup towards the face of the elevator guide, substantially as described. 3rd. An elevator guide lubricator, comprising the combination of a cup D, a bracket E whereon said cup is movably mounted, and a suitable weighted lever G, or equivalent device, for forcing the cup normally toward the guide, substantially as described. 4th. An elevator guide lubricator, comprising the combination, with a cup D for lubricant, having an opening in its face, of a bracket E for sustaining said cup, a weighted lever or equivalent device for forcing said cup normally toward the elevator guide, said bracket E being provided with suitable supports 2 for sustaining the cup, substantially as described. 5th. An elevator guide lubricator comprising the combination, with a cup or holder for the lubricant, having an opening in its face, of an adjustable follower for forcing said lubricant forward, substantially as described. 6th. An elevator guide lubricator, comprising the combination, with a cup or holder for the lubricant, of means whereby said cup can be sustained in manner permitting it to be laterally adjusted, substantially as described. 7th. An elevator guide lubricator comprising the combination, with a cup or holder for the lubricant, having an opening in its face and having a channel for delivering oil to the front of the cup, substantially as described. 8th. An elevator guide lubricator, comprising a cup or holder for the lubricant, having in its upper portion a channel leading from back to front, and a channel leading into the back of the cup, and an oil feed cup communicating with both of said channels, substantially as described. 9th. An elevator guide lubricator, comprising a cup or holder for the lubricant, a supplemental back plate or follower within said cup, said cup being provided with a channel leading from behind said plate to the front of the cup, and a feed cup for delivering oil to the main lubricant cup or holder, substantially as described. 10th. An elevator guide lubricator, comprising a cup or holder for the lubricant, having an opening in its face, a supplemental back plate or follower within said cup, and a spring or equivalent for forcing said plate forward, substantially as described. 11th. An elevator guide lubricator, comprising a cup or holder for the lubricant, having an opening in its face and having lateral projections, of means whereby said cup can be adjusted back and forth with respect to the guide, and for retaining it in position when so adjusted, substantially as described. 12th. An elevator guide lubricator, comprising a cup or holder for lubricant, means whereby said cup may be adjusted back and forth with respect to the guide and for retaining it in position when so adjusted, a follower within the cup or holder, and means for forcing said follower outward to press the lubricant against the guide, substantially as described.

No. 33,863. Machine for Reversing Meat Casings for Cleaning Purposes. (*Machine pour retourner les boyaux de charcuterie pour les nettoyer.*)

Emile Cherrière, Hamilton, Ont., 5th March, 1890; 5 years.

Claim.—1st. In a machine for reversing meat casings, the herein described tube D in combination with the rod I, having conical head J, and a spiral spring S, substantially as and for the purpose hereinbefore set forth. 2nd. In a machine for reversing meat casings, the combination of the tube D, the eccentric F, the rod I with its conical head J and spring S, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, in a machine for reversing casings, of a table B, having supports c, c, support and stop H, tube D, eccentric F, with its pivot G and supports E, E, the rod I having conical head J, and collars n, o and o', or their equivalent, substantially as and for the purpose hereinbefore set forth. 4th. The combination of a tube D, rod I, head J, eccentric handle F, table B, bearings c, c, grooved pulley P, bearings T and cord m, substantially as and for the purpose hereinbefore set forth.

No. 33,864. Pipe Wrench. (*Clé à tuyaux.*)

Thomas W. Fisher, Helena, Mont., U. S., 5th March, 1890; 5 years.

Claim.—1st. In a pipe or other wrench, the combination, with the shank of the wrench, having a jaw A at its outer end, of a jaw fitted to slide upon the shank, a handle lever pivoted to the inner end of said shank, a bar pivoted to said handle lever, adapted to move the sliding jaw, and an engaging and disengaging device between the sliding jaw and said bar adapted to provide for the independent adjustability of the sliding jaw, essentially as specified. 2nd. The combination of the shank A, having a jaw B on its outer end, the handle lever G pivoted to the inner end of said shank, the adjustable sliding jaw head and jaw C, C, the rack bar D, pivoted to the handle lever, a toothed spring locking catch E, carried by the sliding jaw, adapted to engage with the rack bar D and capable of being released from such engagement from the exterior of the sliding jaw, and a spring S operating to throw the handle lever forward, substantially as shown and described.

No. 33,865. Nut Lock. (*Arrêlé-écrou.*)

Andrew J. Gould, Jackson, Mich., U.S., 5th March, 1890; 5 years.

Claim.—1st. In combination with the rails and fish plates of a railway, the threaded bolts, the threaded nuts, said nuts having holes through their edges, which holes cross the corners of the nuts diagonally, the metal pin passing through said holes in the series of nuts, its end engaging with one of the nuts, substantially as specified. 2nd. A nut lock, consisting of a plate, a series of threaded bolts passing through said plate, combined with a series of threaded nuts, each nut having a series of holes, which holes pass through its edges and at right angles to each other, and the metal key adapted to be passed through one of said holes in a series of nuts, its end engaging with one of said nuts, whereby a series of nuts are locked from turning. 3rd. In combination with the rails and fish plates, the bolts passing therethrough, the nuts threaded to said bolts, said nuts having holes f formed in the edges thereof, the metal key E,

the spring end α , provided with the bent portion c , as and for the purposes set forth. 4th. In combination with a rail, having bolts attached thereto, of nuts adapted to receive said bolts, said nuts having one or more holes through their edges, at one side of their common centre, and a metal strand passing through said nuts, locking the series, as and for the purposes specified.

No. 33,866. Frame for Railway Cars.

(*Caisse pour les chars de chemins de fer.*)

Max A. Zurcher, Montreal, Que., 5th March, 1890; 5 years.

Claim.—1st. A statically-constructed floor frame work for a railway car, consisting of two or more vertical longitudinal girders, all of the individual members and details of which are rigid and non-adjustable, each having a top and bottom chord and web members throughout, said parts being integrally connected together at or near their tops and bottoms by longitudinal lateral tie trusses of similar constructions, substantially as described. 2nd. A statically constructed floor frame work for a railway car, consisting of two or more vertical longitudinal girders, connected together at or near their tops and bottoms by longitudinal trusses adapted to resist lateral strains, in combination with one or more transverse vibration and tie trusses having its greatest permissible depth at each location, and all of said trusses integrally connected together in such a manner as to be rigid and non-adjustable, substantially as described. 3rd. A statically constructed railway car floor frame, consisting of the combination of the rigid non-adjustable side trusses B, having more transverse tie or vibration trusses or girders β similarly connecting members β , substantially as described. 4th. A statically constructed car floor frame, consisting of side, top and bottom girders, all of the members and details of which are continuous, rigid and non-adjustable, the whole being so arranged that the longitudinal top truss or trusses form the support of the car floor, substantially as described. 5th. A trussed floor frame for a railway car, consisting of substantially vertical longitudinal trusses, having inclined top chords on which the floor rests, substantially as described. 6th. A trussed floor frame for a railway car, consisting of substantially vertical longitudinal exterior and interior trusses, having inclined top chords on which the floor rests, substantially as described. 7th. A trussed floor frame for a railway car, consisting of substantially vertical longitudinal trusses, the top chords of which are inclined to carry the floor, in combination with lateral transverse bracing trusses, the whole being integrally connected together, substantially as described. 8th. A railway car floor frame, consisting of longitudinal lateral transverse bracing or tie trusses or girders; all of said trusses being constructed and connected together to resist strains in all directions, substantially as described. 9th. A railway car floor frame, consisting of longitudinal girders or trusses, united by a longitudinal bottom truss or girder and lateral transverse bracing or tie trusses or girders, all of said trusses being constructed and connected together to resist strains in all directions, substantially as described.

No. 33,867. Dental Anodyne.

(*Calmant dentaire.*)

Alfred Clark, Montpelier, Vt., U.S., 5th March, 1890; 5 years.

Claim.—The herein described composition of matter or dental anodyne to be applied to the gums before extracting teeth, to remove the sensibility of the gums and jaw, consisting of chloride of sodium, hydrochloride of cocaine, chloral, peppermint and carbolic acid, in the proportions specified.

No. 33,868. Clamp. (*Serre-joint.*)

Herbert Kells, Astoria, N.Y., U.S., 5th March, 1890; 5 years.

Claim.—1st. A clamp comprising a body portion, a sliding section working in the body portion, a movable head resting upon the body portion and engaging the sliding section, and a straining device carried by the movable head and engaging the body portion, substantially as described. 2nd. The combination, with a clamp provided with an inner sliding section, of teeth formed upon the inner section, a fixed head attached to one end of the outer section, a latch-carrying head adapted to travel upon the teeth of the sliding section, and a straining device carried by the sliding head adapted for contact with the fixed head, substantially as and for the purpose specified. 3rd. As an improved article of manufacture, a clamp comprising a body section and an inner section capable of sliding in the body section, a bearing block secured to each outer end of the inner and with the under surface of the inner section being flush faces being straight, substantially as shown and described. 4th. In a clamp, the combination, with a body section, an inner section held to slide in the body section, a bearing block secured to the outer end of each section, and teeth produced upon the upper longitudinal surface of the inner section separated by recesses having one undercut wall, of a head fixed to the end of the body section opposite to that having the bearing block secured thereto, a head held to slide upon the teeth of the inner section and the upper edge of the body section, a downwardly curved latch pivoted to the sliding head capable of contact with the undercut wall of the said recesses, and a straining device carried by a sliding head capable of contact with a fixed head, substantially as and for the purpose specified. 5th. In a clamp, the combination, with a body section comprising two spaced side pieces, each having a longitudinal rib formed upon its inner face, a second section held to slide between the side pieces of the body section, provided upon each side with a longitudinal groove adapted to receive the ribs of the body section, and a bearing block secured to each outer extremity of each section, of a series of teeth produced upon the upper edge of the inner section having one undercut end wall, a fixed head attached to the end of the body section

opposed to that carrying the bearing block, a second head slotted to slide upon the teeth of the inner section, a latch pivoted to the sliding head essentially U-shaped and having its outer end downwardly curved for contact with the undercut wall of the recesses, and a straining device attached to the sliding head capable of contact with the fixed head, all combined for operation substantially as shown and described.

No. 33,869. Press for Pressing and Baling Hay, Straw, Peat, Excelsior Wool or other Fibrous Material.

(*Presse pour presser et emballer le foin, la paille, la tourbe, la laine d'élope et autres matières fibreuses.*)

Alexander N. Peters, Saint John, N.B., 5th March, 1890; 5 years.

Claim.—1st. The combination of the axle A and wheel B, and the arms M, M, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the arms M, M, with the axle A, and the wheel B, and the chains j, j , substantially as and for the purposes hereinbefore set forth. 3rd. The combination of the arms M, M, with the chains j, j , and the wheels B, and G, G, and the axle A, substantially as and for the purposes hereinbefore set forth. 4th. The application of the arms M, M, for the purpose of accumulating the necessary force for compressing the material in the press into a compact body of the density or compactness required, substantially as and for the purposes hereinbefore set forth. 5th. The application of the wheel B, with the axle A, and arms M, M, for the purposes of a press, substantially as and for the purposes hereinbefore set forth.

No. 33,870. Elevating Apparatus or Lift and Safety Attachment for the same. (*Appareil à hisser ou monte-charge avec appareil de sûreté.*)

Otis Brothers and Company, New York, (assignees of Rudolph C. Smith, Yonkers, N.Y., U.S., 5th March, 1890; 5 years.

Claim.—1st. The method and means of counterbalancing the varying weight of the cables connected to an elevator cage by varying automatically the resistance upon the idle side of the piston, substantially as described. 2nd. The combination, with the piston of an elevator and with the cables and cage connected therewith, of a chamber upon the idle side of the piston containing a counteracting fluid, substantially as set forth. 3rd. The combination of the cage, cables, piston and air chamber provided with a valve and valve actuating devices, substantially as set forth. 4th. The combination of the cage, cables, piston and receptacle communicating with the chamber on the idle side of the piston, and containing a counterbalancing fluid, substantially as set forth. 5th. The constructions and arrangements of chambers in connection with the cage, cables and cylinder and piston of an elevator, as described and shown in the figures of the accompanying drawings. 6th. The pipes L and K connected with the features, substantially as shown and described. 7th. In combination with the cage or platform and guide of an elevator, a safety gripper consisting of a plate connected movably with the cage, and having edges arranged to engage two faces of the guide and a dog hung to the plate with its edge in position to engage the other face of the guide, substantially as described. 8th. The combination, with a cage and guide, of a movable plate having edges arranged to engage two faces of the guide, a dog hung to said plate to engage the remaining face of the guide, and a spring connected with the suspensory cable and also with the dog, whereby the latter is raised on the releasing of the spring by the breaking of the cable, substantially as described. 9th. The combination, with the cage and guide of an elevator, of a pivoted grip plate and dog hung to the latter, and a cam arranged adjacent to the guide to engage and swing the plate, substantially as described. 10th. The combination, with the cage, guide, pivoted grip plate and dog, of a pivoted cam lever, dash pot controlling the speed of vibration of said lever, catch connected with said lever, retaining lever engaging with the catch, and a contact piece on the cage for engaging with the retaining lever, substantially as set forth. 11th. The combination, with the cage, guide, pivoted catch plate and dog, of a fixed cam l_5 arranged to be struck by and swing the pivoted plate having the biting edges 21, 22, of a pivot pin 6 having a finger 9, and a biting dog loosely connected to said plate in position to strike the pin when the plate is turned, substantially as described.

No. 33,871. Can Opener.

(*Machine à ouvrir les boîtes métalliques.*)

Elgin E. Wood and Benjamin Westwood, Toronto, Ont., 5th March, 1890; 5 years.

Claim.—1st. A plate A, having a point B formed on one end, and a handle C on the other, in combination with an arrowhead shaped cutter D, adjustably held by the nut f in the slot b , substantially as and for the purpose specified. 2nd. A plate A, having a point B at one end and a handle C at the other end, in combination with an arrowhead shaped cutter D, adjustably held in a slot b made in the plate A, the walls of the said slot being tapered to correspond with the taper of the body of the cutter D, substantially as and for the purpose specified. 3rd. A plate A, having a point B formed on it at one end, and a handle C at its other end having a head α formed on it, in combination with an arrowhead shaped cutter D, adjustably held in the slot b made in the plate A, substantially as and for the purpose specified. 4th. A curved knife F, angularly secured to the bottom plate A, in combination with a ledge k , substantially as and for the purpose specified. 5th. A curved knife F, angularly secured to the bottom plate A, in combination with a ledge k and ledge h , substantially as and for the purpose specified. 6th. A can opener having a cork-screw G, pivoted in an opening made in the handle C, substantially as and for the purpose specified.

No. 33,872. Soldering Iron Heater.*(Poêle pour les fers à souder.)*

William Nehring and George W. Warren, Evansville, Ind., U.S., 5th March, 1890; 5 years.

Claim.—1st. The combination of the platform, the oil tank suspended therefrom, the cover to the tank formed with flanged wick-openings and an elevation having a feed opening and providing a duct leading to the tank, the wick tubes seated on the cover around the flanged openings, and the double T-plate and screw bolt by which the wick tubes are secured, substantially as described. 2nd. The combination of the platform, the oil tank having the projection and suspended therefrom, the cover to the tank formed with flanged wick openings and with the extension having an elevation formed with a feed opening, and providing a duct between the projection and extension leading to the tank, and the wick tubes fitting around the flanged openings and seated on the cover, substantially as described. 3rd. The combination of the platform having the pendent flange 4, the tank 2 having peripheral flange 3 seated on the pendent flange, the cover 5 seated on the peripheral flange of the tank and having flanged wick tubes 10, and elevation 7 formed with a feed opening 8, and bolts and nuts by which the cover is secured to the platform, substantially as described. 4th. The combination of the platform, the oil tanks suspended therefrom, the cover to the oil tank formed with wick openings, the wick tubes seated on the cover, the skeleton frame supported on the platform having surmounting flanges 33, and corner perforations 28, and the base plate formed with burner caps with pendent flanges 29 surrounding the surmounting flanges, and with pin feet 27 occupying the corner perforations, substantially as described. 5th. The combination of the platform the oil tank suspended therefrom, the cover to the tank having wick openings, the wick tubes, the skeleton frame supported on the platform having surmounting flanges 33 and horizontal flanges 30a, the perforation plate 12a resting on the horizontal flanges and surrounding the wick tubes, and the base plate formed with burner caps and with pendent flanges surrounding the surmounting flanges, substantially as described. 6th. The combination of the platform, the skeleton frame having surmounting flanges, the base plate having pendent and surmounting flanges, the side plates, the front and rear plates having vertical flanges lapping the side plates, the top plate having pendent flange lapping the body plates, and the tie bolt extending from the top plate to the base plate for securing the body together, substantially as described. 7th. The combination of the platform, the skeleton frame having surmounting flanges, the base plate having pendent and surmounting flanges, the side plates, the front and rear plates having vertical flanges lapping the side plates, the top plate having pendent flanges lapping the body plates, the partition plate having curved projections extending on opposite sides and the tie bolt passed through the top plate between the projections on the partition plate and through the base plate, substantially as described. 8th. The combination of the platform, the skeleton frame, the base plate, the side plates, the front plate having door opening and tool openings, the rear plate, the top plate, the partition plate, the inclined grades for supporting the heads of the irons and the inclined frame having wings for supporting either straight or bent handles of the irons, substantially as described. 9th. The combination of the platform, the skeleton frame, the base plate, the side plates, the front plate having door opening and tool openings, the rear plate, the top plate, the partition plate, the inclined grades for supporting the heads of the irons having cross ends, and the door having hinge hooks adapted to engage the outer cross ends of the grades, substantially as described. 10th. The combination of the platform, the skeleton frame, the twin burners, the base plate, the front and rear plates, the side plates, the partition plate and the top plate formed with pendent flanges 33, with openings 40, with wings 41 having pendent flanges and openings 42 and with studs 43 and the tie bolt, substantially as described.

No. 33,873. Burial Casket. (Cercueil.)

John D. Ripson and William A. Frazer, Suspension Bridge, N. Y., U.S., 5th March, 1890; 5 years.

Claim.—1st. In a burial casket, as described, a sliding panel combined with a detent or catch and spring, whereby it may, when released from the catch, be automatically caused to slide away from the face opening, substantially as described. 2nd. In combination with a burial casket, as described, a sliding glass face plate and spring, and catch or detent in connection therewith, substantially as set forth, whereby on release of the detent the glass automatically slides away from the face opening. 3rd. In combination with a burial casket, as described, a sliding panel and glass to cover the face opening and springs and detents operating in connection with said panel and glass, substantially in the manner and for the purposes set forth. 4th. In combination with the sliding panel having a flange at its inner end, the glass face plate adapted to rest against said flange, as and for the purposes set forth. 5th. The combination of the sliding panel having a flange *b* at its end, with the spring or elastic and buffer, substantially as and for the purposes set forth. 6th. The combination of the panel, the glass face plate, the catch, the spring and the buffer, substantially in the manner and for the purposes set forth. 7th. The combination of the panel having flange *b* and elastic material on the inner side of it, with the glass face plate and elastic, substantially as and for the purposes described. 8th. In a burial casket, substantially as described, the combination, with the lid, of the sliding panel and the sliding glass face plate, each provided with a catch or detent on its under surface, below the front edge of the spring secured in a recess in the lid, engaging the catch block on the sliding panel and provided with a depending lug, and the spring secured within the former spring in the recess, engaging the catch block on the glass plate, and having its upper leg in such relative position to the upper leg of the panel spring that the latter can be depressed a sufficient distance to release the panel without releasing the glass face plate, substantially as specified. 9th. In a burial casket, substantially as described, the combination of the lid, the transverse rubber stop block, the sliding panel, the sliding glass face plate, the detents to hold said panel and glass face plate closed,

and the springs retracting or drawing inward the said panel and glass face plate, substantially as specified. 10th. In a burial casket, substantially as described, the combination, with the lid, of the sliding panel having a downwardly flanged inner edge, and the detent to hold the said panel closed, of the glass face plate below the said panel, and the detent to hold the said face plate closed, the flange of the panel serving as a stop to prevent the face plate from being slid inward, substantially as specified.

No. 33,874. Electrolyte Matter for Galvanic Batteries. (Corps électrolytique pour les piles galvaniques.)

James A. Kammerer, Moose Jaw, Man., (assignee of George B. Penock, Brooklyn, N. Y., U. S.), 5th March, 1890; 5 years.

Claim.—1st. In an electric battery, mineral wool in combination with acids, or fluids of any kind capable of decomposing it, substantially in the proportions set forth. 2nd. The combination, in an electric battery of mineral wool with sulphuric acid, chromic acid and water, substantially in the proportions set forth. 3rd. In an electric battery, the combination of mineral wool and water in the proportions set forth, the latter securing the decomposition of the former for use in the zinc-holding porous cup, as set forth. 4th. In an electrical battery for any electrical service, a depolarizing jellied compound by the use of which evaporation and crystallization are prevented, formed by the addition of mineral wool to acids in an aqueous solution, substantially in the proportions stated, in which the porous cup with its contents and the electrodes can be firmly placed and held in any desired position, as set forth.

No. 33,875. Twine Making Machine.*(Machine à fabriquer la corde.)*

The Dovern Court Twine Mills Company, (assignee of Walter H. A. vis), Toronto, Ont., 5th March, 1890; 5 years.

Claim.—1st. In the manufacture of twines, the system of storing the raw material on spools carried in revolving strand twisting bobbins, driven by a belt over pulleys on the axes of said bobbins arranged in suitable group, the strand of material passing through the hollow end of the axes of said bobbins and through tension tubes uniformly adjustable by a central screw, thence over suitable tops adjusting said strands to be twisted in the reverse direction by twine twisting bobbins, driven by a suitable belt over pulleys on the hollow ends of the axes of said bobbins, through which said twisted twine passes and is uniformly laid on spools by prescribed mechanism held in and operated on said bobbins, driven by the same main shaft driving the strand twisting bobbins, substantially as shown and for the purposes described and specified. 2nd. In a twine making machine, the strand twisting bobbins composed each and similarly of a rectangular frame supported and revolving on a central axle hollow at one end, through which the strand passes unwound from a suitable spool carried in said bobbin frame, and provided with a brake spring secured on said frame, said bobbins revolving in the same direction by means of a belt over pulleys secured on the solid ends of their axes, and distributed from a central pulley round which the said bobbin pulleys are conveniently arranged and all driven by a main driving pulley on the main shaft driven by suitable power, substantially as shown and described and for the purpose specified. 3rd. In a twine making machine, the tension tubing frame conveniently arranged behind the strand twisting bobbins, and consisting of yielding divided tubes corresponding to, and through each of which a strand passes and is gripped uniformly by radial arms from a central standard, and operating each bell, cranks operating conical plungers, which operate spring bolts equally spaced round said plungers in chambers and exert a yielding pressure on the movable half of said tension tubes, substantially as shown and described and for the purpose specified. 4th. In a twine making machine, the twine twisting bobbins composed each and similarly of a rectangular frame revolving on a central axle hollow at one end, and driven by a belt from the main shaft, passing over a pulley on the said hollow axle through which the twine passes and is laid uniformly on a spool protected by a suitable frame from contact with the twine previous to being distributed, by a wheel revolving on and moving laterally reciprocal along its bearing shaft provided with and operating said spool by a friction wheel, the guide of said distributing wheel engaging in and operated by a reciprocally grooved shaft driven similarly to the said friction wheel by belts over pulleys thereon, and passing over a pulley fixed on the main frame and round the solid end of the bobbin axle, substantially as shown and described and for the purpose specified. 5th. In combination with a storage system twine making machine, herein before specified, the intermediate frame provided with tops over which the twisted strands pass, and are laid to form the twine in rear of said tops by suitable twisting mechanism, substantially as shown and described and for the purpose specified.

No. 33,876. Stereotype Block.*(Bloc stéréotype.)*

James C. Merritt, Highland Falls, Hugh Moore, Newburgh, N. Y., and Joseph K. Osborne, Newark, N. J., U.S., 5th March, 1890; 5 years.

Claim.—The combination of the block *l* and the opposite side plates 5, said plates having the opposite inwardly turned flanges 6 arranged slightly above the face of the plate, with the plate 8 having the opposite beveled edges 9 substantially as specified.

No. 33,877. Water Motor for Running Machinery. (Moteur hydraulique pour actionner les machines.)

Poillip Mutter and Ramon O. Freeman, Hamilton, Ont., 5th March, 1890; 5 years.

Claim.—The combination and arrangement of the several parts, namely: the cylinder A, shaft C, hub D, blades B, bearings F, and

paddles O, as described, and the shaft C in connection with the bearings F and cog wheel L, as described, all operating and constructed as and for the purposes of a water motor, substantially as herein set forth.

No. 33,878. Automatic Cork Puller. (*Tire-bouchon automatique*).

Ellsworth D. Middlekauff and James S. Dunham, Stockton, Cal., U. S., 5th March, 1890; 5 years.

Claim.—1st. The combination, substantially as described, of the arm I, the tube B containing the collar C, provided with the handle O of the screw pins E, the spiral spring F encircling the stem of the rod C, and the safety cap G attached to the lower end of the tube B. 2nd. The combination, substantially as described, of the tube B, tapering lugs B¹ and the cap G, the tube B containing a suitable rod with screw end and spiral spring. 3rd. The combination, with the tube B containing a suitable cork extracting mechanism, of the window H and gauge E², substantially as described. 4th. The cork screw, substantially as described, with the tube or body of a article of manufacture, a cork screw consisting of the tube B and arm I, the tube B containing a suitable cork extracting mechanism, B, and a pressure indicating gauge at the top of the tube B, all operating as and for the purpose described. 5th. The combination, screw, of the collar E, the pins E¹, a suitable stem handle and screw, and the spiral spring F encircling such stem.

No. 33,879. Ticket Registering Machine. (*Machine à enrégister les billets*).

Isaac Pforzheimer and Charles Zallud, New York, N. Y., U.S., 5th March, 1890; 5 years.

Claim.—1st. In a ticket registering machine, the combination, and adapted to receive tickets of different widths and different thicknesses, of a moveable device in the path of said carriage from said moveable device, a second moveable device arranged in the path of a ticket when the latter is inserted in the carriage and moved by the ticket independently of the carriage, a second register second named moveable device, and the second named register train operated by said second named moveable device, substantially as specified. 2nd. In a ticket registering machine, the combination of different thicknesses, a moveable device extending into the path of a ticket when the latter is inserted between the jaws and adapted to be moved outwardly by said ticket, and mechanism substantially train operated by the said moveable device, substantially as specified. 3rd. In a ticket registering machine, the combination, with a box or carriage into which a ticket to be registered is passed, said for said moveable jaw, and mechanism, substantially such as described, for imparting longitudinal movement to said carriage, substantially as specified. 4th. In a ticket registering machine, the combination of a carriage adapted to receive a ticket, a moveable jaw comprised substantially such as described, for imparting longitudinal movement to the carriage, and a releasing device for releasing the ticket from machine, the combination of a carriage adapted to receive a ticket, a moveable jaw comprised in said carriage, a rigid jaw also comprised in said carriage, said jaws being provided with grooves into which the ticket is inserted, a yielding abutment for the moveable jaw, mechanism, substantially such as described, for causing the longitudinal movement of the carriage, a releasing device for a ticket, substantially as specified. 5th. In a ticket registering machine, the combination of a carriage, a moveable jaw comprised in said carriage, a lock for securing the carriage in its normal position, a trip operated by the ticket upon its insertion to release the lock, and mechanism, substantially such as described, for imparting longitudinal movement to the carriage, substantially as specified. 6th. In a ticket registering machine, the combination of a carriage provided with a fixed jaw and a moveable jaw, a trip on the fixed jaw moved in one direction by a ticket upon its insertion between the jaws, a signal operated from said trip, and a stop for limiting the movement of said trip, substantially as specified. 7th. In a ticket registering machine, the combination of a carriage comprising a moveable jaw, mechanism, substantially such as described, for imparting longitudinal movement to said carriage, a segment provided with gear teeth and with which the latter will contact when moved in one direction in order to rock the segment, and a graduated stop on said yielding abutment for limiting the rocking movement of the segment, substantially as specified. 8th. In a ticket registering machine, the combination of a carriage having a moveable jaw, of mechanism, substantially such as described, for imparting longitudinal movement to said carriage, a segment provided with gear teeth and having a portion extending into the path of said carriage and with which the carriage will contact when moved in one direction, an arm on said segment, and a

pin or projection on said carriage contacting with said arm and operating to return the segment to its normal position when the carriage is moved in the other direction, substantially as specified. 11th. In a ticket registering machine, the combination of a carriage having a moveable jaw and a fixed jaw, said jaws being provided with longitudinal grooves into which a ticket is passed, a moveable device extending into the path of the ticket and moved by the ticket upon its insertion in the groove, a register train, and mechanism, substantially such as described, between said moveable device and the register train operated by the said moveable device, substantially as specified. 12th. In a ticket registering machine, the combination of a carriage adapted to receive a ticket, of a moveable device arranged in the path of said ticket and adapted to be moved by the latter when the same is inserted in the carriage, a rock shaft, an arm on said rock shaft with which said moveable device will contact, a second arm on the rock shaft provided with a bifurcated portion, a shaft, a sleeve on said shaft embraced by said bifurcated portion, a cam on the sleeve, a lever and a time register train, substantially as described, whereby, when the rock shaft is rocked by the moveable device, said cam will be shifted into a position to operate said lever.

No. 33,880. Manufacture of Doors and Wainscoting. (*Fabrication des portes et des boiseries*).

Colin M. Thompson, (co-inventor with James W. Lane), Brooklyn, N. Y., U.S., 5th March, 1890; 5 years.

Claim.—1st. A door or like paneled article in which the stiles and rails are connected by mortises and tenons, and consist each of a composite tongued and grooved filling or backing and a facing of different material connected by tongues and grooves to the filling to cover all the exposed portions, substantially as described. 2nd. A door or other paneled article, the stiles and rails of which each consist of a composite filling or backing having its surfaces tongued and grooved, and facing pieces secured thereto, the wider of said facing pieces overlapping and engaging with the edges of the narrower pieces, substantially as described. 3rd. A door or other like paneled article having its stiles and rails each formed of a composite filling, and facings of different materials tongued and grooved and cemented together, and its panels of different facing materials tongued and grooved and connected to each other, substantially as described.

No. 33,881. Buggy Boot. (*Coffre de voiture*).

James K. Loree and John M. Bradley, Iosco, Mich., U.S., 5th March, 1890; 5 years.

Claim.—1st. A buggy boot comprising the following elements, the outer water-proof covering, the inner textile facing, the series of interposed stiffening blades, and the stitching of the covering fabrics between the blades, substantially as specified. 2nd. In a buggy boot, the combination of the leather covering, the inner textile fabric lining, the interposed series of ribs round on their upper faces and flat on their under faces, said coverings being made fast to said ribs, the angle-iron attached to the under face of the boot, as and for the purposes specified. 3rd. A buggy boot comprising the following elements, the outer water-proof covering, the series of ribs, said ribs being made fast to the covering, the rib at the rear end of the boot being L-shaped in cross section, whereby it is adapted to embrace the rear corner of the vehicle.

No. 33,882. Governor for Regulating and Governing the Supply of Gas. (*Gouverneur pour régler et gouverner l'alimentation du gaz*).

Joseph Shaw, Lockwood, Eng., 6th March, 1890; 5 years.

Claim.—1st. The method of securing the cage E and cap F, either jointly or separately, by means of screw threads or other means, to the interior of the body or casing of a gas governor, for the purpose of enabling the valves and parts connected therewith to be easily and readily removed from the governor cleaned, repaired or renewed, and placed back again without disturbing or removing the body of the governor from the inlet and outlet pipes, substantially as shown and described. 2nd. In a gas governor, the use and employment of bell mouthed openings, such as *k*, formed in a metal cap, such as F, for purposes substantially as herein set forth.

No. 33,883. Fish Plate for Railroads. (*Eclisse de chemin de fer*).

Jamer Madden, Arthur, Ont., 6th March, 1890; 5 years.

Claim.—1st. The combination of the fish plate B, having a groove or recess running longitudinally through it of corresponding shape to the rail in cross section, with the actual means for holding the fish plate securely fastened to the rails and the ties, as set forth. 2nd. The combination of a fish plate, substantially as shown and described, made double to facilitate the manufacture and application of the same to the rails of the railroad, with the actual means of attachment to the same and to the railway ties, substantially as set forth.

No. 33,884. Stump Extractor. (*Arrache-souche*)

Pierre Hamel, Montreal, Que., 6th March, 1890; 5 years.

Claim.—1st. In a stump extractor, the lever Q, clamps N and N¹, lifting bar T, hangers G, H, K and L, guides J, P and P¹, plate I and hook F, substantially as described and for the purposes set forth. 2nd. In a stump extractor, the combination of the lever Q, clamps N and N¹, lifting bar T, hangers G, H, K and L, guides J, P and P¹, plate I and hook F, with the hanger E, bolt D and tripod A, B, C, substantially as described and for the purposes set forth.

No. 33,885. Washing Machine.*(Machine à blanchir.)*

William L. Derbysbire, Pieton, Ont., 6th March, 1890; 5 years.

Claim.—1st. The connection of the driving bar and handle D with the braces E, F and G. 2nd. The combination of the driving bar D with the washboard C by means of the connecting rod K, the crank H and the shaft T. 3rd. The combination of the driving bar D with the tub B by means of the connecting rod L. 4th. The rubbers on the washboard C, as shown by the dotted lines at 3.

No. 33,886. Steam Engine. (Machine à vapeur.)

Joseph L. Pedneault, Montreal, Que., 6th March, 1890; 5 years.

Claim.—1st. In a rotary steam engine, the piston K provided with the packing piece T, movable partition N having packing piece R, and annular projection M, substantially as described and for the purposes set forth. 2nd. In a rotary steam engine, the combination of the piston K, partition N and cylinder B with the steam chest A, valve J, valve gear D, shaft E, pulley or fly wheel F and frame C, substantially as described and for the purposes set forth.

No. 33,887. Apparatus for the Separation of Solutions of Metallic Salts from Pulverized Material mixed therein. (Appareil pour la séparation des solutions de sels métalliques des corps pulvérisés qui y sont mêlés.)

Claude T. J. Vantin, London, Eng., 7th March, 1890; 5 years.

Claim.—1st. The combination, with a vessel containing filtering medium, of a suction pipe drawing a solution of metallic salts through the filtering medium, and returning part of the liquid drawn charge back through the filtering medium to keep the same unimpeded and free, substantially as described. 2nd. In an apparatus for the separation of a solution of metallic salts from pulverized material mixed therewith, the construction of a suction pump with a bye pass between the pump-barrel and the suction pipe or filtering vessel, controlled and regulated by a cock therein, substantially as and for the purpose described.

No. 33,888. Apparatus for the Extraction of Gold from Crushed or other finely Divided Auriferous Material. (Appareil pour l'extraction de l'or des corps aurifères écrasés ou autres corps réduits en poudre fine.)

Claude T. J. Vantin, London, Eng., 7th March, 1890; 5 years.

Claim.—1st. In a hydro-metallurgical gold-extracting apparatus, such as is herein described, the combination together of an air forcing pump or compressor, a hermetically closed vessel in which the gold is acted on by any suitable reagent, a filtering vessel, a reflux suction pump, an air or steam agitated vat, and a deep filter bed of charcoal or other suitable reagent, substantially as and for the purpose set forth. 2nd. In a hydro-metallurgical gold-extracting apparatus, such as is herein described, the combination of an air forcing pump or compressor, and a hermetically closed vessel in which the gold is acted upon by any suitable reagent with a filtering vessel, substantially as described. 3rd. In a hydro-metallurgical gold-extracting apparatus, such as is herein described, the combination of a vessel in which the gold is acted on by any suitable reagent, with a filtering vessel and a suction pump drawing the solution therefrom and giving a part reflux action of the charge to keep the said filtering medium from becoming choked, substantially as described. 4th. In a hydro-metallurgical gold-extracting apparatus, such as is herein described, the combination of a vessel in which the gold is acted on by any suitable reagent, and a filtering vessel and suction pump drawing the solution therefrom, with a part reflux action of the charge with an air or steam agitated vessel, and a deep filter of charcoal or other suitable reagent, substantially as described.

No. 33,889. Tobacco Pipe. (Pipe.)

Archibald Macfie, Windsor, Ont., 7th March, 1890; 5 years.

Claim.—A pipe cut in two parts, as described above, then replaced in its original position and held firmly by bands or rings so that, by removing said rings or bands, the pipe can be taken apart at pleasure and the inside reached with ease when necessary, to enable the smoker to remove any accumulation of nicotine or other substance from the inside and keep the pipe always clean.

No. 33,890. Churn. (Baratte.)

Charles R. H. Starr and Richard C. Williams, Wolfville, N.S., 7th March, 1890; 5 years.

Claim.—The combination, with a churn having an oscillating lever giving a rotary motion to the dasher, of the annular rim B having a flaring edge b, the cover C, strengthening piece F having edge f, the castings D of the fasteners, buttons d, wedge-shaped plates E, substantially as and for the purpose herein described.

No. 33,891. Spring Tooth Sulky Cultivator. (Cultivateur à siège à dents élastiques.)

William Hewitt, London, Ont., 8th March, 1890; 5 years.

Claim.—1st. A tooth, formed in one piece, in combination with its pivotal support, said tooth being secured to said support by encircling the latter, as set forth. 2nd. A supplemental frame E, formed with slots E', in combination with a tooth formed with a returned

end, and its pivotal support, as and for the purpose set forth. 3rd. A tooth formed in one piece and with a returned end, in combination with its support, and a slotted frame, and suitable means for adjusting and holding said frame at the position to which it may be adjusted, as and for the purpose set forth. 4th. The teeth encircling their pivotal support to secure them thereto, and formed with returned pressure spring ends, to which pressure is applied to regulate the rigidity of said teeth in the ground, as set forth. 5th. A tooth formed in one piece and encircling its pivotal support, to secure it thereto, and projecting through a slot in a frame, which guides and holds it in place, preventing one tooth from interfering with another, when in operation, as set forth. 6th. A tooth formed in one piece and with a returned end, in combination with and encircling its support to secure it thereto, and the abutting of the returned end against an obstruction to distribute the strain on the tooth, when in operation throughout the tooth, as well as its returned end, as set forth. 7th. A tooth formed in one piece and with a returned end, to which pressure is applied, to regulate the rigidity of the tooth in the ground, in combination with a pivotal support, to which the tooth is secured, by encircling said support, and a frame E, formed with slots E', through which the teeth project, which frame guides the teeth to prevent them interfering, and by raising or lowering said frame, all the teeth are raised or lowered the same proportionate distance, as set forth.

No. 33,892. Pruning Implement. (Scateur.)

Adam Bohn, Mercer, Penn., U.S., 10th March, 1890; 5 years.

Claim.—The combination, substantially as hereinbefore set forth, of the cutting-jaw, its handle, the opposite jaw formed with a concave seat and a handle, the pivot-pin connecting the two jaws, the cage-blocks, their eccentric shanks seated in sockets in the handles and adjustable therein, and the set-screws engaging with the shanks for firmly securing the shanks in their sockets.

No. 33,893. Tobacco Pipe. (Pipe.)

Charles D. Weldon, Mica, Wash., U.S., 11th March, 1890; 5 years.

Claim.—1st. A tobacco pipe whose stem is formed with a large bore b, combined with an apertured filling section placed in the bore, substantially as described. 2nd. A tobacco pipe whose stem is formed with a large bore b, combined with a tip having a contraction at the outer end, substantially as described. 3rd. A tobacco pipe having combined with the stem thereof, a cleaner, a socket being formed in the stem or bowl to retain the cleaner, substantially as described. 4th. A tobacco pipe having combined with the stem thereof, a cleaner attached to a ring, a socket being formed in the stem or bowl to retain the cleaner, substantially as described. 5th. A tobacco pipe having its stem made in sections and formed with a recess or socket a, in combination with a cleaner provided with a ring f at right angles to its body and fitted to the joint between the sections of the stem, the parts being combined and operating in the manner set forth.

No. 33,894. Paper Fastener. (Oeillet à papier.)

Franklin W. Daniel, Campbellton, N.E., 12th March, 1890; 5 years.

Claim.—The combination in a paper fastener, of the back, a conically slaped pin projecting from same, and a washer slipped over end of pin and held in place by the upsetting of such end upon it, all of soft metal and as shown and herein set forth.

No. 33,895. Apparatus for Holding together Flasks in a Foundry or anything requiring a Clamp or Fastening. (Appareil pour tenir ensemble les dessus et dessous des châssis de fonderie ou autres choses exigeant un crampon ou une agrafe.)

William Curtis, Belleville, Ont., 12th March, 1890; 5 years.

Claim.—The combination of the clutch with the slot eccentric and the notched bars, substantially as and for the purpose hereinbefore set forth.

No. 33,896. Compound Tool chiefly designed for a Hitching Device for Horses. (Outil à combinaison principale destiné à attacher les chevaux.)

Reverdy B. Stewart and George E. Colvin, Warren, Penn., U.S., 12th March, 1890; 5 years.

Claim.—1st. A compound implement serving as a hammer, hatchet or hitching attachment, and consisting of a stock or handle provided with a head of suitable material, said head having a point of conical form threaded upon its exterior and flattened upon two opposite sides, substantially as described. 2nd. A compound tool consisting of a stock or handle provided with a hammer-head, having a threaded conical point formed in a separate piece, flattened upon opposite sides and united with said head, substantially as described.

No. 33,897. Ice Creeper. (Crampon à glace.)

The Preston Ice Creeper Company, Chicago, Ill., (assignee of William W. Preston and Edward F. Preston, Bismarck, Mich.), U.S., 12th March, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, an ice-creeper consisting of the curved shank C having opposite side flanges c, c, curved to fit the curve of the shoe in front of the heel, and notched at their ends, as at d, d, and the rearward extension l to rest on the shoe heel, the spring S secured and concealed within the recess,

formed on the under side of the shank C, the swinging spur-frame having an angular cross-bar extending through the notches *d* under the spring, and curved side bars *k* at opposite sides of the shank, substantially as set forth. 2nd. In an ice-creeper, the shank C curved to conform to shank of the shoe and formed with the heel receiving and concealing chamber and having notches in their edges near their rear ends, substantially as set forth. 3rd. The herein described ice-creeper consisting in the curved shank C having a heel-recess formed by said flanges *c*, a spring concealed within the shank, the stop *m* on the outer side of the front end of the shank, the swinging frame having an angular cross-bar *e*, curved side arms *k*, *k*, at opposite sides of the shank, and the spurs *l*, *l*, at the outer corners of the frame, substantially as set forth.

No. 33,898. Funnel. (*Entonnoir*.)

John H. Sullivan, James J. Power and Henry F. Coombs, St. J. ohn, N.B., 12th March, 1890; 5 years.

Claim.—The combination in a funnel, of an outer pipe A with pipe B, loosely fitted over the funnel pipe proper, and separated from it by three pieces of metal B fastened to it, substantially as and for the purpose hereinbefore set forth.

No. 33,899. Electric Motor. (*Moteur électrique*.)

Henry B. Pullman, Cambridge, Ohio, John J. Miller and Harrison O. Patch, Washington, Penn., U.S., 12th March, 1890; 5 years.

Claim.—1st. In an electric motor, a cap having its end extensions respectively provided with depending hangers, forming supports for the armature shaft formed integral therewith, substantially as set forth. 2nd. In an electric motor, a cap having its body end extensions and its depending hangers, all formed in single piece, substantially as described. 3rd. In an electric motor, the cap having its opposite ends provided with extensions respectively located in horizontal planes, one higher than the other, said higher extension being provided with a depending hanger of greater length than the hanger of the other extension, as set forth. 4th. In an electric motor, the combination, with an armature shaft, of a hanger depending from a cap, and an intermediate bearing device, substantially as set forth. 5th. In an electric motor, an armature shaft having a diaphragm projecting to either side of its axial line, and adapted to be dressed off or cut away at its longitudinal edges, so as to establish perfect equipoise of the armature shaft, substantially as set forth. 6th. In an electric motor, an armature shaft having a diaphragm parallel with its coils, said diaphragm having its longitudinal edges projecting beyond the planes of the exterior surfaces of the coils, substantially as set forth. 7th. In an electric motor, an armature shaft provided on either side of its central portion respectively with diaphragms located midway between the coils and parallel therewith, the longitudinal edges of said diaphragms projecting beyond the planes of the exterior surfaces of the coils, substantially as set forth. 8th. In an electric motor, the combination, with the armature shaft, and a hanger depending from a cap, of an automatic adjusting device for taking up lost motion between the hanger and shaft, as set forth. 9th. In an electric motor, the combination, with the armature shaft, and a hanger depending from a cap, of a pivot blank supported in the hanger and having a bearing on the end of the pivot blank, and a spring on the hanger exerting its influence on the pivot blank, as set forth. 10th. In an electric motor, the combination, with the armature shaft, and a hanger depending from a cap, of the pivot blank passed through a hole in the hanger into a bearing in the end of the shaft, a spring on the hanger exerting its influence on the blank, and means for regulating the tension of the spring, as set forth. 11th. In an electric motor, the combination, with the armature shaft, and a hanger depending from a cap, of a forked end confined between a collar on the blank and its outer end, the pivot blank passed through a hole in the hanger, the hanger below said hole being split, and a binding screw passes through the split end of the hanger, as set forth.

No. 33,900. Railway Signal.

(*Signal de chemin de fer*.)

James D. Berry, Granite Falls, N. C., U.S., 13th March, 1890; 5 years.

Claim.—1st. The signal consisting of the signal head A secured to the vertical bar B, vertical bar B adapted to be driven in the surface, horizontal bars C, D having one end pivoted near the lower end of said vertical bar, the bar C having the perforation *e*, slot *c* and hook *f*, the bar D having the perforation *e*, neck *d* and claspings *e*, *e* of said bars and lock *e*, its neck adapted to pass through the perforation *e* of said bars and lock the same, substantially as shown and described and for the purposes set forth. 2nd. The signal, substantially as above described, consisting of the signal-head A secured to the vertical bar B, vertical bar B adapted to be driven in the end of said vertical bar, C, D having one end pivoted near the lower end and hook *f*, the bar C having the perforation *e*, slot *c* and hook *f*, said bars being adapted to be locked to a railway rail, all substantially as shown and described. 3rd. The signal, substantially as above described, consisting of the signal-head A, vertical bar B, bearing said signal-head and adapted to be driven in the surface, horizontal bars C, D having one end pivoted near the lower end of said vertical bar, their other ends constructed to clasp the base of a railway rail and be locked in position, substantially as shown and described.

No. 33,901. Safety Car Coupling Apparatus.

(*Attelage de chars de sûreté*.)

Edgar Canniff, New Westminster, B.C., 13th March, 1890; 5 years.

Claim.—The combination of levers, shaft connecting rods and pin rod, with guide plates and attachments, substantially as shown, also the pin projection N and control of the link thereby.

No. 33,902. Making Duplicate Copies of Writings. (*Production des doubles copies de manuscrits*.)

Charles A. Thompson, New York, N.Y., U.S., 14th March, 1890; 5 years.

Claim.—1st. The improved method of preparing a transfer sheet for manifold printing or copying, consisting in placing the absorbent sheet face down upon a surface impregnated and coated with the copying or printing medium or material, and producing by pressure the desired delineations or characters in obverse upon the back of the transfer sheet, causing the said sheet to absorb the copying or printing medium at the points of impression, and to have the delineations or characters to appear in reverse upon the face of the sheet absorbed into the same, as shown and described. 2nd. The improved method of preparing a transfer sheet for manifold copying or printing, consisting in placing the absorbent transfer sheet between two sheets having their facing sides coated or impregnated with the printing or copying medium, and thereupon producing the desired delineations or characters by pressure upon the back of one of the enclosing sheets, causing the transfer sheet to absorb the copying or printing medium at the points of pressure and to be thoroughly impregnated therewith from both sides, producing the impressed delineations or characters to appear in obverse upon the back of the transfer sheet, and in reverse upon the face of the same, and to be adsorbed through the entire thickness of the sheet from both sides, as shown and described.

No. 33,903. Fetters. (*Entrave*.)

Weston Whitton, Unity, Me., U.S., 14th March, 1890; 5 years.

Claim.—The combination of the neck strap 1, ring 2, breast strap 3, the fetters 10, 11, 12, fitted to the hook of the mare and connected by a short strap 9, to prevent kicking sidewise, the belly strap 7 having rings 6 and 8 at its respective ends, through the latter of which the fetter connecting strap 9 runs freely, and the cord or strap 5 having one loose end attached by its other end to one of the rings and rove through the rings 2 and 6, for instantly tightening the connection with both hind legs simultaneously and to any necessary extent, as explained.

No. 33,904. Machine for Forming Bottles by the Pressing and Blowing Process. (*Machine à former les bouteilles par le procédé de pressage de soufflage*.)

Dan Rylands, Barnsley, Eng., 14th March, 1890; 5 years.

Claim.—1st. In a bottle making machine of the kind or class hereinbefore referred to, a neck-mould provided with one or more rectangular indentations forming rectangular projections or collars on the neck of the bottle, as set forth. 2nd. In a bottle making machine, the combination, with the mould of the air escape holes *l*, *l*, substantially as described for the purpose set forth.

No. 33,905. Invisible Transportable Telegraph for the Household. (*Télégraphe portatif invisible pour les domiciles*.)

Hermann Stude, Kruk near Frowraclaw, Prussia, 14th March, 1890; 5 years.

Claim.—1st. A contact appliance for house telegraphs and electric conductors, consisting of two metal bells or concave pieces *a*, let in to the legs of the table, which are connected with the conducting wire *l*, which leads the electric current to the top of the table, and the two metal caps or capsules *b* let in and place themselves in the which are forced up by the spring *f* and place themselves in the metal bell *a* and are connected with the floor conductor, substantially as described. 2nd. The contact described in claim 1, altered in such a way that instead of two separate caps or capsules *b* let in to the floor, and two metal bells *a*, there is one metal capsule *b* in which an insulating *c*, hinder *a* is placed, into the interior of which the cap *b* is pressed upwards by the spring *f* against the central bell *a*, while a ring outside the insulating cylinder is pressed by the spring *f* against the ring *r* in the foot of the table, and concentric to *a*, the springs *f*, *f*, the cap *b*, and the ring *r* being provided with conducting wires, substantially as described.

No. 33,906. Leaching and Filtering Process. (*Procédé de lessivage et de coulage*.)

James McNab, Camden, N.J., U.S., 14th March, 1890; 5 years.

Claim.—1st. The process of leaching and filtering out a soluble salt from a mixed mass of soluble and insoluble material, which consists in subjecting the mass mixed with water in sufficient quantity to dissolve the soluble portions and form a thoroughly fluid homogeneous mixture with the insoluble material to treatment in an agitating tank, and then forcing the homogeneous mixture into the fibrous bags of a filtering press and separate it from the insoluble material. 2nd. The process of leaching and filtering out a soluble salt from a mixed mass of soluble and insoluble material, which consists in grinding the mass mixed with water in sufficient quantity to dissolve the soluble portions and form a thoroughly fluid homogeneous mixture with the insoluble material to treatment in an agitating tank, and then forcing the homogeneous mixture into the fibrous bags of a filtering press by means of a force pump so as to express all of the solution and separate it from the insoluble material. 3rd. A process of leaching and filtering out a soluble salt from a mixed mass of soluble and insoluble material, which consists in grinding the mass

together with water in sufficient quantity to make a thick homogeneous paste, in subjecting the ground mass mixed with additional water in sufficient quantity to dissolve the soluble portions and form a thoroughly fluid homogeneous mixture with the insoluble material to treatment in an agitating tank, and then forcing the homogeneous mixture into the fibrous bags of a filtering press by means of a force pump, so as to express all of the solution and separate it from the insoluble material.

No. 33,907. Machinery for the Manufacture of Glass Bottles and Similar Hollow Glass Articles. (*Machinerie pour la fabrication des bouteilles et autres articles de verre creux semblables.*)

Howard M. Ashley, Ferrybridge, Eng., 14th March, 1890; 5 years.

Claim.—1st. In combination with a stationary base column and partly tubular shaft, and with a finishing mould and support, a revolving table carrying four or more tubular crank arms capable of inversion, divided neck moulds, T-pieces and nozzles fitted to receive such divided neck moulds, tubular punches or plungers, divided parison moulds fitting on said neck moulds, with means for opening and closing such neck and parison moulds, and suitable air passages with means for regulating the blowing pressure from the shaft to the said tubular crank arms. 2nd. In combination with the crank arms, the friction wheel with its two notches, the pawl lever, and the two sets of inclines and segments for effecting inversion of the crank arms. 3rd. On each crank arm, the two half parison moulds and their slides, and the disc with eccentric grooves for retracting and advancing these slides as the arm turns. 4th. On each crank arm, the two half neck moulds and their slides, and lever operating in combination with a stationary segment and spring for opening and closing the neck mould. 5th. In combination with an incline on the base of the machine, a vertically sliding rod operating the spring plunger of each single apparatus. 6th. The combination of the treadle, the mould table, its two half moulds jointed thereto, and lever for opening and closing them.

No. 33,908. Water Cooler. (*Fontaine.*)

Nathaniel Davis, Somerville, Mass., U.S., 14th March, 1890; 5 years.

Claim.—1st. The jacket or casing and the jar *f* and its outlet *h* extended through the casing, combined with the cover for the jar, and the ice chamber located above said cover, substantially as described. 2nd. The jacket or casing and the jar *f* and its outlet *h* extended through the jacket or casing, combined with the cover *e* for the jar, and the ice chamber *d* located immediately above the said cover, the cover forming the bottom of the ice chamber, and an inlet pipe for the said jar, substantially as shown and described. 3rd. The jacket or casing having the walls subdivided as described, and having the inner partition *c* terminating above the bottom of said jacket to form an air passage, combined with the jar, its outlet *h*, the cover, the ice chamber immediately above and in close contact with it, and an inlet pipe to the jar, substantially as described.

No. 33,909. Fire Bucket. (*Seau à incendie.*)

Alfred D. Warren, Worcester, Mass., U.S., 14th March, 1890; 5 years.

Claim.—The combination of a pail provided with a non-porous and easily cut cover tightly held in place by a ring, and a wire arranged at the rim of the pail and underneath the cover with a groove in the rim of the pail, substantially as described, to loosely retain said wire, all substantially as and for the purpose set forth.

No. 33,910. Automatic Grain Measure.

(*Mésure à grain automatique.*)

Henry W. Cowan, Gros, S.D., U.S., 14th March, 1890; 5 years.

Claim.—1st. The combination, in a device of the class described, of a measuring wheel provided with a series of compartments, a receptacle constructed to hold a sufficient supply of material to fill all of the compartments of said measuring wheel, and adapted to supply material to said wheel, driving mechanism adapted to revolve said measuring wheel, and a tripping mechanism arranged in said receptacle and adapted to be moved by the material therein and to connect said driving mechanism with said measuring wheel, whereby, when said receptacle has received a sufficient supply of material to fill all of the compartments of said wheel, said tripping mechanism will be operated by the material and will connect said driving mechanism with said measuring wheel, as and for the purpose specified. 2nd. The combination, in a device of the class described, of the measuring wheel provided with a series of compartments, the receptacle 3 constructed to receive a sufficient supply of material to fill all the compartments of said measuring wheel, a drive mechanism, a clutch adapted to connect said driving mechanism and said measuring wheel, and tripping mechanism arranged in said receptacle and adapted to be operated by the material therein, when said receptacle has received a sufficient supply of material to fill all the compartments of said measuring wheel. 3rd. The combination, in a device of the class described, with the receptacle 3, of the measuring wheel 7, the driving wheel 19 mounted loosely upon the shaft of the said measuring wheel 7, the driving wheel 19 mounted loosely upon the shaft of the said measuring wheel, the clutch mechanism adapted to connect said driving wheel with said shaft, the pivoted lever 31, the vibratory plate 45 arranged within said receptacle 3, the pivoted plate 51, the arm 55, the pivoted arm 53 upon the lever 31, the spring 35, and the wheel 37 provided with the lug 41, substantially as described. 4th. The combination, in a device of the class described, with the measuring wheel, the driving mechanism and the clutch mechanism, of the operating lever 31 provided with the arm 33 and the spring 35, the wheel 37 provided with the lug 41, and the tripping mechanism consisting of the vibratory plate 45 arranged in the grain receptacle, the pivoted plate 51, and the arm 55 adapted to engage

the arm 33, substantially as described. 5th. The combination, in a device of the class described, with the measuring wheel 7 and its shaft 17, of the wheel 19 mounted loosely upon said shaft and provided with the pins 32, the stationary ring 27 surrounding said shaft 17, the pivoted lever 25, the spring 29 and the operating lever 31, substantially as described. 6th. The combination, in a device of the class described, with the revolving measuring wheel, of the pivoted stroke board 60 extending across said measuring wheel and adapted to be adjusted toward or from said wheel, the index on the outside of the casing, and the pointer secured upon the pivot of said board and adapted to be moved over said scale, and thereby to adjust, said stroke board, substantially as described.

No. 33,911. Electric Meter.

(*Compteur électrique.*)

Alphonse Frager, Paris, France, 14th March, 1890; 5 years.

Claim.—1st. In an electric meter, the use of a fixed solenoid in the form of two parallel coils between which passes the spindle of the movable solenoid arranged in the centre, the fixed coils being made to receive the whole of the distributed current, substantially as described. 2nd. In an electric meter, the arrangement of the clock work wherein, firstly, a balance wheel is acted upon by a spiral spring and is mounted on a vertical spindle, such wheel being made to beat seconds by the action of an electro magnet surrounding the spindle of the balance wheel, the spindle being formed with a number of wings while the coil of the electro magnet is enclosed in a fixed cylindrical iron casing having a number of openings corresponding to that of the said wings, and, secondly, wherein such balance wheel and spindle are made to receive from the electro magnet two impulses at each double oscillation by means of the combination of a spring contact *k* and stud *p*, with two grooved caps *n* and *q* carried by the spindle, the one cap *n* being fixed on the spindle of the balance wheel and having a tooth taking into a recess of greater width in the second cap *q* which is loose on the spindle, substantially as described. 3rd. Actuating the first motion shaft of the registering counter by means of the balance wheel of the clockwork through the medium of a pawl actuating a toothed wheel, the train of wheels of the counter being driven by the said first motion shaft by means of a clutch gear, the duration of whose action varies with the position of the pointer of the electro dynamo meter, substantially as described. 5th. The construction of the clutch gear referred to in the preceding claim, consisting of an incline fixed on the first motion shaft of the registering apparatus on which rises the end of the pointer of the electro dynamo meter so as to be held thereby, and a cam which revolves with the said shaft and which drops under the action of the pointer when this has cleared the said incline, such lowering of the cam causing the engagement of the first motion shaft of the registering counter, substantially as described. 5th. The construction of the cam referred to in the preceding claim, in such manner that the central angle of the arc described at each revolution upon the said cam by the end of the pointer when looked in position shall be for each part proportional to the energy of the current expanded at the movement. 6th. Arranging the fixed and movable solenoids of the electro dynamo meter with their central planes at an angle of 45° to each other, in order to obtain for the pointer displacements that shall be the greater for one and the same increment of circuit, the more the expenditure diminishes, whereby the sensitiveness of the apparatus for small expenditures is insured, substantially as described.

No. 33,912. Churn. (*Baratte.*)

Peter Kallen, Fort Wayne, Ind., U.S., 14th March, 1890; 5 years.

Claim.—1st. The combination of the churn vessel, the dasher rods provided with perforated plates *c* and stops *f*, and the vibrating supplemental plates provided with cups and adapted to vibrate between the said stops *f* and plates *c*, substantially as set forth. 2nd. The combination of the churn vessel provided with cover, the dasher rods passing through the said cover and provided with dasher rods, the post for supporting this lever and the tube provided with a set screw for the reception of the said post, substantially as and for the purpose described.

No. 33,913. Compound Ingot and Wire Produced therefrom. (*Lingot mixte et fil de fer qu'il produit.*)

Levi L. Burdon, Providence, R.I., U.S., 14th March, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, plated or compound wire having a seamless exterior surface of fine metal sweated to the core by a fusion of the metal or metals forming a part of the alloys of the inner and outer portions of the wire. 2nd. The compound ingot *a* hereinbefore described, consisting of the centre or base metal core portion *b* and the seamless shell portion *c* of fine metal united to the said core by sweating, i.e., a union without solder of the more easily fused metal or metals forming a part of the alloys of the said core and shell, substantially as set forth and for the purpose specified. 3rd. The compound hollow wire *w* hereinbefore described, consisting of the centre hollow base metal core *b*, and an unsoldered or seamless exterior surface *c* of fine metal sweated to the said centre or core portion.

No. 33,914. Manufacture of Compound Ingots for Producing Seamless Wire. (*Fabrication des lingots mixtes pour produire du fil de fer sans soudure.*)

Levi L. Burdon, Providence, R.I., U.S., 14th March, 1890; 5 years.

Claim.—1st. The hereinbefore described process of making compound ingots, which consists in preparing the surface of the base metal core to receive solder, winding the core with solder drawn into the form of wire or narrow strips, inserting the said solder covered core within the suitably prepared seamless metallic tube,

and then subjecting the whole to the action of the heat sufficient to fuse the solder, substantially as set forth. 2nd. The hereinbefore described process of making compound ingots, which consists in winding the suitably prepared surface of the base metal core with solder drawn into the form of fine wire, inserting the thus covered core within the prepared seamless metallic tube having an apertured end, forming a small chamber A^2 at the bottom of the ingot, fuse the solder, substantially as set forth. 3rd. The hereinbefore described process of making compound ingots adapted to be reduced into prepared surface of the base metal core with solder drawn into the form of fine wire, inserting the said wire covered core within the prepared seamless metallic tube, subjecting the unsoldered ingot to the action of heat to fuse the solder, at the same time slowly revolving the ingot after which it is susceptible of being drawn down or reduced to the required size. 4th. The hereinbefore described process of making compound ingots, which consists in winding the suitably prepared surface of the base metal core with solder drawn into the form of fine wire or narrow strips, inserting the said wire covered core within the prepared seamless metallic tube, and forming a chamber as c at the upper end of the ingot to receive the loose solder, and then subjecting the whole to the action of heat to fuse the solder, substantially as set forth.

No. 33,915. Electric Belt. (Ceinture électrique.)

Samuel De Baun, Kansas, Mo., U.S., 14th March, 1890; 5 years.

Claim.—1st. An improved electrode M for transmitting an electrical current to the forehead or back of the neck, composed of an exterior metallic plate, a porous pad Q secured to the plate, and an elastic band Q also secured to said plate and arranged to encircle the wearer's head, in combination with the battery of an electrical component between said plate and said battery, substantially as set forth. 2nd. In an electro-galvanic body belt, the combination, with a split key f , a sleeve m and washer n , substantially as set forth. 3rd. In an electro-galvanic body belt, the combination of an outer casing pliable electro-galvanic battery, a pliable electro-galvanic battery which is made up of a series of individual galvanic piles, each of which piles is composed of a zinc and copper plate having a porous or fibrous pad inserted between these elements, a split key, a sleeve or ferrule, and a washer over which the ends of the key are bent, substantially as set forth.

No. 33,916. Pen and Pencil Clasp. (Agrafe de plume et de crayon.)

George H. Kent, Cambridge, Mass., U.S., 15th March, 1890; 5 years.

Claim.—A pen and pencil holder consisting of a ring having thereon arms extending outward and upward of flexible material so that, when pressure is brought to bear thereon, they may turn backward, substantially as above described.

No. 33,917. Nut Lock. (Arrête-écrou.)

Charles D. Tisdale, Boston, Mass., U.S., 15th March, 1890; 5 years.

Claim. 1st. The plate or block K having lips or corner extension L on its ends for preventing bolts, nuts from turning on their bolts. 2nd. A plate K having lips or corner extensions L on its ends, in combination with two bolt nuts J, of bolts and fish plates or angle irons securing two railroad track rails or other parts together, for the purpose specified. 3rd. A plate K having lips or corner extensions L on its ends, in combination with two bolt nuts J securing two railroad track rails, and fish plate, or angle iron, or other parts together, the bolt nuts being pre-set or burred at their corners or sides, substantially as and for the purpose specified.

No. 33,918. Window Sash Attachment. (Disposition aux croisées des fenêtres.)

Charles F. Olcese, Chicago, Ill., U.S., 15th March, 1890; 5 years.

Claim.—1st. The combination, with a window sash and frame, of a sash cord detacher attached to the frame for detaching the sash cords from the sash, and a movable pintle for temporarily hinging the sash to the frame at one side edge thereof, substantially as and for the purpose described. 2nd. The combination, with a window sash and sash, of a sash cord detacher and a movable pintle connecting together and attached to the frame for simultaneously detaching the sash cords from the sash and temporarily hinging the sash at one side edge thereof to the frame, substantially as described. 3rd. The combination, with a window sash and frame, of a sash cord detacher attached to the frame for disconnecting the sash cords from the sash, mechanism for simultaneously withdrawing and detaching the guide and parting strips of said frame, and a movable pintle for temporarily hinging the sash at one side edge to the window sash and frame, of a sash cord detacher, hooks and a hinging pintle connected together and attached to the frame for simultaneously detaching the sash cords from the sash, withdrawing and detaching respectively the guide and parting strips of said frame, and temporarily hinging the sash at one side edge to the frame, substantially as described. 4th. The combination, with a window sash and frame, of a sash cord detacher, hooks and a hinging pintle connected together and attached to the frame, for simultaneously detaching the sash cords from the sash, and adapted and arranged for detaching the sash cords from the sash, substantially as described. 5th. The combination, with a window sash and sash, said sash being provided with sockets at one side thereof, of hinging pintles attached to said frame adapted and arranged to engage said sockets, a sash cord detacher for detaching the sash cords from the sash, and mechanism for simultaneously withdrawing and de-

taching respectively the parting and guide strips of said frame, substantially as described. 7th. The combination, with a window frame and sash, said sash being provided with sockets at one side thereof, of hinging pintles attached to said frame, a sash cord detacher connected with said pintle and adapted and arranged to detach the cord from the sash simultaneously with the projection of said pintle into the upper end of said sockets, and a sash cord detacher attached to the frame at the opposite side thereof for detaching the other sash cord from the sash, substantially as described. 8th. The combination, with a window frame and sash, said sash being provided with sockets at one side thereof, of hinging pintles attached to said frame, a sash cord detacher connected with said pintle and adapted and arranged to detach the cord from the sash simultaneously with and the projection of said pintle into the upper end of said sockets, and a sash cord detacher attached to the frame at the opposite side thereof for detaching the other sash cord from the sash, and mechanism for simultaneously withdrawing and detaching respectively the parting and guide strips of said frame, substantially as described. 9th. The combination, with a window frame and sash, of a sash cord detacher, and movable pintle attached to the frame, for simultaneously disconnecting the sash cords from the sash and temporarily hinging the sash at one side edge thereof to the frame, and a lock device for securing said detacher and pintle in either adjusted position, substantially as described. 10th. The combination, with a window sash and frame, of a sash cord detacher, hooks and a hinging pintle connected together and attached to the frame, for simultaneously detaching the sash cords from the sash, withdrawing and detaching respectively the parting and guide strips of said frame, and temporarily hinging the sash at one side edge to the frame, and a lock device for securing said mechanism in either adjusted position, substantially as described. 11th. The combination, with a window frame and sash, said sash being provided with open ended recesses at the side edges thereof, of a sash cord provided with a button fitting in said recesses, and a sash cord detacher attached to said frame and adapted and arranged to withdraw the button from engagement with the recesses, substantially as described. 12th. The combination, with a window frame provided with a detachable guiding strip and an adjustable parting strip, and a sash provided with hinging sockets at one side thereof, and open ended recesses for the sash cord button of the part A, comprising a rock-shaft having attached thereto a hinging pintle, a sash cord detacher, a cam hook for adjusting the parting strip, and a lock hook for securing the guide strip, the part B comprising a rock-shaft having attached thereto a sash cord detacher, a cam hook and a lock hook, the part C comprising a rock-shaft having attached thereto a hinging pintle, a cam hook and a lock hook, and the part D comprising a rock-shaft having attached thereto a cam hook and a lock hook, all arranged substantially as described. 13th. The combination, with a window frame provided with a detachable guiding strip and an adjustable parting strip, and a sash provided with hanging sockets at one side thereof, and open ended recesses for the sash cord button, of the part A comprising a rock-shaft having attached thereto a hinging pintle, a sash cord detacher, a cam hook for adjusting the parting strip and a lock hook for securing the guide strip, the part B comprising a rock-shaft having attached thereto a hinged pintle, a cam hook and a lock hook, and the part C comprising a rock-shaft having attached thereto a cam hook and a lock hook, all of said parts being so arranged that a rocking of the shafts in one direction will cause simultaneous detaching of the sash cords engagement of the hinging pintles with the sockets in the sash, the withdrawing of the parting strips and detachment of the guide strips, while a rocking in the reverse direction will reverse each of said operations, and a lock device as described. 14th. The combination, with a window frame provided with a detachable guiding strip, of an adjustable parting strip and a sash provided with hinging sockets at one side thereof, and open ended recesses for the sash cord button of the part A, comprising a rock-shaft having attached thereto a hinging pintle, a sash cord detacher, a cam hook for adjusting the parting strip, and a lock hook for securing the guide strip, the part B comprising a rock-shaft having attached thereto a sash cord detacher, a cam hook and a lock hook, the part C comprising a rock-shaft having attached thereto a hinging pintle, a cam hook and a lock hook, and the part D comprising a rock-shaft having attached thereto a cam hook and a lock hook, stops on each of said rock-shafts, a spring actuated pin working through the window frames engaging said stops, for locking the rock-shafts in their adjusted position, substantially as described. 15th. The combination, with a window frame provided with a detachable guiding strip, of an adjustable parting strip, and a sash provided with hinging sockets at one side thereof, and open ended recesses for the sash cord button of the part A, comprising a rock-shaft having attached thereto a hinging pintle, a sash cord detacher, a cam hook for adjusting the parting strip, and a lock hook for securing the guide strip, the part B comprising a rock-shaft having attached thereto a sash cord detacher, a cam hook and a lock hook, the part C comprising a rock-shaft, having attached a hinging pintle, a cam hook and a lock hook, and the part D comprising a rock-shaft having attached thereto a cam hook and a lock hook, stops on each of said rock-shafts, a spring actuated pin working through the window frame engaging said stops, a key for oscillating said shafts, and a stop for limiting the movement of said key, substantially as described.

No. 33,919. Brick Making Machine. (Machine à faire les briques.)

James A. Boyd and Bruce C. White, Chicago, Ill., U.S., 15th March, 1890; 5 years.

Claim.—1st. The combination, with a mold and plungers working therein, of means for actuating the plungers, embracing toggle arms connected with the opposite plungers, a crank shaft, a beam connected with the said crank shaft and with the middle joint of the toggle arms, and a fulcrum for the beam, substantially as described. 2nd. The combination, with a mould and plungers working therein, of means for actuating the plungers, embracing toggle

arms connected with the opposite plungers, a crank shaft, a beam connected with the said crank shaft and with the middle joint of the toggle arms, and a fulcrum for supporting the beam pivoted at one end upon the frame, and engaged at its free end with the said beams, substantially as described. 3rd. The combination, with a mold and upper and lower plungers working therein, of upper and lower cross-heads connected with the said plungers, vertical slide-bars attached to the lower cross-head, toggle arms connected with the said slide-bars and the upper plunger, a crank-shaft, a beam connecting the middle joint of the toggle arms with said crank-shaft, and a fulcrum for supporting the beam pivoted at one end to the frame, and engaged at its opposite end with the said beam, substantially as described. 4th. The combination, with a mold and plungers working therein, of means for actuating the plungers, embracing toggle arms connected with said plungers, a crank shaft, a beam connected with the shaft and with the middle joint of the toggle arms, a pivotally supported fulcrum engaging said beam, and a stationary roller located in position to act upon the lower edge of the beam, substantially as described. 5th. The combination, with a mold and plungers sliding therein, of toggle-arms connected with said plungers, a crank shaft, a beam connecting said crank shaft with the middle joint of the toggle-arms, a pivotally supported fulcrum engaging said beam, and a roller engaging the beam, said beam being provided with a separate cam-block attached to its lower edge in position for contact with the roller, substantially as described. 6th. The combination, with the machine frame, a mold and plungers sliding therein, of toggle arms connected with the said plungers, a crank shaft, a beam connecting said crank shaft with the middle joint of said toggle arms, said beam being provided with a horizontal pin, a fulcrum pivotally supported below the beam and constructed for engagement with the pin at its upper end, and a prong extending above said fulcrum in position to be encountered by the said pin upon the beam, substantially as described. 7th. The combination, with the mold table, plungers, cross-heads, toggle-arms, crank-shaft, and beam of side frame, plates provided with integral inwardly projecting hubs a' , a'' , and with notches a , a' receiving the ends of the mold table, a pin J inserted in said hubs, and a fulcrum for the support of the beam mounted upon said pin, the said side plates being provided with integral webs a'' extending from the said hubs a' downwardly to the said notches a , and abutting against the mold table, substantially as described. 8th. The combination, with the mold table, plungers, cross-heads, toggles, crank-shaft and beam of side frame, plates provided with inwardly extending hubs a' , of a pin J inserted through the hubs and provided with heads or nuts on its outer end, a sleeve surrounding said pin between the hubs, and a fulcrum or support for the beam supported upon said pin and sleeve, substantially as described. 9th. The combination, with the vertical side frame plates, horizontal frame base and molds of a brick machine, plungers sliding therein, and actuating devices for the plungers located above the molds, of a mold table consisting of two parts or castings having the molds formed between their upper parts, and provided with vertical webs extending downwardly to the frame base, said parts being bolted to each other and to the frame plates by horizontal bolts, and the web being bolted at their lower edges to the frame base, substantially as described. 10th. The combination, with the machine frame, a mold and upper and lower plungers, of upper and lower cross-heads for actuating the plungers, the lower plungers being movable relatively to the cross-head, and a yielding support sustaining the lower plunger, whereby the same may be moved independently of the lower cross-head, substantially as described. 11th. The combination, with a mold, of upper and lower plungers sliding therein, cross-heads sustaining the plungers, said lower plunger being vertically movable with relation to the lower cross-head, a yielding support sustaining the said lower plunger independently of the lower cross-head in certain positions of the latter, and shoulders or surfaces upon said lower plunger and cross-head adapted to limit the relative movement of said parts, substantially as described. 12th. The combination, with the mold and lower cross-head, of a lower plunger movable vertically with relation to the cross head, a yielding support sustaining said plunger independently of the cross head, and horizontal surfaces or shoulders upon or connected with said plunger and acting against the cross head to limit the movement of the plunger with relation to the cross head in both directions, whereby the said plunger is moved positively by the cross head during a part of both the upward and downward movement of the latter, substantially as described. 13th. The combination, with a mold and a lower cross head, of a lower plunger, which is movable vertically with relation to the cross head, and a yielding support sustaining said plunger independently of the cross head, said plunger being provided with a vertically adjustable stop limiting the upward movement of the plunger with relation to the cross head, whereby the position of the plunger within the mold at the time the latter is filled may be regulated as desired, substantially as described. 14th. The combination, with the mold and lower cross-head of a brick machine, of a lower plunger provided with a vertical stem passing through the cross-head and with a horizontal surface or shoulder engaging the top surface of said cross head, and a yielding support sustaining said plunger independently of the cross head, substantially as described. 15th. The combination, with the mold and lower cross head, of a lower plunger provided with a vertical stem passing freely through said lower cross head, and with a horizontal surface or shoulder engaging the top surface of the cross head, a yielding support for said plunger, and a stationary guide upon the frame engaging the said stem, whereby the plunger is guided by the mold and said stationary guide independently of the cross-head, substantially as described. 16th. The combination, with the mold and lower cross head, of a lower plunger provided with a depending vertical stem passing through the cross head, a sleeve surrounding said stem and provided with surfaces or shoulders adapted to engage both the plunger stem and cross head, a vertically adjustable collar upon said sleeve and a spring acting with an upward pressure upon said collar, said collar being adapted for engagement with the lower surface of the cross head, substantially as described. 17th. The combination, with a mold table provided with outwardly bevelled surfaces, of a feed box provided at its sides with vertical plates fitting at their lower edges against said bevelled surfaces, substantially as described.

18th. The combination, with a mold table provided outwardly with bevelled surfaces of a feed box, and a vertically adjustable plate secured to the sides of the feed box and fitted to slide upon the said bevelled surfaces at their lower edges. 19th. The combination, with a mold table provided with bevelled surfaces, of a feed box, vertically arranged plates movably connected with the sides of the feed box and engaging said bevelled surfaces at their lower edges, and vertical set screws inserted in the feed box and bearing downwardly against said plates, substantially as described.

No. 33,920. Combined Running Gear and Steering Apparatus. (*Train et gouvernail de voiture.*)

Benjamin F. Fleshman, Alvon, W.V., U.S., 15th March, 1890; 5 years.

Claim.—1st. The combination, with the front and rear wheels of a vehicle carried by laterally swinging frames connected to the vehicle body, of a reach connecting said frames, said reach being divided into two sections overlapping at their inner ends and rigidly secured respectively to the front and rear wheel frames, a pivoted bolt passing through longitudinal slots in said overlapping ends, a curved guide yoke rigid on one reach section, a projection on the other section loosely confined therein, and connections, as set forth, directly connected with one of said reach sections to swing the same in either direction, and extending to within convenient reach of a person on the vehicle, for the purpose set forth. 2nd. The combination, with a vehicle body and the front and rear wheels carried by laterally swinging frames connected to the body, of a reach connecting said frames and divided into two overlapping sections rigidly secured respectively to the front and rear wheel frames, a pivot bolt connecting said sections, whereby said sections swing simultaneously and together, and a vertical lever carried by said body and at its lower end pivoted to one of said reach sections to swing the same laterally, as and for the purpose set forth. 3rd. The combination, with the front and rear wheels of a vehicle carried by laterally swinging frames, of a reach connecting said frames divided into two overlapping sections rigidly secured respectively to the front and rear wheel frames, a pivot bolt extending through longitudinal slots in said overlapping ends, a plate secured to one of said ends having a rounded laterally projecting end, a curved guide yoke at the other end of the plate, a projection on the other section end confined in said yoke, and a roller carried by said last mentioned end and bearing on the rounded end of said plate, substantially as described. 4th. In a running gear, the combination of the two sections of the reach, a bearing plate on one of said sections having the horizontal stop and guide yoke curving rearwardly at its end, a corresponding bearing plate on the other section having a lug bearing against the front edge of said first mentioned plate, a projection on said last mentioned section confined in said yoke, and a pivot pin extending through longitudinal slots in said reach sections, substantially as described. 5th. In a running gear, the two sections overlapping at their inner ends and pivoted together to allow lateral swing and a limited longitudinal movement, in combination with a bearing plate on one of said ends, having a projecting rounded end and a corresponding plate on the other end having a lug bearing against said rounded projecting end and always located in the line of the draft on the reach, for the purpose set forth. 6th. In a running gear, the combination of the two overlapping reach sections with bearing plates located on said overlapping ends, one of said plates having a guide and stop yoke on one end, and the other plate having a lug bearing on the opposite end of said yoke plate and receiving the pulling strain on the reach, substantially as described.

No. 33,921. Method of Lubricating the Axles of Wheeled Vehicles. (*Mole de graissage des essieux des voitures.*)

John N. Pringle, Belleville, Ont., 15th March, 1890; 5 years.

Claim.—1st. The hole F in hub C , in combination with lubricator D and axle A , substantially as and for the purpose hereinbefore set forth. 2nd. Ear K on lubricator D , in combination with spoke B and hub C , substantially as and for the purpose hereinbefore set forth. 3rd. The attachment of a lubricator to the hub of a wheeled vehicle, substantially as and for the purpose hereinbefore set forth.

No. 33,922. Railway Car. (*Char de chemin de fer.*)

William Borner, Chicago, Ill., U.S., 15th March, 1890; 5 years.

Claim.—1st. The combination, with an open freight car, of a supplemental car-body having its sides, ends and top respectively formed in a series of detachable rigid sections, means, such as bolts and nuts, for connecting said sections to each other, and detachable end and side braces, whereby said structure when attached to a car may be braced laterally and longitudinally, substantially as shown and described. 2nd. The combination, with an open freight car, of a supplemental car-body having its sides, ends, top and bottom respectively formed in a series of detachable rigid sections, means, such as bolts and nuts, for connecting said sections to each other, and detachable end and side braces, substantially as shown and described. 3rd. The combination, with an open freight car, of a supplemental car body having its sides, ends, top and bottom respectively formed in a series of detachable rigid sections, means, such as bolts and nuts, for connecting said sections to each other, detachable end and side braces, and a receptacle beneath the car for the reception of said sections, substantially as shown and described. 4th. The combination, with an open freight car, of a supplemental car body consisting of the rigid sectional side pieces d , sectional end pieces e , sectional top-pieces f , means for detachably connecting said sections to each other, lateral and longitudinal braces and tie rods h , all arranged and combined substantially as shown and described. 5th. The combination, with an open freight car, of a supplemental car body consisting of the rigid sectional side pieces d , sectional end pieces e , sectional top pieces f , means for detachably connecting said

sections to each other, lateral and longitudinal braces, tie rods *A* and sectional floor pieces *c*, with means for raising the same from the permanent floor of the car, substantially as shown and described.

No. 33,923. Car Coupling. (*Attelage de chars*)

Robert L. Finley and Henry H. Harper, Bonham, Texas, U.S., 15th March, 1890; 5 years.

Claim.—1st. In a car coupling, the combination, with the drawhead *B* having the openings *C*, *C*¹, *C*², *C*³, and the slots *C*⁴, of the block *G* having a concave front end, the rod *H* secured to the block and provided with the pin *J* projecting into the slots of the drawhead, and the spring *I* surrounding the said rod, substantially as herein shown and described. 2nd. In a car coupling, the combination, with a coupling pin, of a sliding rod having its lower end rigidly secured to the coupling pin and extending up to the top of the car, levers pivoted on the end of the car, and link connections between said levers, and sliding rod, substantially as herein shown and described. 3rd. In a car coupling, the combination, with a coupling pin, and a sliding rod having its lower end secured to the coupling pin and extending to the top of the car, of the shaft *U* mounted to turn in bearings on the end of the car, and provided with the arm *U*¹ and handles *U*², and the link *T* pivoted to the said arm and rod, substantially as herein shown and described. 4th. In a car coupling, the combination, with the drawhead *B* having the openings *C*, *C*¹, *C*², *C*³ and the slots *C*⁴, of the block *G* having a concave front end, the rod *H* secured to the block and provided with the pin *J* projecting into the slots of the drawhead, the spring *I* surrounding the said rod, and means substantially as described and connected with the said pin, to move the said block *G* rearward against the tension of the spring *I*, substantially as herein shown and described.

No. 33,924. Method of Devulcanizing and Desulphurizing Rubber Waste. (*Mode de devulcanisation et désulfuration des déchets de caoutchouc*).

Nathaniel C. Mitchell, Philadelphia, Penn., U.S., 15th March, 1890; 5 years.

Claim.—1st. The herein described process of devulcanizing and desulphurizing old rubber, which process consists in comingling with the rubber scraps heavy oil and calcium sulphide, and then heating the mass with live steam, as set forth. 2nd. In the process of restoring old rubber, the improvement consisting in mixing the rubber with sulphide of calcium and then subjecting it to the action of heat, substantially as described. 3rd. The herein described process of devulcanizing and desulphurizing old rubber, which process consists in mixing therewith heavy oil and calcium sulphide and subjecting the mass to the action of live steam under pressure in a close vessel, as set forth. 4th. In the art of devulcanizing rubber, the improvement consisting in reducing the stock to small fragments and maintaining through the same a constant circulation of steam, substantially as described. 5th. In the devulcanization of rubber, the improvement consisting in maintaining through the mass of stock in a reduced or fragmentary condition a circulation of steam at substantially the pressure hereinbefore set forth. 6th. The process of restoring old rubber, which process consists in subjecting the rubber to the action of live steam in a close vessel until thoroughly softened and devulcanized, blowing off the steam, and then passing a current of air through the mass, substantially as described. 7th. The herein described process of reduction to small pieces with heavy oil and sulphide of calcium, then subjecting it to the action of steam until devulcanization is completed, and finally drawing air through the mass before its removal from the devulcanizer, substantially as set forth.

No. 33,925. Apparatus for Devulcanizing Rubber. (*Appareil pour devulcaniser le caoutchouc*).

Nathaniel C. Mitchell, Philadelphia, Penn., U.S., 15th March, 1890; 5 years.

Claim.—1st. The devulcanizing apparatus comprising a cylinder having a perforated false bottom and a steam inlet beneath the false bottom, substantially as described. 2nd. The devulcanizing apparatus comprising a cylinder having a perforated false bottom, a steam space above the false bottom, and a steam outlet pipe leading from the devulcanizer, substantially as described. 3rd. The devulcanizer comprising a cylindrical vessel having a steam inlet, substantially as described. 4th. The devulcanizer having a perforated false bottom and a drain pipe leading from the space beneath the false bottom, substantially as described. 5th. In combination loading truck adapted to run on said rails and having a follower tent, substantially as described. 6th. The combination of the cylinder having rails lengthwise thereof, the removable platform at the mouth of the cylinder having corresponding rails, the loading truck actuated as said follower from outside the cylinder, and a rope for described. 7th. The combination, with the loading truck, of a follower and a chain connected with said rod and attached to said follower, and a chain connected with said rod and passing over a pulley carried by the devulcanizer, as described. 8th. The combination, with the devulcanizer, of a series of discharge hooks for removing the devulcanized rubber, substantially as described. 9th. The combination, with the devulcanizer, of discharge hooks formed of metal freely, substantially as described. 10th. The combination, with the devulcanizer having longitudinal rails, of a series of hooks provided with runners for sliding on said rails, substantially as described. 11th. The discharging hook having a horizontal and a vertical por-

tion formed of metal bars bolted together and braced, and a tongue for the attachment of a draft chain, substantially as described. 12th. The discharging device comprising a series of vertical prongs formed of U-shaped iron bars, side bars, a tongue and bottom pieces constituting runners, the parts being all firmly bolted together and braced, substantially as described.

No. 33,926. Grain Carrier. (*Monte-grain*).

Ethán B. Keith, Galesburg, Mich., U.S., 15th March, 1890; 5 years.

Claim.—1st. In a grain carrier or elevator, employing sprocket-chain for carrying the rakes, rakes consisting of the head having the ends pivoted to said chains and the teeth made of the long rods bent upward at each end, one of said ends being attached to the head, substantially as set forth. 2nd. In a grain carrier or elevator, the rakes composed of the heads made from the two bars bolted together, and the teeth formed from the rods bent upward at each end, one end of said teeth being in grooves between the bars and passed up through holes in the upper bar, substantially as set forth. 3rd. The combination of the platform having the upper and lower floors, the upper floor having the series of slots at each end, the sprocket-chains and sprocket-wheels, the rakes consisting of the heads and the teeth turned up at each end, said heads having an upwardly extending projection or bracket at the end, and a roller pivoted to the platform at the end where the rakes are carried through the slots of the upper floor, whereby the engagement of said bracket with the roller prevents the rake teeth from tilting downward, substantially as set forth.

No. 33,927. Connection with Stoves. (*Appareil pour les poêles*).

Thos. B. Norgate and Alexander H. Milne, Victoria, B.C., 15th March, 1890; 5 years.

Claim.—1st. The adjustment of a trough curved to exactly fit and hug a stove-pipe, substantially as and for the purposes set forth. 2nd. As an article of manufacture, a trough or boiler to be attached to a stove-pipe having one side thereof curved so as to fit against a stove-pipe, and having ends *B*, handles or ears *D*, lip *E*, bottom *F*, legs *C*, a strap and hinge for securing boiler to a round stove-pipe and with or without a tap or cock substantially as and for the purpose hereinbefore set forth.

No. 33,928. Hay Lifter and Carrier Machine. (*Monte foin*).

Thomas Ray, Pelham, Ont., 15th March, 1890; 5 years.

Claim.—1st. The combination of pulley *G* and block *R*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of backs *k*, blade *l*, shackle *n*, wedge *m* with clevis *i*, substantially as and for the purpose hereinbefore set forth. 3rd. The track *T*, substantially as and for the purpose hereinbefore set forth.

No. 33,929. Carburetor. (*Carbureteur*).

The Petroleum Light and Heat Company, (assignee of Richard A. Bury and Robert M. Bidelman), Adrian, Mich., U.S., 15th March, 1890; 5 years.

Claim.—1st. In the process of manufacturing gas, a carburetor formed with an ingress pipe for the gasiform fluid, an egress pipe for gas and an intermediate chamber filled with a packing of porous material saturated with hydrocarbon oil, the arrangement of the pipes being such that the gasiform fluid is received within the carburetor on a plane lower than the exit thereof, substantially as and for the purpose hereinbefore set forth. 2nd. In the process of manufacturing gas, a carburetor formed with one or more chambers filled with an alkaline solution, a chamber filled with a porous substance saturated with hydrocarbon, and ingress and egress pipes for the ingress and egress of a gasiform fluid, as and for the purpose hereinbefore set forth. 3rd. In the manufacture of gas a carburetor formed of one or more compartments packed with a porous substance saturated with hydrocarbon oil, a pipe in communication with a supply of gasiform fluid and leading to near the bottom of the chamber, and a pipe for exit of the gas leading from the top of the compartment most remote from the ingress pipe, as and for the purpose hereinbefore set forth.

No. 33,930. Car Coupling. (*Attelage de chars*).

Johnson M. Hooper and Smith W. Summers, (assignees of James B. Thomas), Sulphur Springs, Texas, U.S., 15th March, 1890; 5 years.

Claim.—1st. The combination of the draw head having the shoulders *F* and the shelves *K*, and the coupling hooks pivoted on the upper sides of the draw heads and adapted to engage the shoulders *F* and rest on the shelves *K*, as set forth. 2nd. In a car-coupling, the combination, with the draw-head, of the coupling hook pivotally mounted thereon, a cylinder arranged on the upper side of the draw head adjacent to the rear end of the coupling hook, and a piston in said cylinder acting on the rear end of the coupling hook, as set forth. 3rd. The improved car-coupling consisting of the draw head, the coupling hook mounted pivotally thereon, the cylinder *M* arranged on the draw head into the cylinder *M* and provided with a stop-cock, and a branch pipe *Q* between the pipe *Q* and the tube *R*, all arranged and operating substantially as specified. 4th. The combination, with the draw head having the transverse chamber *U*, of the inlet pipe communicating therewith and the tube or cylinder mounted in said chamber, as set forth. 5th. The combination, with the draw head having the transverse chamber *U* provided with an annular shoulder *W*, of the inlet pipe communicating with said chamber and the tube or cylinder arranged within said chamber, and provided with ports or openings *Z*, and the annular shoulder *Y*,

as set forth. 6th. The combination of the draw heads provided at their front ends with tapered tongues, and the hollow lateral projections adapted to receive said tongues, and the coupling hooks pivotally mounted on the draws heads and adapted to lock the same together, as set forth. 7th. In a car-coupling, the draw head provided with a series of transverse tubes or cylinders, whereby, when the cars are coupled together, the heating pipes and the air brake pipes will be simultaneously coupled, as set forth. 8th. The combination, with the car, of the piston secured thereon, and the cylindrical draw head fitting snugly on said piston, and provided with a cylinder head, as set forth. 9th. The combination, with the car, of the cylindrical draw head pivoted thereto, and the piston secured to the car and fitting in the draw head, as specified.

No. 33,931. Journal Bearing.

(*Coussinet de tourillon.*)

Peter Sweeney and Charles H. Boyer, New York, N.Y., U. S., 15th March, 1890; 5 years.

Claim.—1st. In a journal bearing, the combination, with a casing cast in a single piece, and consisting of a main compartment and a rearward extension separated therefrom by a wall, having an opening for the journal and passages for the oil, of a journal entering the main compartment through said extension, and a wheel bearing having an annular recess receiving the end of the journal, substantially as described. 2nd. In a journal bearing, the combination, with a casing having a main compartment and a rearward extension separated by parallel walls into two chambers, both communicating by oil openings with the main compartment of a wheel bearing journalled in boxes, one of which is seated in a removable front plate and the other in the rear extension on a journal lying in an annular recess in the wheel bearing, a collar clamped on the journal, and saddle plates lying on each side of said collar in a chamber formed by interior parallel walls of the extension, substantially as described. 3rd. In a journal bearing, the combination, with a casing consisting of a main compartment having a rearward extension containing parallel interior walls, the latter pierced with oil openings communicating with the main compartment of a wheel bearing, having a peripheral band shrunk thereon and provided with an annular recess, a journal passing through the rear extension and entering said recess, a collar clamped on said journal, saddle plates resting on the latter on each side of said collar and bearing upon the walls of the extension, and a collar on the journal lying partly in the opening in the outer wall of the extension, said casing having a removable front plate supporting one end of the axis of the wheel bearing, substantially as described. 4th. In a journal bearing, the combination, with a casing 4 cast integral with a rectangular rearward extension 8, the latter having interior walls 13 and 16, with a rectangular projection 15 in the former wall of a wheel bearing 18 supported in a box 20 lying in an opening in the wall 16 and in the rectangular projection 15, and a similar box 21 lying in a seat 22 in the removable front plate 6, said seat strengthened by ribs 23, a journal 3 entering an opening 10 and having its small end lying in a recess 24 in the wheel, a collar 27 clamped on the journal and lying between the walls 13 and 16, and saddle plates 29 straddling the journal on each side of the collar and resting against said interior walls, oil openings 32 being formed in said walls, substantially as described. 5th. In a journal bearing, the combination, with a casing containing a wheel bearing 18, provided with an annular recess 24 and a channel 35, of a journal 3 having a collar 36 running in said channel, substantially as described.

No. 33,932. Rake. (*Râteau.*)

Joseph T. Thompson, Verona, and Orville M. Knox, Vernon, New York, N.Y., U.S., 15th March, 1890; 5 years.

Claim.—1st. A cleaning attachment for hand-rakes, consisting of a strip having perforations to receive the rake teeth, and provided at its edge with teeth cutters, substantially as and for the purpose set forth. 2nd. A self-cleaning attachment for hand-rakes, consisting of a metallic strip having a front cutting edge and provided with perforations to admit the rake teeth, substantially as set forth. 3rd. The combination, with a rake-head, of a vertically-sliding cleaning strip having cutters at its front edge, substantially as set forth. 4th. A cleaning attachment for hand-rakes, consisting of a vertically perforated strip, having the obliquely slotted links or clasps attached to its upper side, substantially as set forth. 5th. The combination, with the vertically perforated cleaning strip, of the obliquely slotted links or clasps secured pivotally to the same by means of bolts or rivets, substantially as set forth. 6th. The herein described self-cleaning attachment for rakes, consisting of a metallic strip having a series of vertical perforations, provided at its front edge with teeth or cutters, and having the obliquely slotted links or clasps secured pivotally to the upper side, substantially as set forth. 7th. The combination, with the cleaning strip for hand-rakes, having a series of perforations to admit of the rake-teeth, of the spring links or clasps for securing the same detachably to the rake-head, said links or clasps being composed of strips of spring metal having diagonal meeting ends, whereby oblique slots are formed in the upper ends of said links, the latter being secured pivotally to the upper side of the cleaning strip, substantially as and for the purpose set forth. 8th. The combination, with a hand-rake, of a cleaning strip having perforations, whereby it is mounted to slide vertically upon the rake teeth, said cleaning strip being provided at its front edge with teeth or cutters, and having obliquely-slotted spring clasps or links secured pivotally to its upper side, whereby it may be connected detachably with the rake-head, substantially as set forth.

No. 33,933. Combined Fuel Economizing Apparatus and Gas Making Furnace. (*Appareil pour économiser le combustible et pour à gaz combinés.*)

Robert Laird, Sarnia, Ont., 17th March, 1890; 5 years.

Claim.—1st. In a combined furnace and gas making apparatus, the

combination of a boiler with fire box or combustion chamber, and false end or chamber at the opposite end, brick lined flues or large tubes extending from the combustion chamber to the opposite end, and returning through the front and connected with a receiver and having the mouth in the combustion chamber, provided with an adjustable damper with fragmentary and refractory materials, filling said tubes or flues, superheating tubes provided with supply pipes for compressed air, steam and oil, and extending from the front to the opposite end, and returned from there continuously to the front, and being there connected by small pipes, with the feed nozzle in the combustion chamber, a receiver connected with the return end of the large tubes or flues, and connected by a pipe with the feed nozzle, steam supply pipe connecting the steam space to the feed nozzle, superheating tubes and large tubes or flues, a feed nozzle for liquid and gaseous fuel, steam and air in the combustion chamber front heating or smoke tubes extending from the combustion chamber through the boiler to the smoke stack, and each provided at the mouth in the combustion chamber with an adjustable damper, an oil supply tank connected with the superheating tubes and feed nozzle drip pipes in the large tubes or flues, to carry off deleterious matter, and reflecting plates in said flues to deflect the current through the refractory materials, substantially as set forth. 2nd. The combination of the boiler A, combustion chamber B, with grate b and water jacket C, heating tubes D, provided with dampers a and connecting with smoke stack H, false end F forming near chamber G, superheating tubes N, O, provided with supply pipe M and connected with steam pipe and filled with fragmentary refractory materials Q and having their return end connected with the feed nozzle flues or tubes P and R lined with fire brick filled with fragmentary refractory materials, and provided with drip pipet and the lower one provided with deflecting plates, steam pipes and air pipes and adjustable damper at the mouth receiver T, connected with said flues, pipe X, connecting said receiver with the feed nozzle, feed nozzle L in the front of the combustion chamber, steam pipe L connecting superheating tubes, feed nozzle and flues P, and oil tank I connected with the superheating tubes and feed nozzle, substantially as set forth. 3rd. In a combined furnace and gas making apparatus, a vessel or receptacle having a combustion chamber and return chamber and adapted to hold water and steam, in combination with heating or smoke flues provided with dampers and connected with smoke stack, superheating tubes filled with refractory materials and connecting at one end with the oil, air and steam supply, and at the other with the feed nozzle, generating tubes or flues provided with a damper at the mouth and having delivery end connected with a receiver and being filled with refractory materials, a feed nozzle entering the combustion chamber and connected with the receiver and the oil, steam and air supply, and the delivery end of the superheaters, substantially as set forth. 4th. In combination with a combustion chamber B, having a grate b, the feeding tubes K for the supply of pulverized fuel, substantially as set forth. 5th. The process of consuming fuel and generating gas, consisting of passing a mixture of air, carbonaceous matter and steam through superheating tubes filled with refractory materials and passing the same into a combustion chamber, and then passing the products of combustion through similar larger superheating tubes similarly filled with refractory materials into a receiver, thence drawing off the supply of gas for consumption in the combustion chamber, and for any other desired purpose, substantially as set forth.

No. 33,934. Apparatus for Making Hammers. (*Appareil pour faire les marteaux.*)

Andrew Laundry, Cote St. Paul, Que., and Henry H. Warren, Massena, N.Y., U.S., 17th March, 1890; 5 years.

Claim.—1st. In an apparatus for forming the claws of carpenter's hammers, the combination of the die e having curved surfaces g and l, also having projection m, with guide f, having curved surfaces n, roll A arranged to be guided by the curved surfaces g and n, the whole substantially as and for the purposes set forth. 2nd. In an apparatus for forming the claws of carpenter's hammers, the combination of the die e, having surfaces g and l, guide f, having surfaces n, roll A arranged to be guided by the surfaces g and n, the whole substantially as and for the purposes set forth.

No. 33,935. Carriage Seat. (*Siège de voiture.*)

Marous Cook and George G. Chapell, Brockport, N. Y., U. S., 17th March, 1890; 5 years.

Claim.—1st. The combination, with the supplementary seat C, of the standard D hinged at one end to the main seat, and at the other to the supplementary seat, and the brace E attached at one end to the main seat, and provided at the other with a hook d, engaging with a catch f, on the front of the supplementary seat, as shown and described and for the purpose specified. 2nd. The combination, with the supplementary seat C, of the standard D, provided at its lower end with slots k, k, that embrace pins d¹, d², on bearings of the main seat, and with teeth l, l, that engage with sockets l, l, of the bearings, and the torsion spring v that engages with the supplementary seat, as shown and described and for the purpose specified. 3rd. The combination, with the seat C and standard D, of the bearing P pivoted to the standard, the knuckle p provided with the two sockets s, s, and the spring pin x engaging with said sockets, as herein shown and described.

No. 33,936. Stove. (*Poêle.*)

F. & L. Kahn & Bros. (assignees of Robert S. Carr), Hamilton, Ohio., U.S., 17th March, 1890; 5 years.

Claim.—A stove formed with an extremely hard and keenly ground sharp corner edge, substantially as and for the purposes set forth.

No. 33,937. Compound for Mince Pies.*(Composition à pâtés de viandes mixtes.)*

J. Herschel Wethey, St. Catharines, Ont. (assignee of Henry J. Allen, Port Byron, N. Y., U. S.), 17th March, 1890 (re-issue), 10 years.

Claim.—As an improved article of manufacture, a practically dry mince pie compound, compounded essentially of cooked meat, dried apples or other fruit, sugar and spices compounded in their ordinary dry condition, so as to be packed and handled as a solid, whereby the meat is desiccated and preserved without being carbonized, and a substantially dry stable composition, formed, substantially as herein shown and described.

No. 33,938. Car Coupling. *(Attelage de chars.)*

Fred Wendt and Albert C. Wendt, Marshfield, Wis., U. S., 17th March, 1890; 5 years.

Claim.—1st. The draw-head B, having laterally perforated standards B' on its sides, the rock shaft G journaled in said standards and provided with cranked ends J, and the arm H on said shaft projecting over said draw-head, in combination with the coupling pin D, playing vertically through said draw-head approximately below the free end of the arm H, and the link I pivoted at its ends on pins passing through horizontal cylindrical holes in the pin and arm, as and for the purpose set forth. 2nd. The draw head B, rock shaft G, having cranked ends J, arm I on said shaft, above said draw-head, pin D, and link connecting said arm and pin, in combination with the vertical notched bar M, guides N in the end of the car inclosing said notched bar, and flexible connection L between said notched bar M and said arm I, as and for the purpose set forth.

No. 33,939. Check Hook. *(Crochet de sellette.)*

William J. Roe, Florida, N. Y., U. S., 17th March, 1890; 5 years.

Claim.—1st. A check-rein hook, comprising the hook I, the vertical removable bolt adapted to secure the hook to a saddle, and provided near its upper end with a recess or concavity, and the lever pivoted at the upper end of the removable bolt, and provided at its lower end with a weight fitting snugly in the recess or concavity of the bolt, and enabling the lever to form a continuation of the vertical straight portion of the bolt, substantially as and for the purpose described. 2nd. A check-rein hook, comprising the hook I, the vertical removable bolt having its upper end curved and provided with a longitudinal slot and form into fingers 5, and the lever pivoted between the fingers and provided at its lower end with a weight 7, adapted to fit snugly in the recess or concavity, whereby the lever is enabled to assume an approximately vertical position and form an extension of the straight portion of the bolt, substantially as and for the purpose described.

No. 33,940. Nut Lock. *(Arrête écrou.)*

Lester A. Elster, Edward Young, Jeffersonville, and John E. Knapp, West Lancaster, Ohio, U. S., 17th March, 1890; 5 years.

Claim.—1st. In a nut lock, the combination, with bolts and nuts and a spring back plate held by one of the nuts, and running in the direction of the other nut, but terminating before reaching it, of a locking plate slidingly connected to the back plate intermediate of its ends, and extending from one nut to the other, so that the locking plate only locks the nuts, while the back plate holds the locking plate, off of the nut, and the sliding connection allowing the locking plate to be moved longitudinally in and out of place. 2nd. In a nut lock, the combination, with bolts and nuts, and a back plate held by one other end, said latter end terminating about midway between the nuts, of a locking plate extending from nut to nut on the other side of the back plate and slotted at or near the middle, to receive the tongue of the back plate, whereby the locking plate is held from disengagement. 3rd. In a nut lock, the combination, with a back plate slotted at one end and forming a tongue or projection at its other end, the same extending somewhat outward, and a locking plate transversely slotted at an intermediate point to receive the said tongue or projection, the slot having a lip at the rear of the plate to guide the insertion of the tongue or projection.

No. 33,941. Washing Machine.*(Machine à blanchir.)*

Edward B. Leverich, New York, N. Y., U. S., 17th March, 1890; 5 years.

Claim.—1st. The combination, with the uprights L, having slotted upper ends, the vertically movable spring-pressed horizontal bar K having its ends arranged in the slots, the swinging arms J suspended upon the bar, and the frame E pivoted to the lower ends of the swinging arms, of the rubber D pivoted at one side to the lower end of the pivoted frame, and provided at its opposite side with upwardly projecting arms G, adjustably secured to the pivoted frame, substantially as described. 2nd. The combination, with the tub A, having the attached frames B, and the rollers C mounted in said frames, of the uprights L, the swinging arms J, the frame E suspended from the swinging arms, the rubber D pivoted at one side to the frame, and provided at the other side with upwardly-projecting arms G, having curved slots, and screws H adjustably connecting the slotted arms with the suspended frame, substantially as described.

No. 33,942. Removable Siding for Beds.*(Garde mobile pour les lits.)*

Claus H. Blanken, Charleston, S. C., U. S., 17th March, 1890; 5 years.

Claim.—1st. A removable siding for a bed, having a gate at one

end, which is hinged to the siding and swings outwardly, substantially as set forth. 2nd. In a removable siding for a bed, the combination, with a main frame portion, a depending frame hinged to the main frame, springs which press the main frame inwardly, and depending fingers secured to the inner surface of the main frame portion of a gate hinged to the main frame portion, and a device for holding the gate closed, substantially as set forth. 3rd. In a removable siding for a bed, the combination, with a slatted main frame portion, which is padded or cushioned, a depending clamping frame, spring hinges which connect these frames and force the main frame inwardly, and a series of depending fingers attached to the inner surface of the main frame portion, of a padded gate hinged to one end of the main frame portion, so as to align with it.

No. 33,943. Car Coupler. *(Attelage de chars.)*

Leon E. Ford and Albert J. Whitworth, McComb, Miss., U. S., 17th March, 1890; 5 years.

Claim.—In a car coupler, such as described, a lever placed within the end of a draw bar, the stay bolt for raising or lowering the coupling link within the draw bar, in combination with a lever rod attached to the end of a car provided with an arm for raising or lowering the stay bolt, and a rod connected with said lever rod for coupling or uncoupling a car from the top of the car by raising or lowering the rod, as set forth.

No. 33,944. Steam Boiler Fire Box for Consuming Straw. *(Boîte à feu de chaudière à vapeur pour consumer la paille.)*

John Abell, Toronto, Ont., 17th March, 1890; 5 years.

Claim.—1st. A fire box having its upper portion where the flues enter partially separated from its lower portion by a hollow chamber extending from the tube sheet to a point near the opposite side of the fire box, and provided with openings leading to the outside of the boiler to admit air which is heated, and escapes into the fire box at the point where the smoke and heated gases pass the hollow chamber, substantially as and for the purpose specified. 2nd. The fire box A having its lower portion projecting beyond the tube sheet C, and its upper portion D separated by a hollow perforated chamber E, having holes F to connect it with the outside of the boiler, substantially as and for the purpose specified. 3rd. A fire box having a hollow perforated air chamber E located below the lower portion of the fire box, and a perforated air chamber G located substantially opposite to the perforated air chamber E, substantially as and for the purpose specified. 4th. The grates K arranged together in groups and pivoted at d, in combination with the arms M, bar N and lever O, substantially as and for the purpose specified.

No. 33,945. Bolt Cutter. *(Cisailles à boulon.)*

William L. Dutcher and Moses M. Davis, Rome, N. Y., U. S., 17th March, 1890; 5 years.

Claim.—1st. The combination, in a bolt cutter, of the cutting levers pivoted in the straps and having a rounded projection upon one, engaging within the corresponding recess within the other, and the pivoted operating handles pivoted to the ends of the cutting levers, substantially as set forth. 2nd. The combination, in a bolt cutter, of the cutting levers pivoted in straps engaging upon each side thereof, of the rounded projection substantially in line between the pivotal points of the cutting levers upon one of the cutting levers and engaging in a rounded recess in the other cutting lever, and the operating lever handles pivoted to each other and to the ends of the lever cutters, substantially as set forth. 3rd. The combination, in a bolt cutter, of the cutting jaws pivoted in straps upon each side thereof, the operating lever handles pivoted to the cutting lever, and the adjusting blocks adapted to be placed in the joint between the lever handles, substantially as set forth. 4th. The combination, in a bolt cutter, of the cutting levers pivoted in straps engaging upon either side thereof, adjacent to the cutting edges, one of which jaws is provided with a rounded projection, substantially in line between the pivotal points of the jaws, and adapted to engage in a rounded recess in the other jaw, and the lever handles pivoted to each other and to the cutting jaws, and the adjusting block adapted to be inserted in the joint between the lever handles, substantially as set forth. 5th. The combination, in a bolt cutter, of the cutting levers pivoted in straps engaging upon either side adjacent to the cutting edge, the projection upon one of the cutting levers adapted to engage in a corresponding recess in the other cutting lever, the lever handles pivoted to each other and to the ends of the cutting levers, the adjusting block adapted to be used in the joint between the lever handles, and the spring actuated buffer upon the lever handles, substantially as set forth. 6th. The combination, in a bolt cutter, of the cutting levers 2 and 2a, pivoted in straps 3, one of which levers is provided with a rounded projection n, adapted to engage in a rounded recess in the other cutting lever, the operating lever handles pivoted to the ends of the cutting levers and to each other, the adjusting block adapted to be inserted in the joint between the lever handles and the spring buffers in the lever handles, adapted to engage each other when the handles are closed, substantially as set forth. 7th. The combination in a bolt cutter of the cutting levers pivoted in straps, one of which levers is provided with a rounded projection substantially between the pivoted points of the cutting levers, adapted to engage in a corresponding recess in the other cutting lever, the operating handles pivoted to the cutting levers and to each other, the adjusting blocks adapted to be inserted in the joint between the operating lever handles and the protecting washer 19, over the joint between the operating levers, substantially as set forth. 8th. The combination, in a bolt cutter, of the cutting levers pivoted in straps engaging upon either side thereof adjacent to the cutting edges, the projection upon one of the cutting levers, substantially in line between the pivotal points adapted to engage in a corresponding recess in the other cutting lever, the lever handles pivoted to the cutting levers and to each other, the adjust-

ing blocks adapted to be inserted in the pivotal joint between the operating levers, the protecting washer adapted to be placed over the joint, and the spring buffers in the operating handles adapted to engage each other when the handles are closed, substantially as set forth.

No. 33,946. Car Coupler and Buffer Attachment for Coupling Railway Cars and Attaching to the Buffers of such Cars. (*Attelage de chars et tampon de choc pour atteler les chars de chemins de fer et assujétir les tampons des chars.*)

Joseph C. Best and Isa J. Derry, Madoc, Ont., 17th March, 1890; 5 years.

Claim.—The car coupler and buffer attachment for holding draw bar, substantially as and for the purposes hereinbefore set forth.

No. 33,947. Rubber Sheeting Mill. (*Laminoir de Caoutchouc.*)

Nathaniel C. Mitchell, Philadelphia, Penn., U.S., 17th March, 1890; 5 years.

Claim.—1st. In a mill for grinding or sheeting rubber, the combination, with a series of rolls, of supporting-castings having on each side recesses for the journal boxes of said rolls, of sufficient size to permit horizontal adjustment of said journal boxes, upright castings, one on each side of the supporting-castings, and adjusting bolts carried by said uprights, substantially as described. 2nd. In a grinding or sheeting mill, the combination, with a series of rolls, of a frame comprising castings having on each side horizontal arms forming recesses for the journal boxes of said rolls, upright castings confining the journal boxes in said recesses and cap pieces connecting the front and rear uprights, the parts being all firmly bolted together substantially as described.

No. 33,948. Range Boiler. (*Bouilloire de landier.*)

Thomas W. Reese, Philadelphia, Penn., U.S., 18th March, 1890; 5 years.

Claim.—1st. The combination of a range and a boiler, or water heater, located within the structure of the range and fixedly set in respect to the fire pot of the same, with a plug having a screw connection with the shell of the boiler and having a closed outer end which projects to or into the fire pot of the range, all substantially as specified. 2nd. The combination of a range and a boiler or water heater, located within the structure of the range and fixedly set in respect to the fire pot of the same, with a nipple screwed directly into the shell of the boiler and projecting therefrom, a hollow plug screwed onto said nipple and projecting into the fire pot of the range and a packing ring for preventing leakage at the shell of the boiler, all substantially as specified. 3rd. The combination of a range and a boiler or water heater, located within the structure of the range and fixedly set in respect to the fire pot of the same, with a nipple screwed into and projecting from the shell of the boiler, a hollow plug screwed on to the outer end of the nipple and projecting into the fire pot of the range, and a collar and packing interposed between the said plug and the shell of the boiler, all substantially as specified.

No. 33,949. Pottery Kiln. (*Four de poterie.*)

Arthur Snow and Joseph S. Mayer, Trenton, N.J., U.S., 18th March, 1890; 5 years.

Claim.—The combination and arrangement of dividing wall E³, flues F, F', and the intersecting flues E, E', E², forming return draught chamber of kiln, substantially as and for the purpose specified.

No. 33,950. Section or Tube Boiler.

(*Chaudière à tubes.*)

Joseph H. Ricker, Lock Haven, Penn., U.S., 18th March, 1890; 5 years.

Claim.—1st. A sectional steam boiler having its rectangular heads composed of closely fitting sections or chambers, and said sections or chambers connected by tubes, substantially as specified. 2nd. In a tube steam boiler, the combination of the heads C and C', respectively composed of the closely fitting sections c, c', the connecting tubes E, the dome H, and pipes connecting the same to the tubes, and the tie rods E, manifolds D, D', cross pieces d, d', and means for securing the sections and tubes together, all in the manner and for the purposes set forth. 3rd. In a tube steam boiler, the combination of a drum shaped steam dome H, above the boiler I, the end walls or heads composed of the closely fitting sections, the tubes connecting the sections at opposite ends and inter-communicating from top to bottom through said sections, and the equalizing pipes connecting the dome with the top tube of each inter-communicating series of tubes and sections, substantially as specified. 4th. In a steam boiler, the combination, with the walled chamber or section forming part of an end wall or head, of a steam tube rebated at its end, and fitting into and against said chambers or section, and provided with a circumferential inward standing flanges notched at opposite points and the T-shaped bolts having its shank threaded at the outer end, and opposite arms to pass into said flanges and the nuts to engage said threaded shanks and bind the end of the tube against the sections, substantially as specified. 5th. In a sectional boiler, as described, the tubes, each rebated at the end and also having instanding and notched flanges at the end, combined with the head, and a T bolt washer, gasket and nut, whereby each pipe can be made steam tight at the joint. 6th. The combination of the pipes I', which enter the dome at its top, with the tubes F and with the dome, in the manner and for the purposes stated. 7th. In a section boiler, the combination of heads made in sections closely fitting together, the outer

edges of the outer sections being vertical with the tubes, and means for securing the same steam tight, substantially as set forth. 8th. In a boiler, as described, the combination of the sectioned heads with the manifolds D, D', and cross bars or supports d, d', said manifolds and cross bars arranged as shown and described, and the tie bolts the tubes T, bolts, nuts and washers, and gaskets, as described, connecting said heads, whereby the boiler can be added to, or reduced in size, substantially as set forth. 9th. A section boiler having heads in sections closely fitting together, and united by manifolds and cross bars, and the bolts and nuts, in the manner described, and the tubes secured to the heads, as set forth, whereby the boiler can readily be taken apart for transportation and as readily put together.

No. 33,951. Draft Rigging for Railway Cars.

(*Appareil de traction pour les chars de chemins de fer.*)

Ben Patterson, Cleveland, Ohio, (assignee of James A. Graham, Fort Wayne, Ind.,) U.S., 18th March, 1890; 5 years.

Claim.—1st. In a draft rigging, the combination, with the centre stringers, of a railway car with a block H, framed between, and bolted securely to said stringers, draft timbers J, J, cross straps O and draft irons N, N, bolted firmly together and to the centre stringers, and buffer blocks secured between the draft timbers and bolted thereto. 2nd. In a draft rigging, the combination, with the centre stringers, of a railway car with a block H, framed between and bolted securely to said stringers, draft timbers J, J, cross straps O and draft irons N, N, having slots n¹, n¹, bolted firmly together and to the centre stringers, and buffer blocks having their lower edges formed to enter slots n¹ of the draft irons secured between the draft timbers and bolted thereto. 3rd. In a draft rigging, the combination, with the centre stringers, of a railway car with a block H, framed between and bolted securely to said stringers, draft timbers J, J, cross straps O and draft irons N, N, bolted firmly together and to the centre stringers, and buffer blocks P having upwardly extending shoulders P¹ formed to extend above and rest against shoulders h¹, h², formed in block H, said blocks being secured between the draft timbers and bolted thereto. 4th. In a draft rigging, the combination, with the centre stringers, of a railway car with a block H, framed between and bolted securely to said stringers, draft timbers J, J, cross straps O and draft irons N, N, having slots n¹, n¹, bolted firmly together and to the centre stringers, and buffer blocks P having their lower edges P² formed to enter the slots n¹ of the draft irons, shoulders P¹ formed to extend above and rest against shoulders h¹, h², formed in blocks H, said blocks being secured between the draft timbers and bolted thereto.

No. 33,952. Hand Operated Swinging Gate.

(*Barrière tournante à main.*)

James McClintock, (assignee of Wesley C. Carter), Galva, Ill., U.S., 18th March, 1890; 5 years.

Claim.—1st. In a gate, the combination of a vertical pivot shaft having the pulleys at its lower end, and a rigid cross head at its upper end, a gate provided with the elongated hinge loops, which fit closely on said vertical pivot shaft to adapt the gate to have a limited tilting movement and to swing or turn with said shaft connections 27, intermediate of said gate and opposite ends of said cross head, the vertical crank shafts, each having a pulley, a chain passing round and connected to each pulley of the crank and pivot shafts, the connecting rods, and a swivel connected to the rods and chains, all arranged and combined for service substantially as herein shown and described. 2nd. The combination of a vertical pivot shaft carrying a gate which is capable of a limited tilting movement, a cross head fixed to said shaft, an adjustable sleeve fixed on one of the bars of the said gate, and connections between said adjustable sleeve and the cross head, substantially as described.

No. 33,953. Sash Fastener. (*Arrêt-croisée.*)

Darwin O. Livormore and Arthur F. Mayo, Los Gastos, Cal., U.S., 18th March, 1890; 5 years.

Claim.—1st. The combination, with the spring actuated bolt, the lever engaging the bolt and provided with journals, of the plate having ears provided with curved slots forming open bearings for the journals, and providing a cam surface to prevent displacement of the lever, substantially as described. 2nd. The combination of the spring actuated bolt having a perforation, the lever provided with a hooked end to engage said perforation, and having journals, and the plate provided with ears having curved slots forming open bearings for the said journals, substantially as described.

No. 33,954. Telephone. (*Téléphone.*)

Mathias F. Jannard and Arnold G. Fenwick, Montreal, Que., 18th March, 1890; 5 years.

Claim.—The application of the vibrating armature B to the induction coil of a transmitter, for the purpose of signalling.

No. 33,955. Coal Chute.

Francis M. Susemihl, Asa G. Dailey and James D. Hawks, Detroit, Mich., U.S., 18th March, 1890; 5 years.

Claim.—1st. In a coal chute, the combination, with a door hinged at its upper edge and having bearings on its lower edge, of an apron F hinged at its inner edge adapted to swing upwardly for locking the door when closed by coming in contact with said bearings, substantially as described. 2nd. In a coal chute of the kind described, the combination of a hinged apron having the joints of its hinges back of its inner edge, and a retaining door having a circular bearing or bearings formed or secured at its lower edge, substantially as described.

No. 33,956. Sled. (Traineau.)

James C. Robertson, John McCall and William Morgan, Philipsburg, Penn., U.S., 18th March, 1890; 5 years.

Claim.—1st. In a sleigh, the combination, with the sides thereof, provided with bearings, of opposite cranks mounted in the bearings, sprockets mounted on the cranks, a transverse shaft mounted in the sides of the sleigh, propelling wheels mounted on the shaft, small sprockets mounted at the sides of the propelling wheels and rigid therewith, and a sprocket chain connecting the large and small sprockets, substantially as specified. 2nd. In a sleigh, the combination, with the sides provided with bearings and inclined ways of opposite cranks mounted in the bearings, large sprockets mounted on the cranks, movable boxes mounted in the ways, a transverse shaft mounted in the boxes, ground wheels loosely mounted on the shaft, small sprockets mounted on the shafts and rigid with the wheels, chains connecting the large and small sprockets, a rock shaft mounted in the sides and connected by toggle levers to the transverse shaft and a lever mounted on the rock shaft for operating the same, substantially as specified. 3rd. The combination, with the sides having the standards 24, and a slot formed in the standards and runners, of bell crank brakes pivotally mounted in the slots and having their ends adapted to be projected outside of the slots, cords connected to the inner ends of the brakes and terminating in handles, 4th. The combination, with the seat, substantially as specified, short standards 13, and the sides 1 having the runners 2, the quadrant shaped slot 12, of the depending curved bars 11 forming the embracing the sides of the boxes 14 having opposite flanges 15 in the bearings and carrying the propelling wheels, the shaft 17 mounted in the bars 1, the toggle levers 21 connecting the two shafts, specified. 5th. The combination, with the sides 1 connected by the transverse bars 4, and the short longitudinal bars 5, and the bearings 6 mounted upon the bars 5 and 1 and in line with each other, of the intermediate their bearings, as at 10, the propelling wheels and all as specified. 6th. The combination, with the side rails 1, having curved at their rear ends, and the vertical standards 26, said standard crank brakes 27, the free ends of which are adapted to be projected below the base of the runners outside of the slots, and the cords 28 projected through the openings 29 and terminating in handles 30 and connected at their rear ends to the inner ends of the brakes, as specified. 7th. The drive wheel for sleds herein described, consisting of a central hub, radiating arms, sockets mounted on the ends of the arms and terminating in flattened plates, and the a sleigh, the sleigh frame having the runners, the sleigh propelling toggle levers connecting the rock shaft with the driving shaft, and the operating hand lever 22 connected to the rock shaft, as and for the purpose set forth.

No. 33,957. Grain Binder. (Lieuse à grain.)

The Noxon Bros. Manufacturing Company, Ingersoll, Ont., (assignee of John F. Seiberling, Akron, Ohio, U.S.,) 18th March, 1890; 5 years.

Claim.—1st. The combination, with the binder arm secured to the shaft B, of the crank arm B¹ provided with the longitudinal slot and the journal bearing for the pitman elastically and adjustably secured therein, and the trip arm D, operating as shown and described. 2nd. The combination, with the binder shaft and its crank, provided with the longitudinal slot, and the yielding journal bearing, of the pitman secured therein, and the locking pawl C, operating as shown and described. 3rd. The combination of the binder shaft crank arm B¹ provided with the slot formed therein, the journal box c arranged to slide in said slot, the locking pawl G, the tension spring f, the pitman C, the adjusting screw f¹ and the trip spring b², substantially as described.

No. 33,958. Reefing Apparatus for the Sails of Vessels. (Appareil à prendre des ris dans les voiles des vaisseaux.)

Samuel M. Kellinger, Mantolo King, N.J., U.S., 19th March, 1890; 5 years.

Claim.—1st. The combination, with the sail of a vessel which is provided with a row of eyelet holes 1, 2, etc., and the spar or boom to which the sail is secured, the said boom being provided with device of a reefing cord which is passed through a cord in position, the two parts of said cord being on opposite sides of the sail, from whence brought to a retaining device fixed to the boom, after which they are severally passed alternately under the edge of the sail where they are the other eyelet holes, the said two parts alternating in the eyelet holes, and the extremities of the cord being brought to a retaining device on the boom, substantially as and for the purposes described. 2nd. The combination, with the sail of a vessel provided with eyelet holes 1, 2, 3, etc., and a boom to which the lower edge of the sail is secured, said boom being provided with sheave blocks at its inner end and on its outward part, of a reefing cord E, which is passed through eyelet hole 1, after which the two parts of the cord being on opposite sides of the sail are under the sail and through the other eyelet holes, the said two parts alternating in said eyelet holes to a sheave block on the outer part of the boom, substantially as set forth and described.

No. 33,959. Furnace or Apparatus for the Extraction of Gold, Silver or Lead from Ores or Substances Containing the Same, and for other Chemical or Metallurgical Operations. (Fourneau ou appareil pour extraire l'or, l'argent ou le plomb des minerais ou substances qui les renferment et pour d'autres opérations chimiques ou métallurgiques.)

Albert B. Cunningham, London, Eng., and Charles H. T. Haveinann, Paris, France, 19th March, 1890; 5 years.

Claim.—1st. A furnace for use in chemical or metallurgical operations in which the smelting pot or vessel is mounted upon a pier surrounded by the grate or furnace proper, substantially as and for the purpose described. 2nd. A furnace for use in chemical or metallurgical operations, the smelting pot of which is mounted upon a pier out of contact with the fire and lined with rings, substantially as and for the purpose described.

No. 33,960. Band Saw Mill. (Sciérie à ruban.)

DeWitt C. Prescott, Marinette, Wis., U.S., 19th March, 1890; 5 years.

Claim.—1st. The upper band wheel F and its shaft f, in combination with the vertically movable bearing blocks G, G¹ and the horizontal pivoted levers H and I, which support the bearing blocks, substantially as and for the purposes specified. 2nd. The upper band wheel F and its shaft f, in combination with the vertically movable bearing blocks G, G¹, the horizontal supporting levers H and I, the lever K, connecting rod J, and weight m applied to the lever K, substantially as and for the purposes specified. 3rd. The vertically movable column section b¹ having tubular brackets D and E, in combination with the bearing blocks G and G¹ arranged in said brackets, the supporting levers H and I for said blocks, the shaft f of the upper band wheel F, and the weighted lever K connected to the levers H and I, substantially as and for the purposes specified. 4th. The hollow column B consisting of fixed section b and movable section b¹, in combination with the supporting levers H and I, pivoted to the section b¹ and extended into the interior of the column, the lever K inside the column, the connecting rod J, the weighted rod M inside the column, the upper band wheel shaft f, and the bearing blocks G, G¹ supported on the levers H, I, substantially as and for the purposes specified. 5th. The combination, with the base A and upper band wheel F, of the hollow column B consisting of sections b, b¹ and screw posts b², of the tubular support D, post I, bearing block G having stem g², bearing block G¹ having stem g¹, tubular support E, post i, ratchet lever l, levers H, I, lever K, connecting rod J, and rod M provided with a weight m, yokes p, screw pins g¹, boxes f¹, and shaft F for automatic adjustment of the upper band wheel, substantially as and for the purposes specified. 6th. In a band saw guide, the combination, with the supporting arm Q having a semi-spherical socket Q¹ and cheek piece R, of the cheek piece R¹, having a semi-circular boss R² provided with apertures r², connecting bolt R³, washer R⁴ and nut r², substantially as and for the purposes specified. 7th. The combination with the base O, of block P, cheek pieces R, R¹ and arm Q, substantially as and for the purposes specified. 8th. The combination, with the base O having ribs O¹, of the block P having grooves p, arm Q, adjusting screws Q² and clamping bolt Q³, substantially as and for the purposes specified. 9th. The combination, with the cheek pieces R, R¹, of the facing R² having recess r², and guard T, substantially as and for the purposes specified. 10th. The combination, with the cheek pieces R, R¹, on the lower guide of the dust chutes T, substantially as and for the purposes specified. 11th. In a saw mill carriage, the combination, with the truck axles U, of the carriage N³ having a fixed projection or roller W, sleeve V having a cam groove V¹, friction disk V², cam projections V² provided with pieces v, and collars X, X on said axle, having friction disk X¹, substantially as and for the purposes specified. 12th. The combination, with the axle U, of the sleeve V, cam projections V², oil chambers V³, provided with filling apertures V² and passages V³, the carriage N³ and the projection or roller W, substantially as and for the purposes specified. 13th. The combination, with the axle U, sleeve V with friction disks V² and collars X with friction disks X¹, of the washers X², the annulus X³ arranged behind one of said washers, and the springs X³, of adjustable tension for regulating the friction, substantially as and for the purposes specified.

No. 33,961. Machine for Hooping Pails, Tubs, etc. (Machine à cercler les seaux, cuvettes, etc.)

Robert S. Stratton, Orillia, Ont., 19th March, 1890; 5 years.

Claim.—1st. The disc K, fixed to the revoluble shaft L and having a series of indenting projections U arranged at regular intervals around its periphery, in combination with a shaft B, carried in suitable bearings made vertically adjustable in the frame F, substantially as and for the purpose specified. 2nd. The disc K, fixed to the revoluble shaft L and having a series of indenting projections U arranged at regular intervals in a groove formed in its periphery, which is covered with rubber or similar compressible material, in combination with the shaft B having connected to it a holder designed to support the pail A or other utensil to be hooped, one end of the shaft being supported by a bearing box C hinged to the adjustable block E, and the other end of the shaft being supported by a bearing box D connected to the lever J, which is pivoted on the adjustable block H, substantially as and for the purpose specified.

No. 33,962. Charging or Combining Liquid with Gas. (*Incorporation des gaz dans les liquides.*)

Charles A. Catlin, Providence, R. I., U. S., 19th March, 1890; 5 years.

Claim.—The herein described method of charging or combining liquid with gas, consisting in passing a current of mixed gas continuously through a series of tanks in one direction, passing the liquid intermittently through the same tanks in the opposite direction, and agitating the liquid and gas, all substantially as described.

No. 33,963. Steam Trap. (*Purge de vapeur.*)

Thomas Houlgrave, Toronto, Ont., 19th March, 1890; 5 years.

Claim.—1st. In a steam trap, the combination of the steam chamber A, expansion rod B and valve seat C, substantially as and for the purpose set forth. 2nd. In a steam trap, the combination of the steam chamber A, expansion rod B having a slightly tapered and rounded end *h*, and the conical shaped valve seat C, substantially as and for the purpose set forth.

No. 33,964. Apparatus for Treating Metallic Ores or Compounds with Chemicals. (*Appareil de traitement des minerais ou composés au moyen de produits chimiques.*)

Stephen Alley, Pomaldie, Scotland, 19th March, 1890; 15 years.

Claim.—1st. Apparatus for treating and agitating metallic ores or compounds with chemicals, and comprising, in combination, a metallic vessel lined with rubber, hollow trunnions fixed on the vessel, stationary bearings supporting the vessel by its trunnions, gearing for turning the vessel, an opening for filling and emptying the vessel formed at one end and capable of being made uppermost or lowermost by turning the vessel, an inclined conformation of the vessel round the opening facilitating emptying, and an internal valve or stopper to the opening, the parts being constructed, arranged and operating substantially as hereinbefore described. 2nd. Making vessels for treating metallic ores or compounds with chemicals, of metal coated internally, or both internally and externally, with vulcanized rubber cured on the metal of the vessel, substantially as hereinbefore described.

No. 33,965. Anvil Clamp. (*Etau d'enclume.*)

William Way, Wilfrid, Ont., 19th March, 1890; 5 years.

Claim.—1st. The combination with an anvil of a bar B pivoted on the bolt C, and having a jaw D formed on its upper end and a step E on its bottom end, substantially as and for the purpose specified. 2nd. The combination, with an anvil, of a bar B having a loop formed at the point where it is pivoted on the bolt C, a jaw D being formed on its upper end, and a spring F connected to it as indicated, substantially as and for the purpose specified.

No. 33,966. Washing Machine.

(*Machine à blanchir.*)

Hiram H. Bellemy, Almonte, Ont., 20th March, 1890; 5 years.

Claim.—The flexible bars H, I, or springs secured at the ends to the legs I of the suds box, in combination with side bars G, rod F, arms D and rubbing board C, as set forth.

No. 33,967. Axle Oiling Device. (*Boite à graisse.*)

Edwin McAllen, Ignace, Ont., 20th March, 1890; 5 years.

Claim.—An axle-box B suspended in the casing D by the flanges C, and having an oil cup F extending through the hub E and provided with a cap or stopper G, substantially as and for the purpose specified.

No. 33,968. Catamenial Sack. (*Sac cataménial.*)

Hannah F. Ferguson, Cayuga, Ont., 20th March, 1890; 5 years.

Claim.—A catamenial sack consisting of a body portion A, straps C secured to the ends of said portion at the front and rear corners, a waistband F and straps E dependent therefrom at the front and rear of the hips, and connecting with the straps C, as set forth.

No. 33,969. Gate Hinge. (*Penture de barrière.*)

Solomon D. Wells, Fairmont, 20th March, 1890; 5 years.

Claim.—The combination, with the posts B, B', sill A and gate, of the strips C interposed between the gate and post B', hinges secured to the strips C and comprising the plates D, D¹, D², D³, having eyes E, E, the inclined U-shaped track G secured to the post B', inclined bar G', and rod J having rollers I, K secured at each end, whereby the gate is opened and closed by its own gravity, substantially as and for the purpose described.

No. 33,970. Hot Water Heater.

(*Calorifère à eau.*)

Richard Bigley, Toronto, Ont., 20th March, 1890; 5 years.

Claim.—The combination, with a fire-pot, of a series of pipes connected to the water legs E having one or more partitions placed in them, and connected to the supply and distributing pipes, substantially as and for the purpose specified.

No. 33,971. Implement for Cutting or Harvesting Ice on Bays or other Waters. (*Outil pour débiter ou récolter la glace dans les anses ou autres eaux.*)

George J. Baxter, Toronto, and John Kinleyside, Hamilton, Ont., 20th March, 1890; 5 years.

Claim.—In a machine for cutting ice, the frame I with the shaft O¹, O², O³, O⁴, O⁵ and O⁶, crank Y, the pulleys A, B, C, D, E, F, G and H, with belting as arranged in connection with the shaft M¹, gear wheels L, racks J, dogs T, posts J², traction wheels P, runners Q and guides M², to operate the machine and cut the ice by means of the saw S, as described and set forth.

No. 33,972. Manufacture of Shoes.

(*Fabrication des souliers.*)

Charles Culley and Caroline W. W. Sanderson, Toronto, Ont., 20th March, 1890; 5 years.

Claim.—The sole A having the usual channelling B sewn to the upper C by means of a fine metallic wire D, substantially as and for the purpose set forth.

No. 33,973. Take-up for String or Wrapping Twine. (*Accroche-ficelle d'emballage.*)

Charles Long and Albert J. Burt, Toronto, Ont., 20th March, 1890; 5 years.

Claim.—1st. A take-up for string or wrapping twine, consisting of a suitable weighted lever arm pivoted in a hanger, and having at or near the extremity of the lifting end an eye through which the string or wrapping twine passes, substantially as and for the purpose set forth. 2nd. A take-up for a string or wrapping twine, consisting of a lever arm pivoted in a hanger and having on one end a movable weight fitted with a new set screw, and at or near the extremity of the opposite end an eye through which the string or wrapping twine passes, substantially as and for the purpose set forth.

No. 33,974. Picture Hanger. (*Accroche-cadre.*)

Archibald Siddall, Ryde, and Edward J. Tobin, Sydney, N. S. W., 20th March, 1890; 5 years.

Claim.—1st. An improved picture hanger consisting essentially of hinged stays or holders, adapted to be fastened one to the top and one to the bottom of the picture, etc., back, and having means for adjustably and firmly connecting them at a desired angle, and for suspending them from the wall, substantially as herein described and explained. 2nd. An improved picture hanger consisting of a hinged scabbard or stay having a tag or supporting end, a stay or plate adapted to take therein, and a set screw to fasten said stay or plate in said scabbard, substantially as herein described and explained. 3rd. An improved picture hanger consisting of a hinged, toothed, or notched rack, or plate, having a tag or supporting end, and a stay or rod with a double or looped end adapted to take into the notches of said rack or plate, substantially as herein described and explained. 4th. An improved picture hanger consisting of a hinged stay or plate having a tag or supporting end with a notched socket or catch and an elastically spreading notched stay or rod adapted to take and firmly hold in said socket or catch, substantially as herein described and explained.

No. 33,975. Fastening for Slatted Furniture. (*Ferrure de meuble de lattes.*)

The Canadian Office and School Furniture Co., Toronto, Ont., (assignee of Seymour W. Peregrine, Grand Rapids, Mich., U. S.) 20th March, 1890; 5 years.

Claim.—1st. In combination with slatted furniture provided with wedge-shaped and dovetailed grooves or sockets, a series of fastening lugs of wedge-shape with one side of the lug continuous and the other side broken away to provide holding points at the opposite ends of the lug, substantially as described. 2nd. In combination with a school seat or back having slats with a series of dovetailed or wedge-shaped sockets, the standard and a series of retaining lugs, each being of wedge-form with one side of the lug continuous, and the opposite side provided with holding points at opposite ends of the lugs, said lugs consisting of the transverse ribs *b*, *b'*, and the connecting rib *b''* between the two, substantially as described.

No. 33,976. Extracting Gold and Silver from Ores and other Compounds. (*Extraction de l'or et de l'argent des minerais et autres composés.*)

The Cassel Gold Extracting Company, Glasgow, (assignee of John S. MacArthur, Pollokshields, Robert W. Forrest and William Forrest, Glasgow), Scotland, 20th March, 1890; 5 years.

Claim.—1st. In processes for extracting gold and silver from ores or other compounds by means of a cyanide, or cyanogen compound, the preparatory treatment of the ores or compounds with an alkali or alkaline earth, substantially as and for the purposes hereinbefore described. 2nd. In precipitating gold and silver from cyanide, chloride, bromide, thiosulphate, sulphate, or other similar solutions by means of zinc, the employment of the zinc as freshly prepared in a state of fine division, substantially as hereinbefore described. 3rd. The process for extracting and recovering gold and silver from ores or other compounds, consisting in, first, treating same with an alkali or alkaline earth, then extracting the gold and silver by means of a cyanide or cyanogen compound, and finally precipitating the gold and silver by means of zinc as freshly prepared in a state of fine division, all substantially as hereinbefore described.

No. 33,977. Garden Plough, Cultivator, etc.*(Charrue, cultivateur, etc., de jardin.)*

Cornelius Collins and Cary L. Nelson, Albia, Iowa, U.S., 21st March, 1890; 5 years.

Claim.—1st. The frame A, having the swiveled bolt *f*, in combination with the rod *g* passed through an eye at the lower end of the bolt, and having the hook or stop at its front end, the beam carrying the implement to act on the soil and having its rear end loosely connected to the rear end of said rod, and the link arm having its upper end loosely connected to and adapted to slide longitudinally on the rod, and its lower end pivotally connected to the lower end of the frame, substantially as described. 2nd. The frame, comprising the parallel compound curved bars A, the yoke B, connecting the rear ends of the said bars, the shaft connecting the front ends of the bars, and the driving and supporting wheel mounted on said shaft, substantially as described. 3rd. The frame, having the swiveled bolt *f*, the rod *g* connected at its front end to said bolt and arranged at right angles thereto, and the beam carrying the implement to act on the soil, said beam being pivotally and loosely connected to the rod *g*, so as to slide thereon, as set forth. 4th. The frame, having the wheel *d* and bars A, combined with the beam carrying the implement to act on the soil, the swiveled bolt *f* on the frame bars A, the beam of the implement being connected to the bolt *f*, as set forth. 5th. The frame, comprising the parallel bars A, shaped and curved substantially as shown, and having the curved yoke B connecting their rear ends, the wheel *d* journaled between their front ends, and the casting F connecting the bars A in rear of the wheel and providing a bearing for a pivot bolt to which the implements are connected, as set forth.

No. 33,978. Corset. (Corset.)

Walter Smith, Thomas T. Chick and James H. Milne, Toronto, Ont., 21st March, 1890; 5 years.

Claim.—1st. The combination, with a corset, of a block A covered with suitable fabric and provided with a margin B to permit of its connection with the corset C, substantially as and for the purpose specified. 2nd. The combination, with a corset, of two blocks A connected together by an elastic band D and covered with suitable fabric having a margin B to permit of its connection with the corset C, substantially as and for the purpose specified.

No. 33,979. Animal Trap. (Piège.)

Ephraim L. Dunlap and M. B. Pottle, Kingfield, Me., U. S., 21st March, 1890; 5 years.

Claim.—The combination of the angular jaw A, provided with stop C, and the sharp points B upon its lower end, the jaw D provided with sharp points at one end and a crank or bend at its opposite end, and pivoted upon the jaw A and having a projection I upon its inner edge, the spring H connected at one end to the jaw A, the connecting link G which unites the ends of the spring and the jaw D together, the trigger J pivoted to the jaw A and adapted to catch over the projection I upon the jaw D, and the notched hook L pivoted to the jaw A and adapted to engage with the trigger, substantially as shown and described.

No. 33,980. Carriage Pole. (Timon de voiture.)

Alonzo D. White and Frederick O. White, Welland, Ont., 21st March, 1890; 5 years.

Claim.—A cross bar A, having slots *a, a*, by means of which the draft irons *b, b* may be adjusted to any desired width, substantially as set forth.

No. 33,981. Process of Restoring Rubber and the Product of such Process. (Procédé de réanimation du caoutchouc et le produit de tel procédé.)

Nathaniel C. Mitchell, Philadelphia, Penn., U. S., 21st March, 1890; 5 years.

Claim.—1st. In the art of recovering rubber from rubber waste, the improvement, consisting in rolling the rubber after devulcanization in a moist condition, substantially as described. 2nd. The herein described process, consisting in subjecting rubber stock to the action of live steam under pressure, whereby the mass becomes permeated with moisture, and then rolling it while in a moist condition,jecting rubber stock to the action of live steam in a moist condition, rolling the rubber while in a moist condition, substantially as described. 4th. In the art of recovering rubber from waste articles, with live steam and while in a moist condition until dry, substantially as described. 5th. As an article of manufacture, the product of the above process, the same being a sheet of restored rubber, distinguished by its elasticity, tenacity, a smooth surface and uniform texture, substantially as hereinbefore set forth.

No. 33,982. Railroad Chair. (Cousinnet de rail.)

Newton S. Bowne, Hastings Centre, and Michael Clune, East Syracuse, N.Y., U.S., 24th March, 1890; 5 years.

Claim.—The improved rail chair, consisting of the plate A, formed with the rail seat *a*, permanent lip *b* at one side of the said rail seat, undercut shoulders *d, d'* at the opposite side of said seat, and offset *d''* between said shoulders, the flange block *e* formed with a beveled side entering under the aforesaid shoulders and with the offset *e'*, and a bolt securing said block to the plate, substantially as described and shown.

No. 33,983. Cultivator Tooth.*(Dent de cultivateur.)*

Thomas H. Noxon, Ingersoll, Ont., 26th March, 1890; 5 years.

Claim.—A cultivator tooth, having a shoe formed below its point, so as to support and regulate its entrance into the ground.

No. 33,984. Motor Power for Road Vehicles. (Puissance motrice pour les voitures routières.)

John Draper, Whitby, Ont., 26th March, 1890; 5 years.

Claim.—1st. A pulley D loosely journaled on the axle C and having one or more ratchet dogs E pivoted on its face to engage with the ratchet teeth *a*, formed in the disc F, fixed to the axle C, in combination with a spring G, loosely wound upon the axle C and connected at one end to the pulley D, and at its other end to the body A and arranged to actuate the pulley D, so as to wind the cord H upon it, substantially as and for the purpose specified. 2nd. A pulley D loosely journaled on the axle C and having wound upon it the cord H, which is provided with a handle J and is carried around the pulley I, the disc F fastened to the axle C and having ratchet teeth *a*, formed on it to engage with the ratchet dogs E, pivoted on the pulley D, in combination with the spring G loosely wound around the axle C and connected at one end to the pulley D and at its other end to the body A, substantially as and for the purpose specified. 3rd. A body A, having a seat B fixed to it on one end, and a bracket P carrying the guide wheel O pivoted on the bottom side of its other end, the foot blocks S fixed to the bracket P, in combination with a cord H carried around the pulley I and wound around the pulley D, loosely journaled on the axle C and connected to the said axle by a pawl and ratchet, and operated by a spring G connected at one end to the pulley D, and at its other end to the body A, substantially as and for the purpose specified.

No. 33,985. Reversing Mechanism of Self-Acting Spinning Mules. (Mécanisme de renversement des mules jenny en fin.)

Joseph L. Brook, Simcoe, Ont., 26th March, 1890; 5 years.

Claim.—1st. In a self-acting spinning mule or stop, arranged to hold the clutch shifting lever in such a position that the clutch is held out of action, in combination with mechanism operated by the reversing mechanism of the machine, and so arranged in connection with the said stop and the twist slide of the machine that the said mechanism shall not remove the stop from the clutch-shifting lever until after the power has been removed from the twisting mechanism of the machine, substantially as and for the purpose specified. 2nd. A pivot lever V, arranged to act as a stop for the clutch-shifting lever E, in combination with mechanism operated by the reversing mechanism of the machine, and arranged to move the lever V, clear of the lever E, after the power has been shifted from the twisting mechanism of the machine, substantially as and for the purpose specified. 3rd. A disc P, having a cam or roller U designed to engage with the lever V, and a pin R to engage with the lever Q, a friction pulley O arranged to impart movement to the disc P, in combination with the twist slide S arranged to strike the lever Q, so that it will release the pin R and permit the roller U to strike the lever V, substantially as and for the purpose specified. 4th. A disc P, weighted on one side and having a portion of its periphery flattened to be held opposite to its driving pulley O by the pivoted lever Q engaging with the pin R, in combination with the twist slide S to act on the lever Q, and a cam or roller U to act on the lever E, substantially as and for the purpose specified.

No. 33,986. Electric Date and Time Printing Stamp. (Timbre pour l'impression des dates et des heures par l'électricité.)

Charles A. Randall, Brampton, Eng., 26th March, 1890; 5 years.

Claim.—1st. An electric date and time stamp, wherein one of the type wheels is arranged to be intermittently rotated by energy stored up in a spring or other device, by means of one or more electro-magnets and is connected by suitable mechanism with the other type wheel or type wheels, so that, step by step rotation will be imparted thereto, for the purposes above specified. 2nd. An electric date and time stamp, wherein provision is made for automatically operating or controlling two or more type wheels by means of a single electro-magnet and spring, for the purpose above specified. 3rd. The combination, with the type wheels and the ratchet or feed wheels and cams, of the feed levers provided with the pawls and with adjustable fingers and stops, substantially as and for the purposes set forth. 4th. The combination, with the impression lever, of an arm mounted loosely on the shaft of the said lever, and serving as a stop for preventing movement of the feed lever of the minute type wheel while the impression lever is being operated, and an arm fixed upon the said shaft and adapted to raise the loose arm when the impression lever is released, substantially as and for the purposes set forth. 5th. The employment, in an electric date and time stamp, of an inking ribbon, and means whereby the same will be moved by the operation of the impression lever, substantially as and for the purposes set forth. 6th. The combination, with the ratchet or feed wheel of the improved retaining pawl, substantially as described and for the purposes specified. 7th. The improved electric date and time stamp, constructed and operated substantially as described, with reference to the accompanying drawings.

No. 33,987. Syphon for Flushing Purposes. (Syphon pour le lavage.)

Charles Orr, Winnipeg, Man., 26th March, 1890; 5 years.

Claim.—The cylinder 2 closed at the upper end with lever connection or holder 7, and an internal rim or flange 3 at the lower end, as shown, in combination with the vertical tube 5 connected with the service pipe 6, (with or without the ring or circular plate 4) and the lever 8 with the fulcrum 9, substantially as and for the purpose above set forth.

No. 33,988. Treatment and Utilization of Blast Furnace Slag and Scoriae.

(*Traitement et emploi des scories des hauts fourneaux.*)

William E. Gower and Percival W. St. George, Montreal, Que., 26th March, 1890; 5 years.

Claim.—The within described process of forming articles from blast furnace slag by running the molten slag directly into the moulds, and then annealing the articles.

No. 33,989. Hay Press. (*Presse à foin.*)

George W. Arnold, Toronto, Ont., 26th March, 1890; 5 years.

Claim.—1st. A cross-head E loosely fitted into the vertical rods D, on which the sleeves K are also loosely fitted, so that their arms or projections *b* shall rest on top of the cross-head E, in combination with the levers G, chains H and I, and sleeves J, arranged substantially as and for the purpose specified. 2nd. A cross-head E loosely fitted on to the vertical rods D, on which the sleeves K are also loosely fitted, so that their arms or projections *b* shall rest on top of the cross-head E, the plates F fixed to the cross-head E and having their ends fitted into the vertical grooves *a*, the pivoted buttons C extending across their respective vertical grooves *a*, when holding the boards or blocks B in position, in combination, with the levers G, chains H and I and sleeves J, arranged substantially as and for the purpose specified. 3rd. A cross-head E loosely fitted on to the vertical rods D, on which the sleeves K are also loosely fitted, so that their arms or projections *b* shall rest on top of the cross-head E, the plates F fixed to the cross-head E and having their ends fitted into the vertical grooves *a*, when holding the boards or blocks B closed, the springs L arranged to open the boards or blocks B, in combination with the levers G, chains H and I, and sleeves J, arranged substantially as and for the purpose specified.

No. 33,990. Rock Drilling Implement.

(*Appareil de forage du roc.*)

Daniel Kilpatrick, Morning Sun, Iowa, U.S., 26th March, 1890; 5 years.

Claim.—1st. In a reaming implement, the combination, with the cylinder having openings *a* in its lower end, of the piston working in said cylinder and provided with drill points at its lower end to pass through said apertures and with spring jaws at its upper end, and the drill-rod extending with the cylinder and having a head engaged by said jaws. 2nd. In a reaming implement, the piston E composed of the spring plates *e*, spaced and pivoted together at *e'*, provided with recessed offsets *e''*, and apertured at *e'''*, substantially as set forth. 3rd. In the combination of the cylinder A provided with a square bore and outwardly extending grooves, hollow-shank B, tap-piece C having screw-threaded hole *c'*, spring plates *e* pivoted together and spaced at *e'* apertured at *e''*, and provided with offsets *e'''*, drill-rod D having head *d*, and enlarged threaded portion *d'*, hand wheel G and drilling points F, substantially as shown and described.

No. 33,991. Cork Extractor. (*Tire-bouchon.*)

Thomas Kelly, Elmvale, Ont., 27th March, 1890; 5 years.

Claim.—1st. A cork-screw connected to a twisted wire or wires carried through a hole formed like the figure 8, fitting the twisted wire and made in a plate fixed to a sleeve, which fits into a bracket attached to a table, the said sleeve being operated by a toothed quadrant meshing with a rack formed on the sleeve and operated by a handle, the whole being constructed and operated substantially as and for the purpose specified. 2nd. A cork-crew L connected to, or forming part of the twisted wire or wires I, the upper end of which is pivotally connected to the cap J, a plate H fixed to the sleeve G, and having a hole *b* made to fit the twisted wire I, the combination, with the toothed quadrant E, provided with a handle F and arranged to engage with a rack formed on the sleeve G, substantially as and for the purpose specified. 3rd. A cork-screw L connected to, or forming part of the twisted wire or wires I, the upper end of which is pivotally connected to the cap J, a plate H fixed to the sleeve G, and having a hole *b* made to fit the twisted wire I, in combination with the toothed quadrant E, provided with a handle F and arranged to engage with a rack formed on the sleeve G, a plate M fitted into a horizontal slot made in the cap J, and designed to be held below the heads of the bolts N by the spring *o*, and to be pushed out of contact with the said bolts by the passing of the handle F substantially as and for the purpose specified.

No. 33,992. Machine to be used in Holding, Straining and Knotting or Fastening Wire. (*Machine à porter, tendre et nouer le fil de fer.*)

Duncan Ross, Kinloss, Ont., 27th March, 1890; 5 years.

Claim.—A wire holding, straining and knotting device consisting of handle A having attached thereto arms B, C and dog H, sliding block D having attached thereto dog F and set screw E, grooved semi-circle or wheel I, having projections K, and lever M, all formed and combined substantially as and for the purpose hereinbefore set forth.

No. 33,993. Hame Fastener. (*Couplière d'attelées.*)

John H. D. Everett, Sault Ste. Marie, Mich., U.S., 27th March, 1890; 5 years.

Claim.—1st. The combination in a hame-fastener for adjustably connecting the ends of hames or for like purposes, of a metallic strap C provided with the hook D, the screw F forming an eye with said hook, the locking lever G pivotally secured to the strap C and pro-

vided with the transverse pin P, the metallic strap M provided with the hook N and composed of two parallel bars, each provided with a slot having corresponding adjusting notches Q and having their ends integrally united to form a slot through which the locking lever loosely engages and into which it is adapted to fold, substantially as described. 2nd. In combination with the hames having rings at their lower ends, of the metallic strap C T-shaped in cross section, the hook D formed on said strap and provided with a screw F forming an eye therewith, the locking lever G pivotally secured to the strap C and provided with the transverse pin P, the metallic strap M composed of two parallel bars, each provided with a slot having corresponding adjusting notches Q, the hook N formed on the strap M, and the spring latch on the locking lever provided with the knob L, and adapted to engage on the inside of the lip J formed on the hook of the strap, all arranged to operate substantially as and for the purpose described.

No. 33,994. Spring Bed Bottom.

(*Sommier elastique.*)

Frank C. Rheubottom, Union, Mich., U.S., 27th March, 1890; 5 years.

Claim.—1st. An expandible spring bed bottom, consisting of a series of slats adjustably secured together, a series of coiled springs secured to the slats and having their upper ends passed under and around the upper coil of the spring on the adjacent slat and then loosely connected to the spring on the same slat, substantially as shown and described. 2nd. An expandible spring bed bottom, consisting of the longitudinal slats A, the coiled springs B, secured to the longitudinal slats and having their upper ends passed under and around the upper coil of the spring on the adjacent slat and then looped around the adjacent spring on the same slat, and the double lazy tong C connecting the longitudinal slats, substantially as shown and described. 3rd. An expandible spring bed bottom, consisting of the longitudinal slats A, the coiled springs B, secured to the longitudinal slats and having their upper ends passed under and around the upper coil of the spring on the adjacent slat and then looped around the adjacent spring on the same slat, the double lazy tongs C, connecting the longitudinal slats, and the transverse slats D, sliding in keepers beneath the longitudinal slats, substantially as shown and described.

No. 33,995. Electric Alarm for Letter Boxes. (*Timbre électrique de boîte à lettres.*)

Wesley G. Reed, Toronto, Ont., 27th March, 1890; 5 years.

Claim.—1st. In combination with a letter box, of the lid E, electric circuit I and gravity stop G, substantially as described. 2nd. In a letter box, the combination of the lid E held normally closed by the spring F, electric circuit I, gravity stop G and the push button L, substantially as described. 3rd. In a letter box, the combination of the top G included in the electric circuit I, the lid E pivotally in said top, and a gravity stop G in the other branch of said circuit, operating as described. 4th. In a letter box, the combination of the top D in the electric circuit I, of the push button L in said top, and the stop G arranged below said push button and in the other branch of said circuit, substantially as described.

No. 33,996. Art of Manufacturing Hydraulic Cement. (*Mode de fabrication de la chaux hydraulique.*)

William Lenderoth, Deseronto, Ont., 27th March, 1890; 5 years.

Claim.—An hydraulic cement produced by saturating powdered limestone, marl chalk or clay with preferably warm water, and then mixing with from twenty to seventy per cent of sawdust or chopped straw, the quantity of sawdust or chopped straw employed depending upon the greater or less plasticity of the powdered limestone, chalk or clay used and the alkalies contained therein, mixing the ingredients in a pugmill or mixing machine, and molding the mixture thus formed into bricks or blocks or tiles, and drying with preferably artificial hot air, then burning the bricks, blocks or tiles thus dried in kilns until a sponge-like brick or a brick porous throughout is formed, and grinding or pulverizing this porous brick so as to form an hydraulic cement, substantially as specified.

No. 33,997. Cross Cut Saw.

(*Scie de travers.*)

William Kerr, Yonge, Ont., 27th March, 1890; 5 years.

Claim.—In a saw, the combination, substantially as herein set forth, with a saw blade; of the teeth *b, b, b, B* and *C*, with the web or bracing *d, d, d*, and the spaces *E*, as and for the purposes set forth.

No. 33,998. Belting. (*Courroirie.*)

Timothy Gingras, Buffalo, N. Y., U.S., 29th March, 1890; 5 years.

Claim.—As an improved article of manufacture, a belt consisting of two external layers of textile fabric woven to the width of the belt, and having the interstices between the wool and warp threads expanded and filled with a suitable filler while the fabric is under tension, to retain said interstices in an expanded condition, and an interposed layer of leather the layers being united together, as and for the purpose set forth.

No. 33,999. Elastic Chain. (*Chaîne élastique.*)

Charles Redwood, Denison, Texas, U. S., 29th March, 1890; 5 years.

Claim.—1st. An elastic chain consisting in flexible wire loops having eyes at their ends and bulging or bowed between their ends, the body of one loop being passed through the eyes of the adjacent

loop and all of said loops being placed flatwise or in the same plane, substantially as set forth. 2nd. A chain made of links, each link consisting of a length of wire formed with eyes or loops at each end, receiving the body of the adjacent link and each link shaped to contract perpendicularly and expand longitudinally when under tension, the eyes of one link sliding toward each other on the link passing there-through, and away from its eyes when strain is applied to the chain, thereby increasing the whole length of the chain, and the length of the chain being contracted by the lateral or perpendicular expansion of its links when relieved of strain, substantially as set forth.

No. 34,000. Extension Ladder Truck.

(Chariot d'échelle à rallonge.)

Everett B. Preston, Chicago, Ill., U.S., 29th March, 1890; 5 years.

Claim.—1st. The turn table truck fire extension aerial ladder herein shown and described. 2nd. The turn table truck fire extension ladder having a main ladder pivoted to the turn table, and screw mechanism for raising the same, substantially as specified. 3rd. The turn table truck fire extension ladder having a main ladder pivoted to the turn table, screw mechanism for raising the same, and a windlass and cable for extending the extension ladder or ladders, substantially as specified. 4th. The turn table truck for fire extension ladder having a main ladder pivoted to the turn table, screw mechanism for raising the same, and water pipes D², D³, secured to the main ladder and connected together by branches, substantially as specified. 5th. The combination, with a turn table truck having a frame B connected to the axes A¹ of the wheels by fifth wheels, and a turn table C mounted on the truck frame, of slotted guide bars G, G, secured to the turn table C, right and left screw E, nut bars F, F¹, main ladder D having bent ends d pivoted to said nut bar F, and pivoted links D¹ connecting the main ladder and said nut bar F¹, substantially as specified. 6th. The connection, with a turn table truck having a frame B connected to the axes A¹ of the wheels by fifth wheels, and a turn table C mounted on the truck frame, of slotted guide bars G, G secured to the turn table C, right and left screw E, nut bars F, F¹, main ladder D having bent ends d pivoted to said nut bar F, pivoted links D¹ connecting the main ladder and said nut bar F¹, said screw having beveled gears on its ends, and crank shafts furnished with beveled gears meshing with beveled gears on said screw, substantially as specified. 7th. The combination, with a turn table truck having a frame B connected to the axes A¹ of the wheels by fifth wheels, and a turn table C mounted on the truck frame, of slotted guide bars G, G, secured to the turn table C, right and left screw E, nut bars F, F¹, main ladder D having bent ends d pivoted to said nut bar F, and pivoted links D¹ connecting the main ladder and said nut bar F¹, a driver's seat secured to said truck frame, steering mechanism and a steersman's seat, and steering wheels mounted on a hinged or pivoted frame V, substantially as specified. 8th. The combination, with turn table truck with right and left screw E journaled upon the turn table, threaded nut bars F, F¹ furnished with friction rollers f, and slotted guide bars G, main ladder D pivoted to said nut bar F, and links D¹ pivoted to said main ladder and to said nut bar F¹, substantially as specified. 9th. The combination, with a turn table truck, thereof, right and left hand screw E, nut bars F, F¹, and links D¹, substantially as specified. 10th. The combination of a turn table truck, of a right and left screw E, traveling nut bars F, F¹, ladder D having bent arms d pivoted to said nut bar F, and links D¹ pivoted to said nut bar F¹, said bent arms d resting upon the turn table when broad base for rigidly supporting the ladder in its elevated position, substantially as specified. 11th. The combination, with a turn table truck, of a right and left screw E, traveling nut bars F, F¹, ladder D having bent arms d pivoted to said nut bar F, and links D¹ pivoted to said nut bar F¹, said bent arms d resting upon the turn table when broad base for rigidly supporting the ladder in its elevated position, and slotted guide bars G secured to the turn table, substantially as specified. 12th. The combination, with a turn table truck, of a right and left screw E, traveling nut bars F, F¹, ladder D having bent arms d bent arm d resting upon the turn table when the nuts F, F¹ are screwed together near each other, thus giving a broad base for rigidly supporting the ladder in its elevated position, and slotted guide bars G secured to the turn table furnished with stop blocks g¹, substantially as specified. 13th. The combination, with a turn table truck, of a right and left screw E, traveling nut bars F, F¹, ladder D having bent arms d, pivoted to said nut bar F¹ and links D¹ and links D¹ pivoted to said nut bar F¹, said bent arms d resting upon the turn table when the nuts F, F¹ are screwed together near each other, thus giving a broad base for rigidly supporting the ladder in its elevated position, and slotted guide bars G secured to the turn table furnished with stop blocks g¹, said travelling nut bars F, F¹ having friction rollers f, substantially as specified. 14th. The combination, with a turn table truck, of a screw E, traveling nut bar F, ladder D having removable journal bolts f² extending through the side bars of the ladders, substantially as specified. 15th. The combination, with a turn table truck, of the driver's seat standards R¹ secured rigidly to said turn table, a screw, a traveling nut bar, and a ladder pivoted to said traveling nut bar, so that the act of raising the ladder moves the ladder away from the seat standards, thereby permitting the ladder to be raised without removing the same, substantially as specified. 16th. The combination of the seat standards, substantially as specified. 17th. The combination of the seat standards, substantially as specified. 17th. The combination, with the main ladder and extension ladder, of guides for the upper and lower edges of the ladder side bars to fit against, said guides being furnished with friction rollers, substantially as specified. 18th. The combination, with a turn table truck, of a main ladder pivotally mounted on the turn table, a screw for raising the same, two extension ladders P and Q, a windlass N, con-

necting cables N¹ and N² simultaneously raising said extension ladders, whereby the length of the main ladder may be shortened, and the time and force required for raising it be diminished, substantially as specified. 19th. The combination, in a turn table having a truck frame B, furnished with standards B², provided with hand ladder supports b, the rear axle of said truck having a fifth wheel connection with the truck frame, and a removable steering shaft extending up through the hand ladders to hold them in place, substantially as specified. 20th. The combination, in a turn table truck having a truck frame mounted upon fifth wheels, a steering mechanism, a removable steering shaft T, a steering wheel T¹ having a socketed shaft engaging the end of said steering shaft, and a pivoted frame V upon which said steering wheel is journaled, said pivoted frame V being pivoted to upright standards on one side of the truck frame so that it may be swung out of the way of the ladders when they are being raised, substantially as specified. 21st. The combination, in a turn table truck having a truck frame mounted upon fifth wheels, a steering mechanism, a removable steering shaft T, a steering wheel T¹ having socketed shaft engaging the end of said steering shaft, and a pivoted frame V upon which said steering wheel is journaled, said pivoted frame V being pivoted to upright standards on one side of the truck frame, so that it may be swung out of the way of the ladders when they are being raised, said pivoted frame V being furnished with a steersman's seat V², substantially as specified. 22nd. The combination, with a turn table extension ladder truck having a main ladder pivotally mounted on the turn table, a screw raising mechanism, of water pipes secured to the side bars of the main ladder, one on each side, and furnished with branches connecting the same at top and bottom, substantially as specified. 23rd. The combination, in a turn table truck, of a rear fifth wheel consisting of rings A⁴, A⁵, with a truck frame mounted in the upper ring of the fifth wheel, a steering mechanism, and a locking bolt engaging said rings A⁴, A⁵, substantially as specified.

No. 34,001. Belt Shifting Machine.

(Machine d'embrayage.)

John J. Daley, Brooklyn, N. Y., U.S., 29th March, 1890; 5 years.

Claim.—1st. The combination, in a belt shifting device, of two movable rods mounted in cross pieces of the supporting frame, the outer portions of said rods carrying the belt rods, and the inner portions united by collars 5 connected with a lever for operating the rods, whereby the same may be moved in the direction necessary either to start, reverse or stop the machine, substantially as specified. 2nd. The combination, with the movable rods mounted in cross pieces upon the end of the frame, of brackets 16 secured thereto and carrying the belt rods, consisting of a center rod encircling the pulley, and two half-rods extending half-way around the pulleys, substantially as described. 3rd. The combination, with the cross piece having collars 5 mounted upon the shifting rods, of an arm 7 connected with said cross piece, the outer end of the arm being pivoted to a vertical rod 8 secured to a weighted lever 9, upon a standard 31 secured to the frame, substantially as specified.

No. 34,002. Alarm Bell. (Cloche d'alarme.)

Joseph Allen and Samuel Goulden, Newark, N.J., U.S., 29th March, 1890; 5 years.

Claim.—1st. The combination, with the gong, of a rotary spindle having a slotted arm projecting therefrom, a hammer provided with an ear slotted as described, and secured to the said arm by a pivot inserted in the slots in such elements, and means for actuating the spindle, substantially as shown and described. 2nd. The combination, with the gong and the rotary hammer spindle, provided with a head having one or more hammers pivoted thereto, a driving spindle, an intermediate spindle, and cog wheels upon the several spindles to transmit the motion of the driving spindle to the hammer spindle, of a lever fixed upon the driving spindle, a spring applied to the lever to hold it in its normal position, and means for actuating the lever, substantially as shown and described.

No. 34,003. Bale Tie Machine.

(Machine à cercles de ballots.)

Joseph E. Morse, Worcester, Mass., U.S., 29th March, 1890; 5 years.

Claim.—1st. In a bale tie machine, a supply reservoir for holding the wires to be operated upon, and a carrier provided with a groove capable of receiving but one wire at a time preparatory to the movement thereof toward the fier, and mechanism for causing said groove to be presented to the lower end of the reservoir at regular intervals, in combination with a fier adapted to revolve to twist the wires together and carrying thereon mechanism for bending the wire, and means for operating said mechanism, consisting of a sliding rack and a pinion carried on the fier, substantially as set forth. 2nd. In a bale tie machine, the positive intermittent feeding mechanism, consisting of a notched carrier wheel adapted to carry the wires to be operated upon into position to enter the fier head, in combination with a vertical reciprocating plunger to force the wire after it has left the carrier wheel down into the machine to be operated upon, and means for operating said carrier wheel and plunger, substantially as shown and described. 3rd. In a bale tie machine feeding mechanism, the combination, with the carrier wheel 109, provided with notches 110 and ratchet teeth 103, operated by a pawl on a hinged lever connected with and operated by a bell crank lever, of a vertical reciprocating plunger 96 carrying a plunger blade adapted to engage and force down the wire after it leaves the carrier wheel into the machine to be operated upon, and a side connecting said plunger with the bell crank lever, which operates the carrier wheel and said bell crank lever, and means for operating the same, substantially as shown and described. 4th. In a bale tie machine, the combination, with the fier carrying thereon mechanism for bending the wire, of mechanism for operating the same, consisting of a sliding rack and a pinion carried on said fier, substantially as set forth. 5th. In a bale tie machine, a fier adapted to revolve, consisting of a

head portion made in two parts, and a spindle portion connected with the head portion, said head portion having an opening to receive the wire and carrying mechanism for folding over the end of the wire, and mechanism for bending the wire to form the heel and toe part of the hook, and the spindle portion carrying the means for operating the mechanisms in the head portion, in the manner substantially as shown and described. 6th. The fier, consisting of the head portion made in two parts 29 and 30, adapted to be detached from each other, and the spindle portion 69 integral with one of the head portions, the main part 29 carrying the mechanism for folding over the end of the wire and bending it in the form of a hook, consisting of a disk 33 carrying the folder blade 32, a disk 36, carrying the pin 37, said disks driven by a system of pinions operated by a rack 42, and a presser blade 52 operated by a toothed lever on said rack, and the secondary part carrying the forming pins 57 and 58, around which the wire is bent, supported in a pivoted bar 55, which carries the forming pins toward and away from the folder blade 32, said pivoted bar being operated by a slide 83, all combined together and operated substantially as described. 7th. The combination, with fier spindle 69 carrying the rack 42, and slide 83 for operating the hook forming mechanisms in the fier head, of a sleeve 15 for operating the slide 83, and the nut 75 for operating the rack 42, said nut being connected with said sleeve 15, and the position of said sleeve and nut being adjustable on the spindle 69 relatively to each other, substantially as shown and described. 8th. In a bale tie machine, the fier consisting of a head portion and a spindle portion, the head portion having a slot to receive the wire, and carrying mechanisms for folding over the end of the wire around forming pins, for bending the wire into the form of a hook and for releasing the wire from the forming pins, and the spindle portion carrying a rack and a slide for operating the hook forming mechanisms, and sleeves for operating said rack and slide having a reciprocating motion, and adjustable relatively to each other, substantially as shown and described. 9th. The vise mechanism, consisting of the stand 139, having two jaws 141 pivoted at its forward end, and provided with slots 143 and adapted to move towards each other to grip the wires, and away from each other to release them, and a reciprocating slide 46, moving in ways on said stand, and having rolls at its forward end to engage the slots 143 in the jaws, and moved in one direction by a spring and in the other direction by a cam engaging a roll on said slide, substantially as shown and described. 10th. In a vise mechanism, the combination, with the stand 139, having jaws 141, with slots 143 therein, and inclined surfaces 154 pivoted on said stand and adapted to move toward and away from each other, of a reciprocating slide 143, having rolls 144 to engage the slots 143, and shoulders 153 to engage the inclined surfaces 154, and means for operating said slide to close the

jaws to grip the wires, and to open them to release the wires, substantially as shown and described. 11th. In a bale tie machine, the combination, with the fier adapted to revolve and having a slot into which the wire enters to be operated upon, of a spring guide and a movable guiding plate for directing the wire into the proper position in the fier and holding it there during the bending operation, substantially as shown and described. 12th. In a bale tie machine, the combination, with the fier head having a slot therein into which the wire enters, and carrying a disk with the folder blade for bending the wire, of a guiding plate 127 adapted to be moved in to guide the wire to be operated upon onto the folder blade and to be moved out to release the wire, and means for operating said guiding plate 127 at regular intervals, substantially as shown and described. 13th. In a bale tie machine, the combination, with the fier adapted to revolve, and carrying mechanism for bending and forming the end of the tie, of mechanism operating intermittently for discharging the finished bale tie from the fier, consisting of a disk or wheel having notches in its periphery, in which the wire rests during the operation of the fier, and having slots for engagement with a pin on a revolving disk or wheel, and said revolving disk or wheel, substantially as set forth. 14th. In mechanism for discharging the finished bale ties from the machine, the combination, with the wheel 158 having notches 160 in its periphery, in which the main wire rests during the operation of the fier, and slots 157 therein, and stop pins 159, of a disk 155 carrying a pin to engage the slot 157 in said wheel, to operate the same intermittently, and a notch to engage the stop pins 159, and means for operating said disk, substantially as shown and described.

No. 34,004. Spring Ring Nut Lock.

(*Arrête-écrou à ressort.*)

John Davis, New Bedford, Mass., U.S., 29th March, 1890; 5 years.

Claim.—1st. A spring nut-lock, consisting of a left-handed helix, making a portion of a turn and having its end surfaces slanting away from the acting edges at an acute angle to the outer surface and to each helical surface, substantially as described. 2nd. A nut lock, consisting of a helix, having oppositely-extending ends tapered both longitudinally and transversely, forming a nut lock with acute angled cutting points and inclined cutting edges at the upper and outer ends of the helix, as described and shown. 3rd. A nut-lock, consisting of a severed helix-shaped washer, having its ends wide apart and provided with inclined edges beveled in two directions, forming an acute-angled cutting edge, substantially as and for the purpose specified.

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

1724. A. B. IBBOTSON, 2nd 5 years of No. 11,033 from the 16th day of March, 1890. Improvements on and relating to Screw Bolts and their Nuts, and other Articles with Screw Threaded Holes, 4th day of March, 1890.
1725. S. TOOMEY, 2nd 5 years of No. 21,212 from the 5th day of March, 1890. Improvements in Light Vehicles, 4th day of March, 1890.
1726. E. F. ZINNS, 2nd 5 years of No. 21,340, from the 30th day of March, 1890. Improvements on Composition for Fire Proof Pottery, 4th day of March, 1890.
1727. ACME HUB COMPANY, 2nd 5 years of No. 21,288, from the 18th day of March, 1890. Improvements on Vehicle Hubs, 5th day of March, 1890.
1728. C. H. HERSEY, 2nd 5 years of No. 11,159, from the 23rd day of April, 1890. Improvements on Sugar Moulding, 6th day of March, 1890.
1729. G. BOND, (Trustee) and F. L. MCGAHAN, 2nd 5 years of No. 21,261, from the 14th day of March, 1890. Improvements in Boiler Flue Cleaners, 7th day of March, 1890.
1730. J. MORRISON and F. W. DOTY, (assignee), 2nd 5 years of No. 21,221, from the 9th day of March, 1890. Improvements in Steam Generators, 8th day of March, 1890.
1731. P. GENDRON, 2nd 5 years of No. 21,276, from the 16th day of March, 1890. Improvements on Tires for Waggon Wheels, 10th day of March, 1890.
1732. T. G. CORK, 2nd 5 years of No. 21,329, from the 27th day of March, 1890. Improvements in Spring Harrow Teeth, 13th day of March, 1890.
1733. HERCULES MANUFACTURING COMPANY, (assignees.) 2nd 5 years of No. 21,620, from the 7th day of May, 1890. Improvements in Machinery for Scouring grain, 13th day of March, 1890.
1734. F. H. RANSOM, 2nd 5 years of No. 21,291, from the 18th day of March, 1890. Improvements on Trunks or Boxes, 17th day of March, 1890.
1735. B. WALTON, 2nd 5 years of No. 21,332, from the 27th day of March, 1890. Improvements on Washing Machines for Washing Clothes, etc., 18th day of March, 1890.
1736. T. NORTHEY, 2nd 5 years of No. 21,309, from the 19th day of March, 1890. Improvements in Steam Pumps, 19th day of March, 1890.
1737. A. E. BROWN, 2nd 5 years of No. 11,937, from the 7th day of November, 1890. Improvements in Hoisting and Conveying Machines, 19th day of March, 1890.
1738. E. L. ZALENSKI, 2nd 5 years of No. 23,594 from the 13th day of March, 1891. Improvements in Electric Shell Fuses, 20th day of March, 1890.
1739. A. W. SANBORN, 2nd 5 years of No. 21,381 from the 7th day of April, 1890. Compound or Preparation in Medicine, 20th day of March, 1890.
1740. J. C. LOWEN, 2nd 5 years of No. 21,443, from the 16th day of April, 1890. Improvements in Combined Trucks and Ladders, 21st day of March, 1890.
1741. H. S. OSBORNE, 2nd 5 years of No. 21,335, from the 28th day of March, 1890. Improvements in Hand Presses, 24th day of March, 1890.
1742. THE FIRM OF McFARLANE, THOMPSON & ANDERSON, 2nd 5 years of No. 22,455, from the 15th day of September, 1890. Improvements in Shingle Machines, 24th day of March, 1890.
1743. J. B. ARMSTRONG, 2nd 5 years of No. 21,514, from the 23rd day of April, 1890. Improvements in Carriage and Sleigh Bodies, 26th day of March, 1890.
1744. S. WATSON, 2nd and 3rd 5 years of No. 24,879, from the 4th day of September, 1890. Improvements in Fence Machines, 26th day of March, 1890.
1745. J. WELLER, 2nd 5 years of No. 21,344, from the 30th day of March, 1890. Improvements in Medical Compounds for the relief of functional derangement of the Liver and the Glandular System, etc., 27th day of March, 1890.
1746. G. D. PEARSON, 2nd 5 years of No. 21,672, from the 15th day of May, 1890. Improvements in Car Couplers, 27th day of March, 1890.
1747. J. O'NEIL, 2nd 5 years of No. 21,337, from the 28th day of March, 1890. Improvements in Driving Gates, 27th day of March, 1890.
1748. GOLDIE & McCULLOCH, 2nd and 3rd 5 years of No. 33,642, from the 10th day of February, 1895. Improvements in Steam Engines, 28th day of March, 1890.
1749. C. C. WORTHINGTON, 2nd 5 years of No. 21,363, from the 2nd day of April, 1890. Improvements on Direct Acting Engines, 28th day of March, 1890.
1750. H. T. KOERNER, 2nd and 3rd 5 years of No. 28,739, from the 21st day of March, 1893. Improvements in Lithographers' and Printers' Drying Racks, 31st day of March, 1890.

MARCH LIST OF TRADE MARKS.

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3666. THE KOENIG MEDICINE COMPANY of Chicago, Illinois, U.S.A., Medicines, 1st March, 1890.
3667. ALFRED GARDNER and JOSEPH LISTER NICHOLS, of Toronto, Ont., Street Pavement, 3rd March, 1890.
- 3668 } JOSEPH TETLEY and COMPANY, of 31 Fenchurch Street, London, England, Tea,
3669 }
3670. JOSEPH N. CLOUSE, of St. Louis, Missouri, U.S.A., Cuff Holders and Buttons, 5th March, 1890.
3671. GOODERHAM and WORTS, Limited, of Toronto, Ont., Whiskeys, 6th March, 1890.
3672. LOUIS OVIDE GROTHE, of Montreal, Que., Cigars, 7th March, 1890.
3673. THE CANADA PAPER COMPANY, Limited, of Montreal, Que., Paper. 10th March, 1890.
3674. LEON LARUE, Junior, of Montreal, Que., Cigars, 12th March, 1890.
3675. } LOUIS OVIDE GROTHE, of Montreal, Que.,
3676. } Cigars, 17th March, 1890.
3677. RICHARD CLARKSON SCOTT, of Burlington House, Litherland Park, near Liverpool, England, General Trade Mark, 17th March, 1890.
3678. J. BARNES and COMPANY, of Montreal, Que., Sauce, 19th March, 1890.
3679. J. J. MELCHERS, Wz., of Schiedam, Holland, Gin, 20th March, 1890.
3680. WILLIAM ALBERT HOWELL, of Hamilton, Ont. Cough Medicine, 20th March, 1890.
3681. ELISHA GEE SELCHOW, of New York, N.Y., U.S.A., Games, 21st March, 1890.
3682. JOHN FARRELL, of Lucan, County Middlesex, Ont., Medicine, 24th March, 1890.
3683. JOSEPH ELIE LEMYRE, de la Paroisse de St. Severe, Comte de St. Maurice, Que., Eau Minerale, 26 Mars, 1890.
3684. JOHN FORBES, of Halifax, N.S. Pocket and Sheath Knives, 27th March, 1890.
3685. } HENRY CAMPBELL and Company, of Mossley, Belfast, Ireland, Linen and Hemp
3686. } Yarn, and Thread, 31st March, 1890.
3687. THOMAS PEASE, SON and COMPANY, of Market Place, Darlington, County of Durham, England, Whiskey, 31st March, 1890.

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5264. COME TO MY HEART. Valse by Theo. Bonheur.
5265. WHEN I SURVEY THE WONDROUS CROSS. Composed by T. C. Jeffers. }
5266. PENSIERO NAPOLITANO. Reverle par Harlow Vernon. }
I Suckling & Sons, Toronto, Ont., 3rd March, 1890.
5267. THE INDEX of CURRENT EVENTS, 1889. Henry Dalby, Montreal, Que., 4th March, 1890.
5268. THE CATHOLICS OF SCOTLAND. Rev. Aeneas McDonell Dawson, Ottawa, Ont., 4th March, 1890.
5269. THE BELL TELEPHONE COMPANY OF CANADA. Subscribers' Directory, Quebec, Levis and Etchemin. The Bell Telephone Company of Canada, Montreal, Que., 6th March, 1890.
5270. GOD BLESS THEE, CANADA. A National Hymn. Words by Samuel Whitt; Music by Mrs. M. J. Whitt. Samuel Whitt, Toronto, Ont., 8th March, 1890.
5271. LE CLAVISTE. Petite Methode Pratique pour le Piano, par Gustave Smith. J. L. Orme & Son, Ottawa, Ont., 8th March, 1890.
5272. JACQUES CARTIER, HIS LIFE AND VOYAGES, by Joseph Pope, Ottawa, Ont., 11th March, 1890.
5273. PLAN OF THE CITY OF HULL, County of Ottawa, Province of Quebec. Paul T. C. Dumais, Hull, Que., 11 Mars, 1890.
5274. GOOD NIGHT. Words by L. A. Morrison; Music by T. A. Blakeley. Llewellyn A. Morrison, Toronto, Ont., 11th March, 1890.
5275. AS YOU LIKE IT. Polka elegante pour Piano, par L. V. Williams. I. Suckling & Sons, Toronto, Ont., 12th March, 1890.
5276. WAS EVER WOMAN IN THIS HUMOR WOED? by Charles Gibbon. John Lovell & Son, Montreal, Que., 12th March, 1890.
5277. ON TIME. Jersey for Piano, by Chas. Bohner. Whaley, Royce & Co., Toronto, Ont., 13th March, 1890.
5278. ROCK OF AGES. Hymn for Male Quartette, by T. C. Jeffers. I. Suckling & Sons, Toronto, Ont., 14th March, 1890.
5279. A COMPLETE CREDIT SYSTEM, with Plans and Forms Necessary, by L. Maybaum, LL.D., Newark, New Jersey, U.S.A., 14th March, 1890.
5280. PLAN OF THE CITY OF TORONTO. Alexander & Cable, Toronto, Ont., 14th March, 1890.
5281. ROSE CARNEY. A Story of ever shifting scene on land and sea, by Thos. B. Smith, Windsor, N.S., 14th March, 1890.
5282. AVANT GARDE. March pour Piano, par T. D. Gowan. Whaley, Royce & Co., Toronto, Ont., 15th March, 1890.
5283. } REPORTS OF CASES DECIDED IN THE COURT OF APPEAL FOR ONTARIO
during parts of the years 1887 and 1888. Reported under the authority of the
Law Society of Upper Canada. VOLUME XV.
5284. } REPORTS OF CASES DECIDED IN THE COURT OF APPEAL FOR ONTARIO
during part of the year 1889. Reported under the authority of the Law Society
of Upper Canada, VOLUME XVI.
The Law Society of Upper Canada, Toronto, Ont., 17th March, 1890.
5285. ON THE RIVER. Song. Words by Eleonore; Music by Rubini. Edward Rubini, Toronto, Ont., 17th March, 1890.
5286. FALLEN HEROES OF '85. Words by Wm. Pittman Lett; Music by W. H. Grafton, Ottawa, Ont., 18th March, 1890.
5287. MISS SHAFTO, by W. E. Norris (book). The National Publishing Co., Toronto, Ont., 21st March, 1890.
5288. HAUTE VOLEE. Rye. New Dance by Chas. Bohner. Whaley, Royce & Co., Toronto, Ont., 22nd March, 1890.
5289. } ABIDE WITH ME. Sacred Song. Composed by J. B. Hutchins.
5290. } VARSITY RIPPLE, by E. Emile Farringer.
The Anglo-Canadian Music Publishers' Association, Limited, London, Eng-
land, 22nd March, 1890.
5291. THE WESTERN WORLD. Volume I., Number I., March 1890. Acton Burrows, Winnipeg, Man., 24th March, 1890.
5292. THE GONDOLIERS WALTZ. } on Airs from Gilbert & Sullivan's Opera, by P.
5293. THE GONDOLIERS LANCERS. } Bucalossi.
The Anglo-Canadian Music Publishers' Association, L'd, London, England,
26th March, 1890.

5294. EXERCISES from SECTION 3. No. 1. }
 5295. " " " 3. " 15. }
 5296. " " " 4. " 16. } of " PRACTICAL PIANOFORTE
 5297. " " " 4. " 33. } SCHOOL."
 5298. " " " 5. " 8. } By Charles Halle.
 5299. " " " 5. " 15. }
 Forsyth Bros., London, England, 27th March, 1890.
5300. THE GONDOLIERS POLKA. } on Airs from Gilbert & Sullivan's Opera, by
 5301. THE GONDOLIERS QUADRILLE. } P. Bucalossi.
 The Anglo-Canadian Music Publishers' Association, L'd., London, England, 27th
 March, 1890.
5302. MANUEL DES ASSEMBLEES DELIBERANTES, par P. M. Sauvalle. P. M. Sau-
 valle et A. Periard, Montreal, Que., 31 Mars, 1890.
5303. RULES FOR NEW PARLOR GAME-FLIPS. Wm. Bryce, Toronto, Ont., 31st
 March, 1890.
5304. THIS \$6.00 BOOK FREE TO YOU. (circular.) }
 5305. THIS CARD IS WORTH \$6.00 TO YOU. (card.) }
 William Dobie & Co., Toronto, Ont., 31st March, 1890.
5306. CHURCH OF ENGLAND TEACHING. Tract No. 1, by the Very Rev. James Car-
 michael, M.A., D.C.L. W. Drysdale & Co., Montreal, Que., 31st
 March, 1890.
5307. MERCHANTS AND PROFESSIONAL MEN'S AGREEMENT AND NOTE BOOK.
 Douglas A. Thurston, Toronto, Ont., 31st March, 1890.
5308. AN INSOLVENCY MANUAL, by Robert Stanley Weir, B.C.L., Advocate. Robert
 Stanley Weir and A. Periard, Montreal, Que., 31st March, 1890.

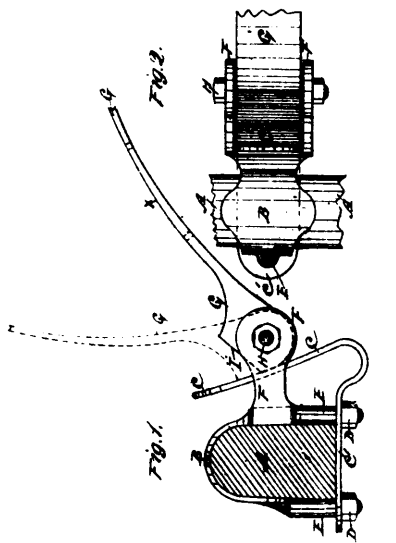
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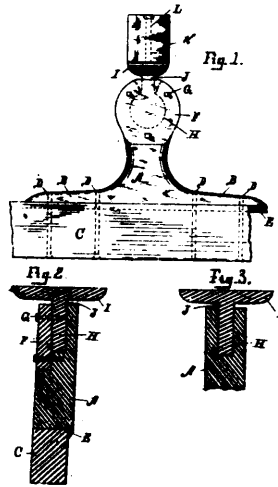
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MARCH, 1890.

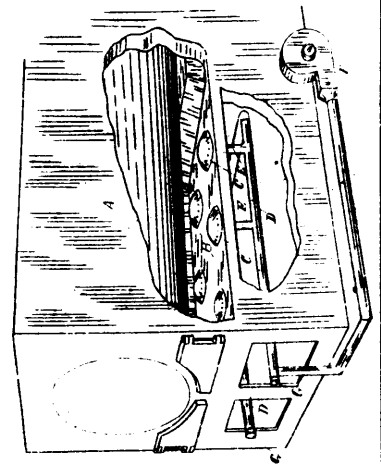
No. 3.



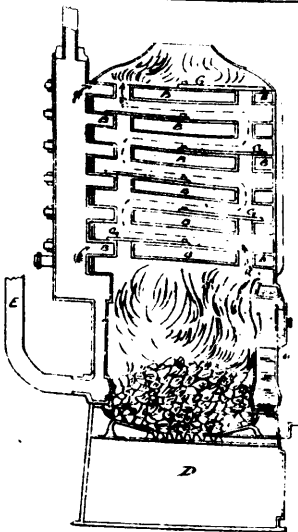
33822 Campbell's Thill Coupling.



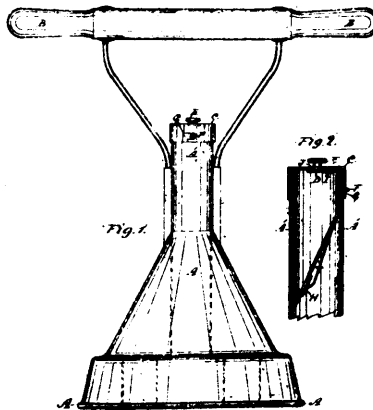
33823 Spear's Sleigh Knee.



33824 Kennedy's Grate for Burning Saw Dust, etc.



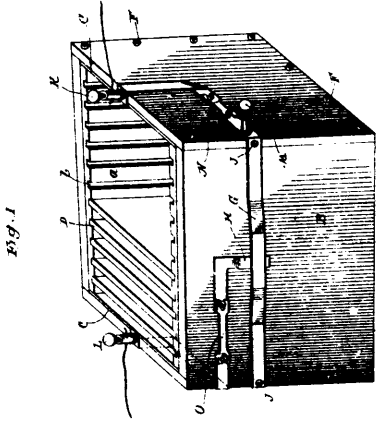
33825 Doherty's Hot Water Apparatus.



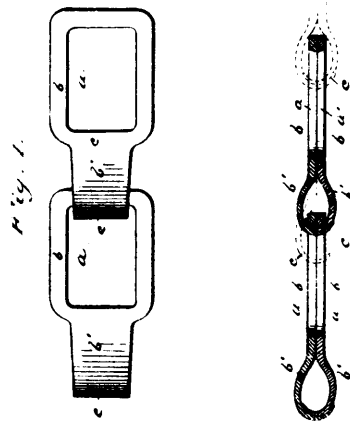
33826 Coleman's Washing Machine.



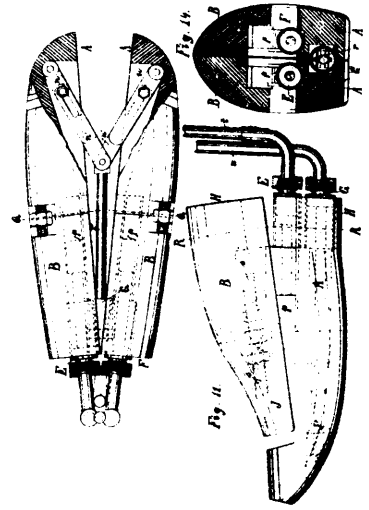
33827 Wooley's Treadle.



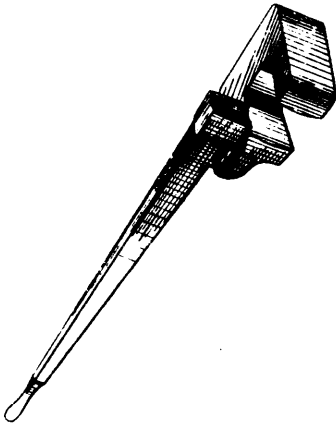
33828 Dey's Storage Battery, etc.



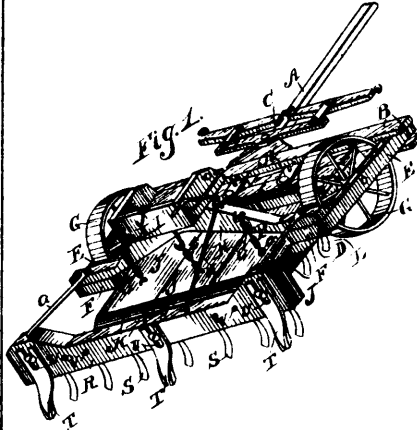
33829 Maxon's Drive Chain.



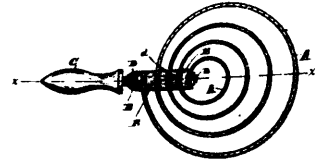
33830 Thorner's Shoe Last.



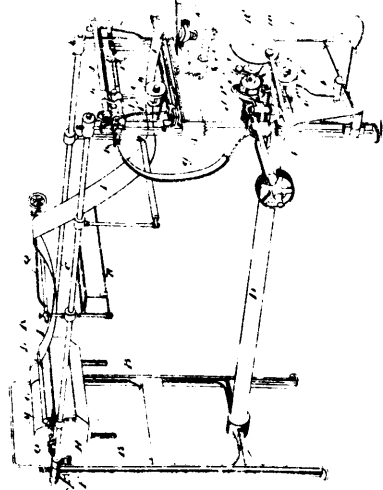
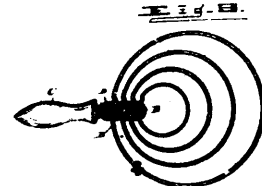
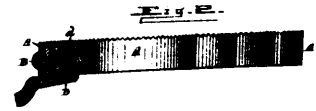
33831 Wiley's Car Mover.



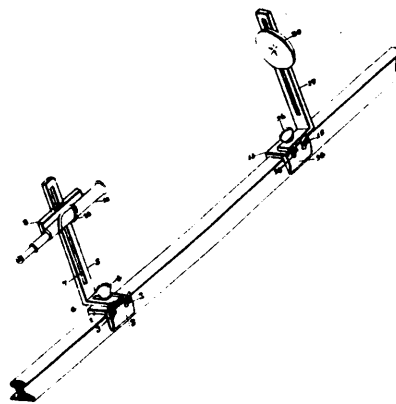
33837 Phelps' Harrow, etc.



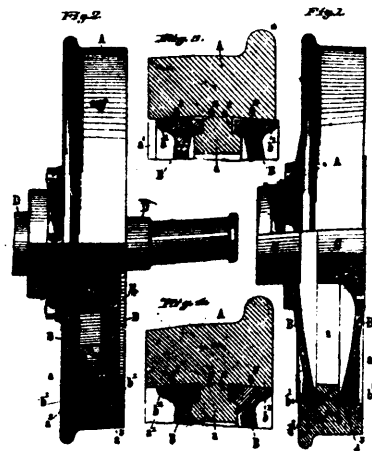
33833 Duahane's Curry-Comb.



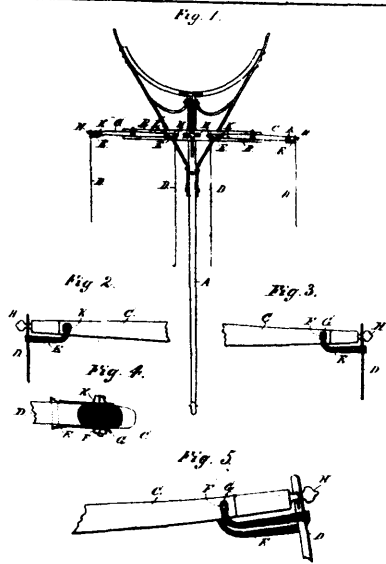
33834 Bowvier & Phillips' Machine for Covering Card Board Boxes, etc.



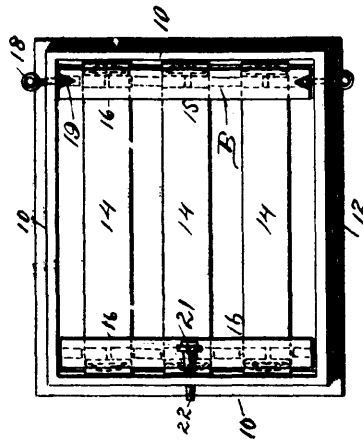
33835 Rose's Device for Leveling Railroads.



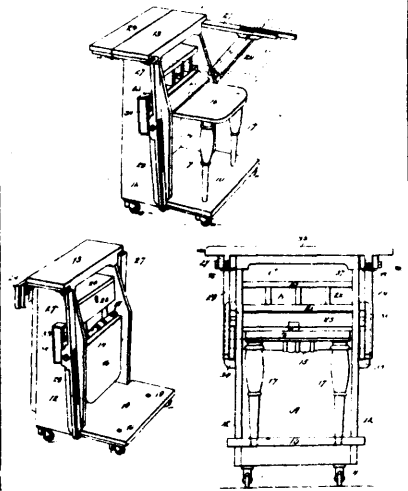
33836 Dunstedter's Wheel.



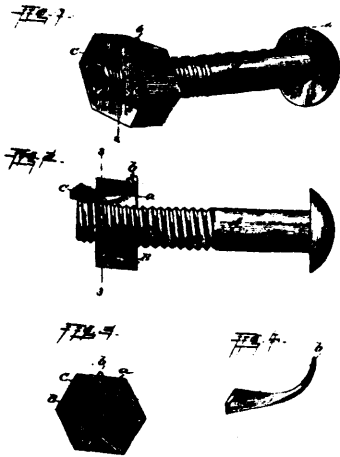
33837 Wynkoop's Fastener for a Trace.



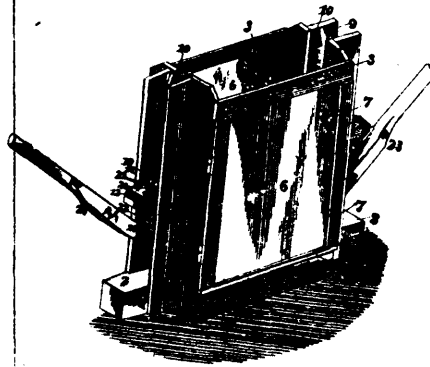
33838 Wilcox's Bee Hive.



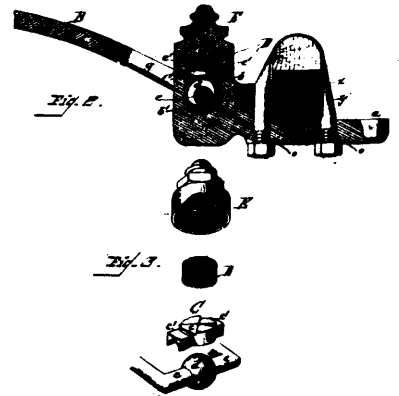
33839 Walsh's Household Furniture.



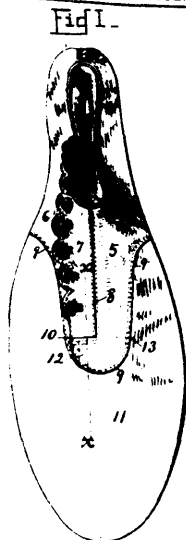
33840 Humbert's Nut Lock.



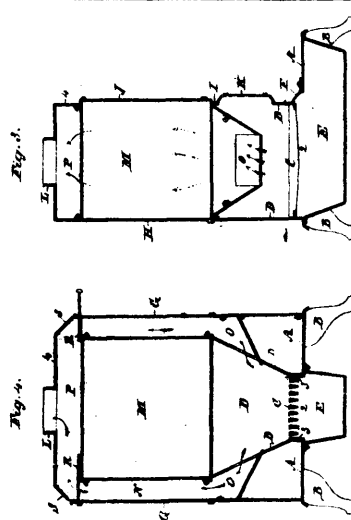
33841 Hall's Hay Press.



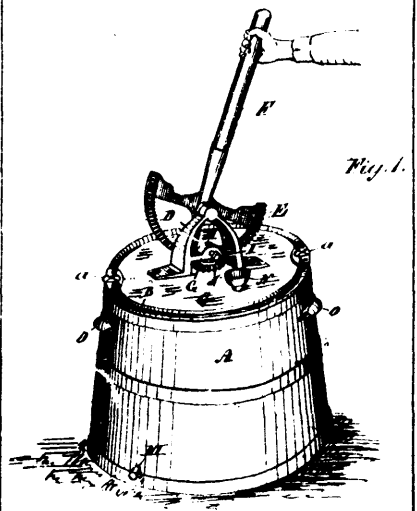
33842 Custer's Thill Coupling.



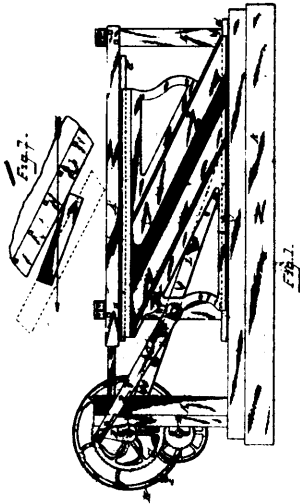
33843 Smith's Shoe Upper.



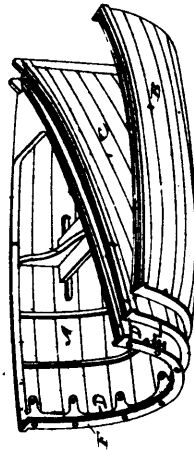
33844 Hay's Stove.



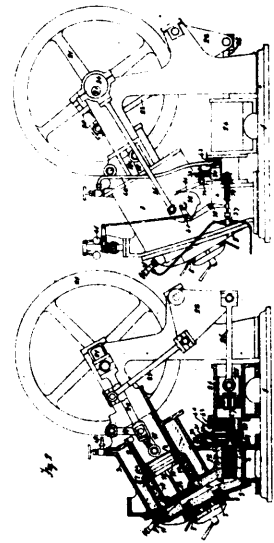
33845 Clarke's Churn.



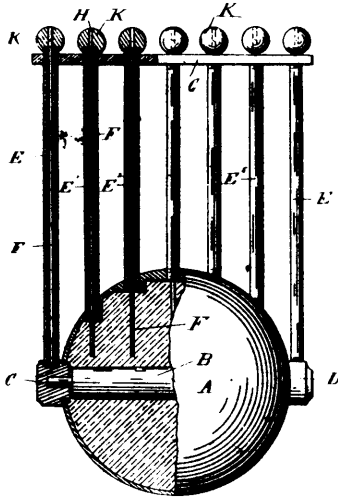
33846 Smith's Veneer Machine.



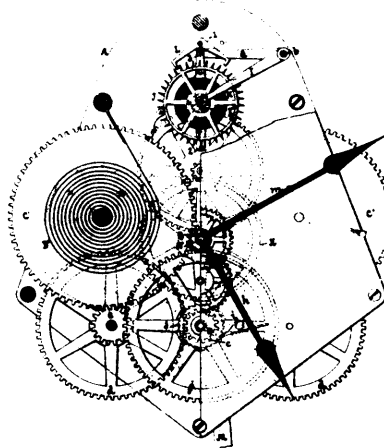
33847 Evans' Boat.



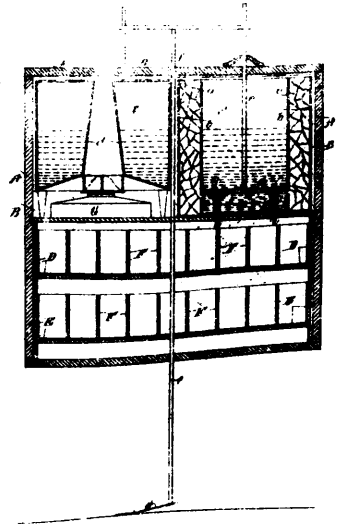
33848 Hargreaves' Thermo Motor.



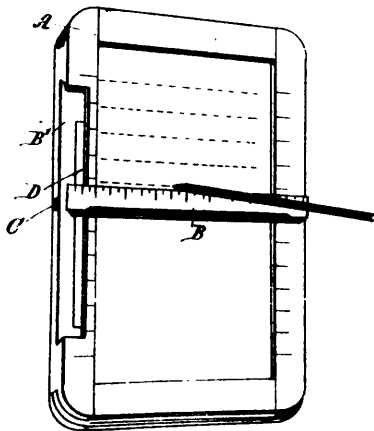
33849 Hicks' Therapeutic Magnet.



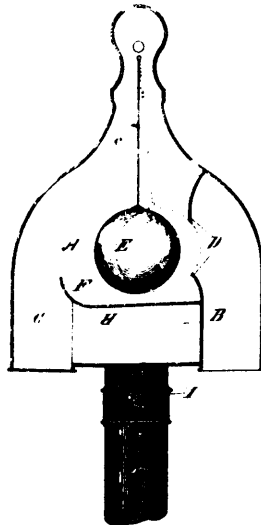
33850 Prentiss' Clock Movement, etc.



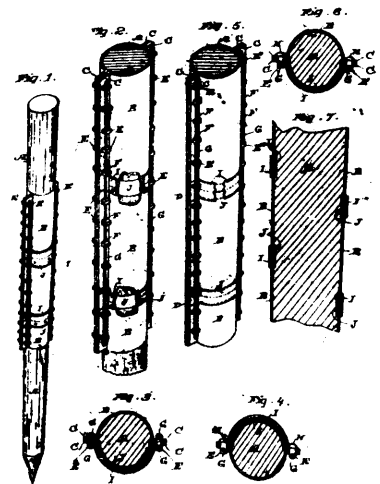
33851 Black's Fountain.



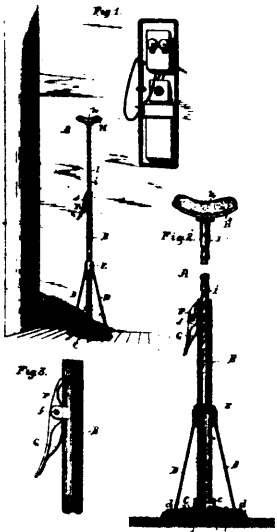
33852 Graham's School Slate, etc.



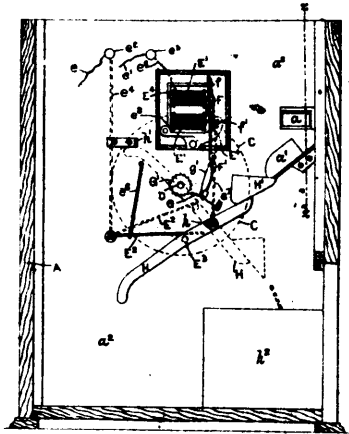
33853 Malcolm & Kirk's Vent.



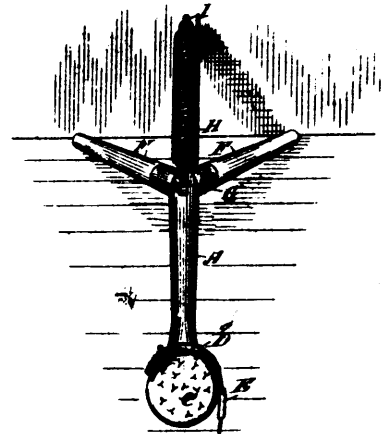
33854 Anderson's Pile Covering.



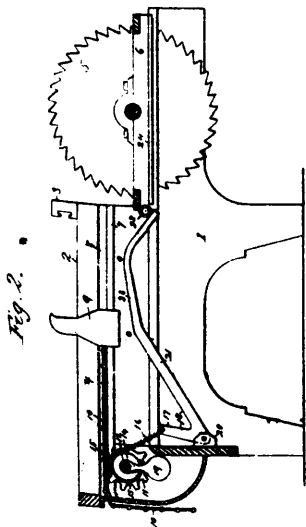
33855 Holmark's Arm Support for Telephones.



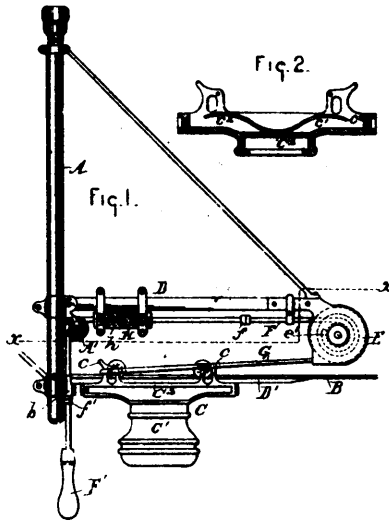
33856 Harris' Machine for Playing Games of Chance.



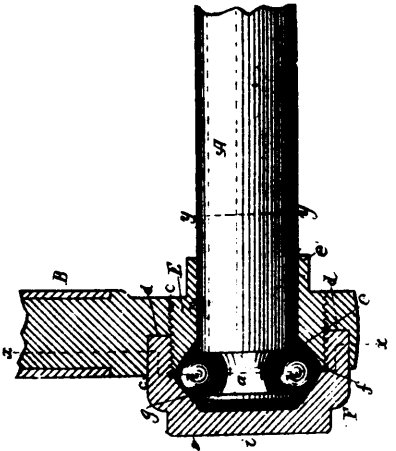
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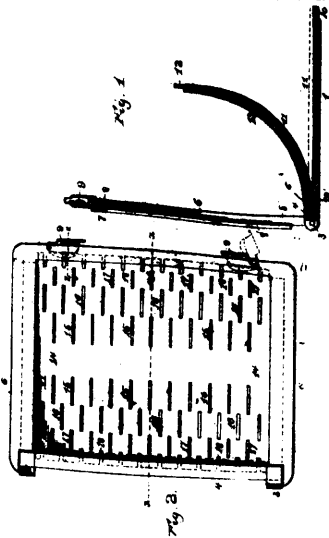
33858 Balsey's Clamping Machine.



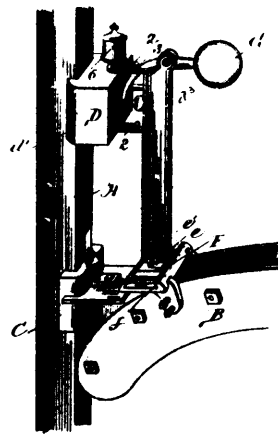
33859 Caille's Cash Carrier.



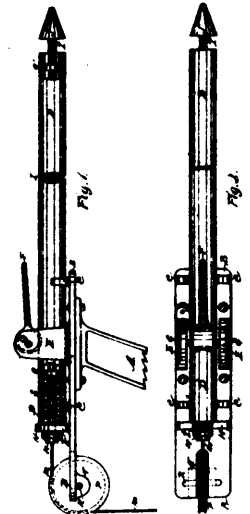
33860 Lavender's Ball Bearing.



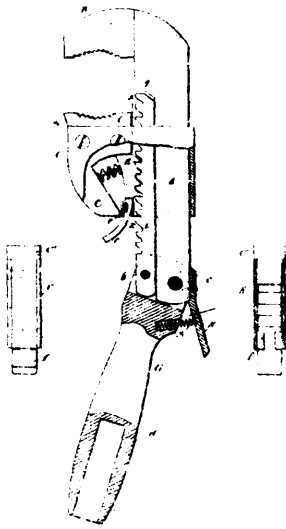
33861 Benedict & Furlong's Matrix Plate, etc.



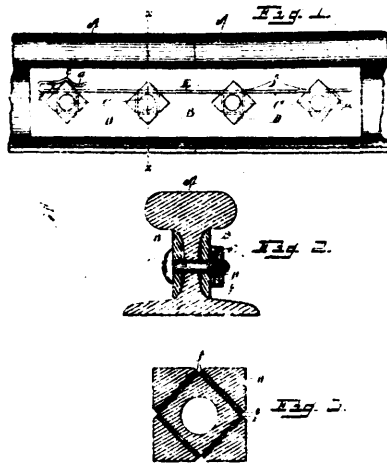
33862 Arnold's Lubricator.



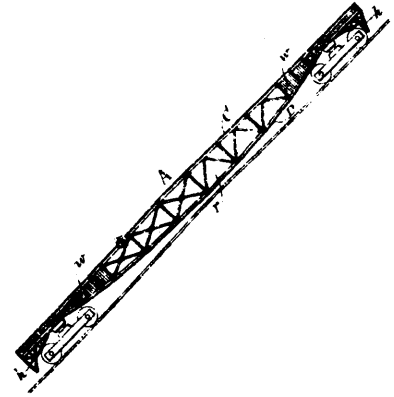
33863 Cheriére's Machine for Reversing Meat Casings.



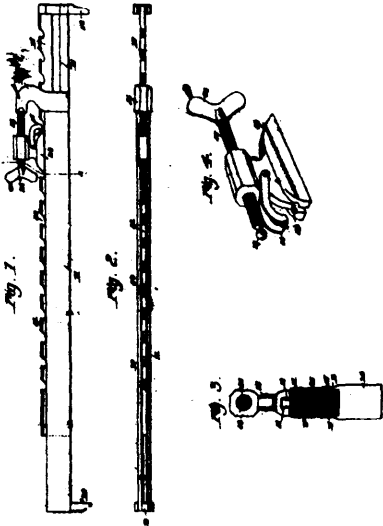
33864 Fisher's Pipe Wrench.



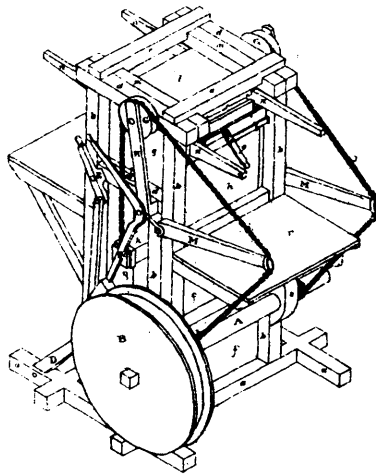
33865 Gould's Nut Lock.



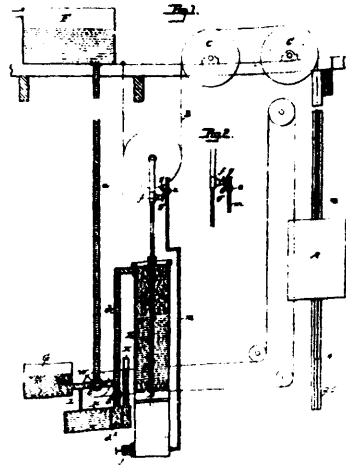
33866 Zurcher's Frame for Cars.



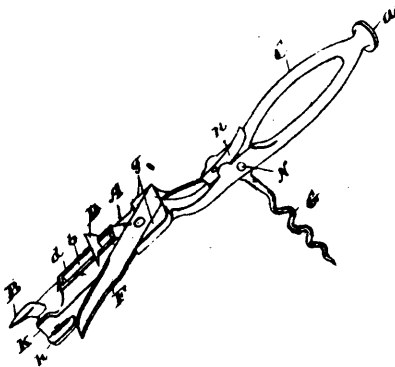
33868 Kells' Clamp.



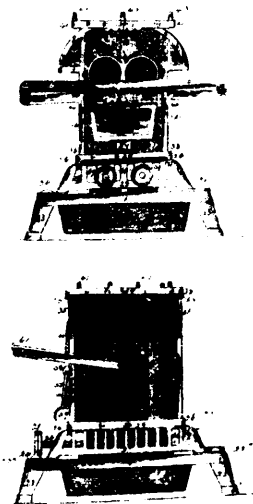
33869 Peters' Press for Pressing and Baling Hay, etc.



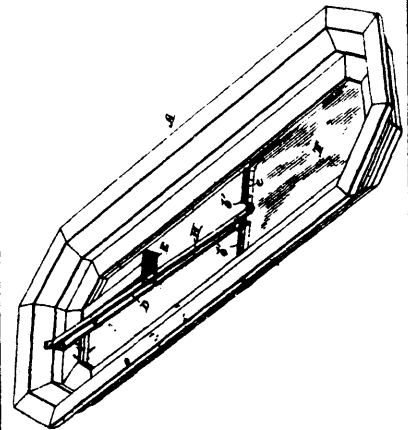
33870 Smith's Elevating Apparatus, etc.



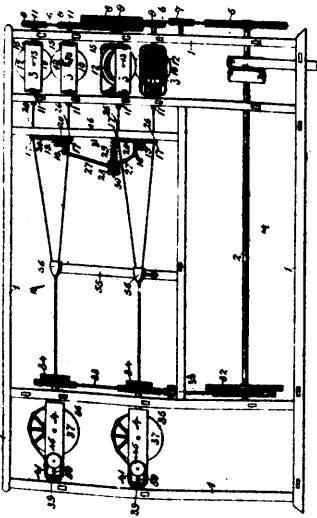
33871 Wood's Can Opener.



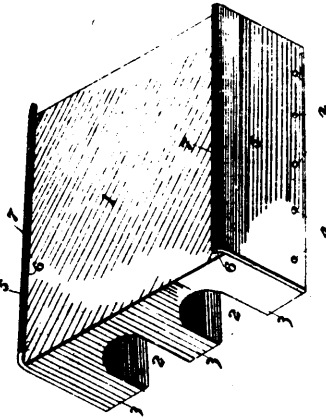
33872 Nehring's Soldering Iron Heater.



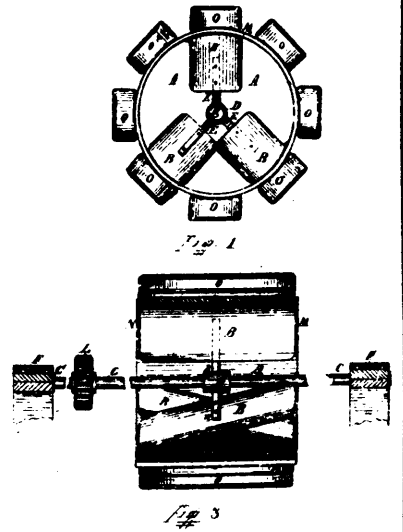
33873 Ripplow's Burial Casket.



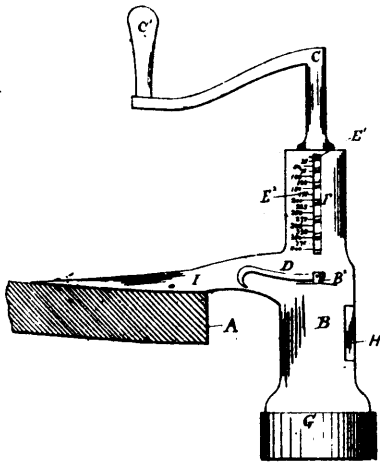
33875 Avis' Twine Making Machine.



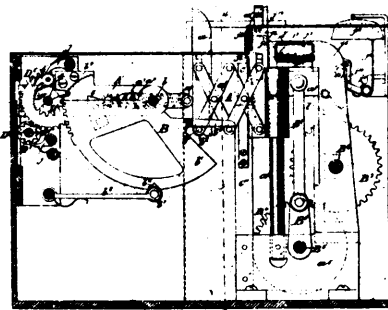
33876 Merritt's Stereotype Block.



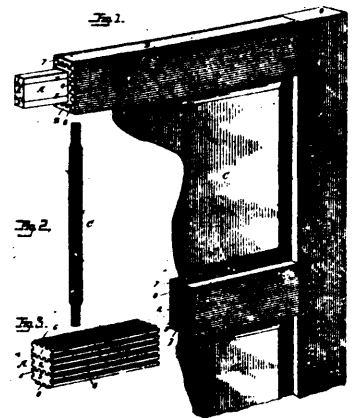
33877 Mutter's Water Motor.



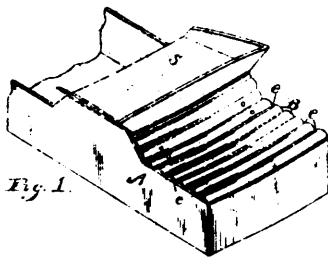
33878 Middlekauff's Cork Puller.



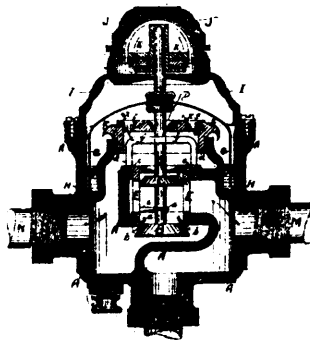
33879 Pforzheimer's Ticket Registering Machine.



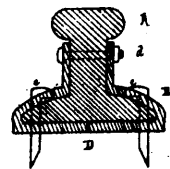
33880 Thompson & Lane's Manufacture of Doors, etc.



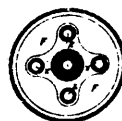
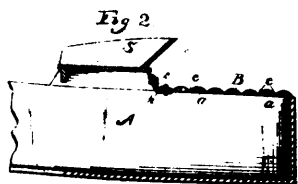
33881 Loree's Buggy Boot.

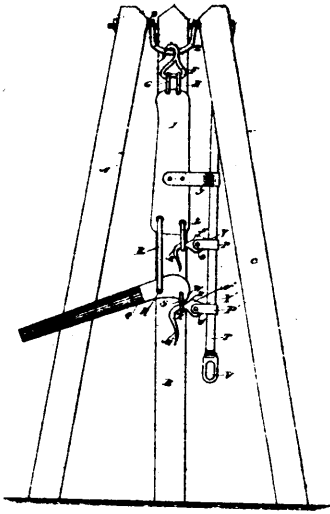


33882 Shaw's Governor for Gas.

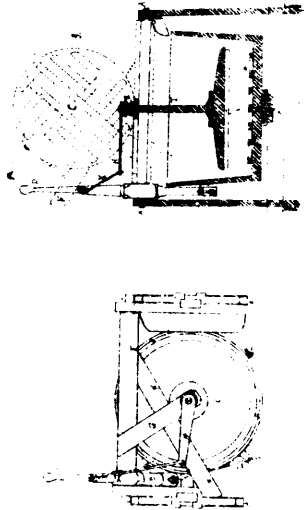


33883 Madden's Fish Plate

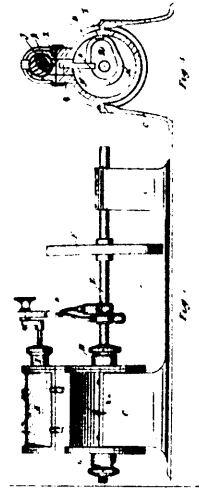




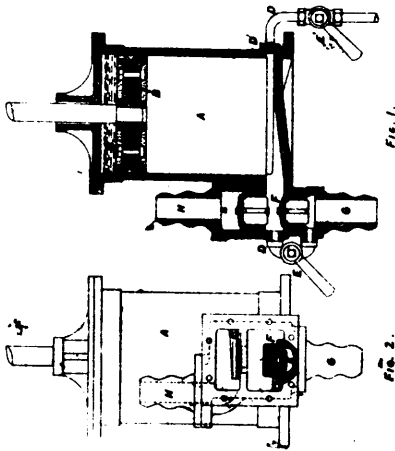
33884 Hamel's Stump Extractor.



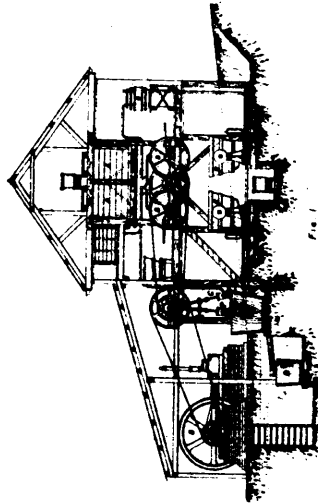
33885 Derbyshire's Washing Machine.



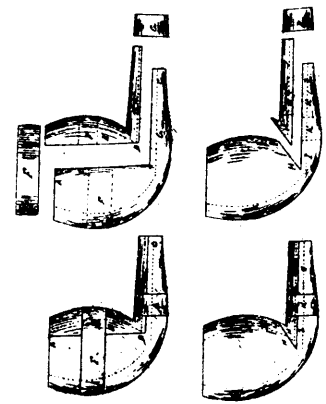
33886 Pedneault's Steam Engine.



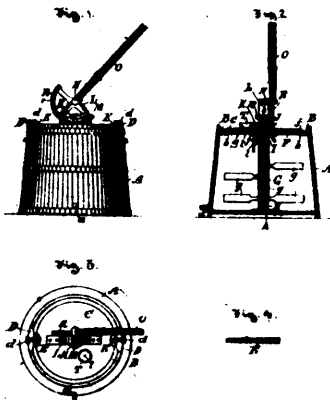
33887 Vautin's Apparatus for the Separation of Solutions of Metallic Salts, etc.



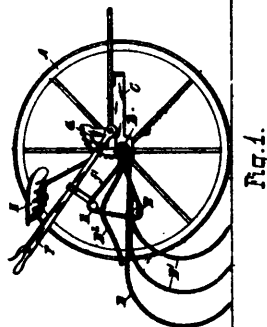
33888 Vautin's Apparatus for the Extraction of Gold from Crushed Auriferous Material.



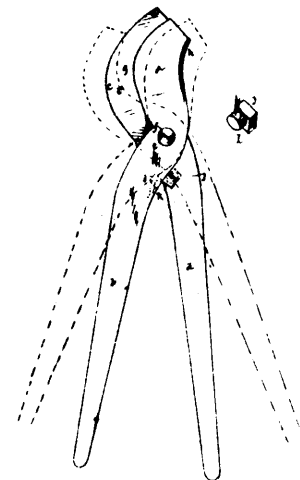
33889 Macle's Tobacco Pipe.



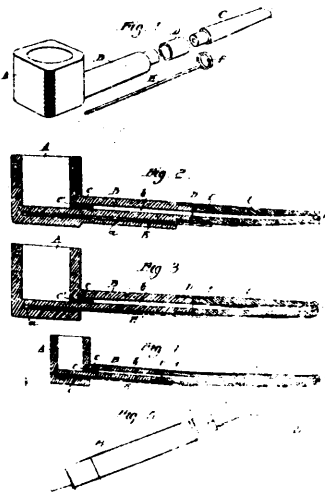
33890 Starr & Williams' Churn.



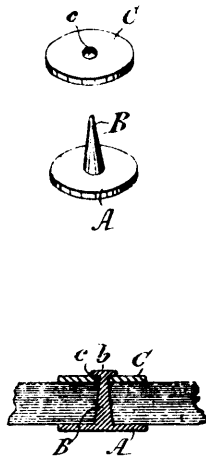
33891 Hewitt's Cultivator.



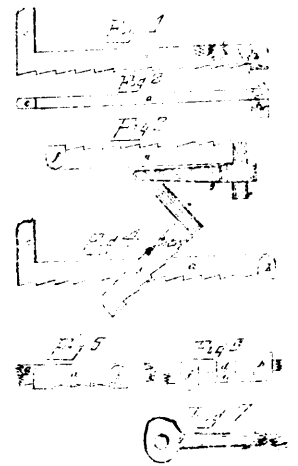
33892 Bohn's Pruning Implement.



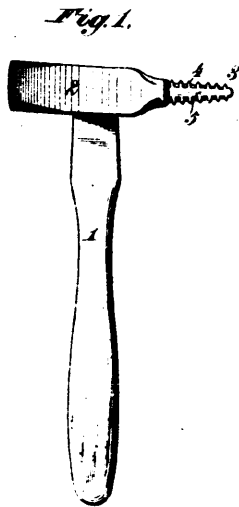
33893 Weldon's Tobacco Pipe.



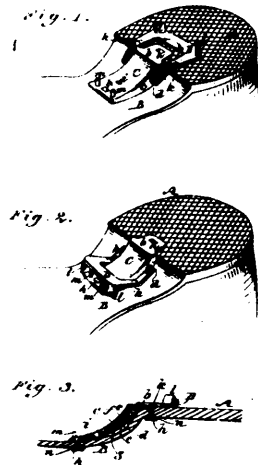
33894 Daniel's Paper Fastener.



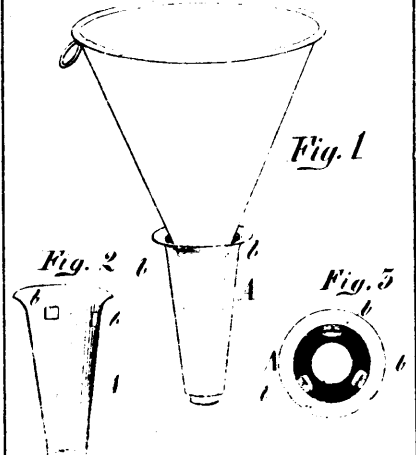
33895 Curtis' Appliance for Holding Together Flasks in a Foundry, etc.



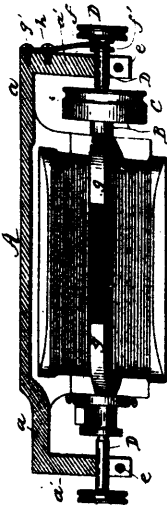
33896 Stewart's Compound Tool.



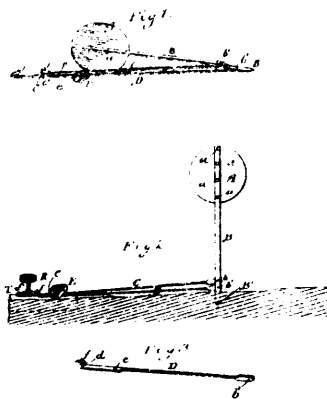
33897 Preston's Ice Creeper.



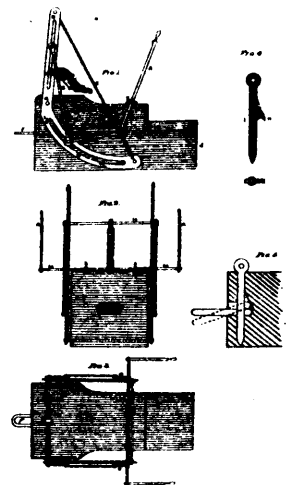
33898 Sullivan & Power's Funnel.



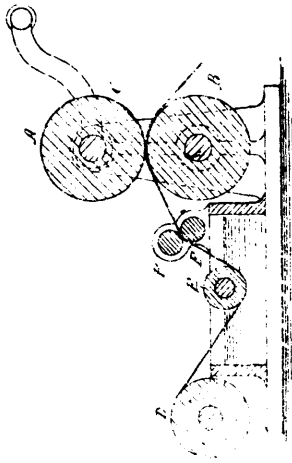
33899 Pullman's Electric Motor.



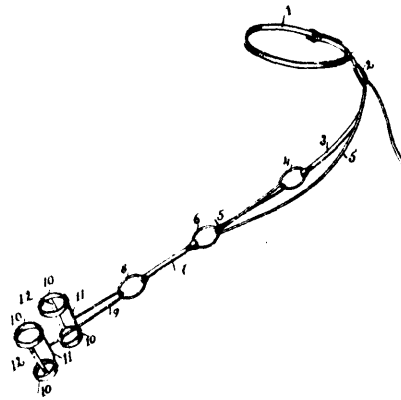
33900 Berry's Railway Signal.



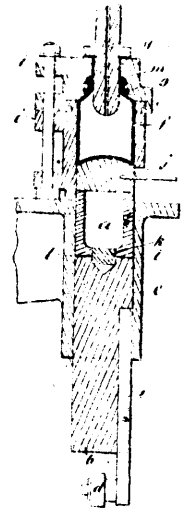
33901 Canniff's Car Coupling.



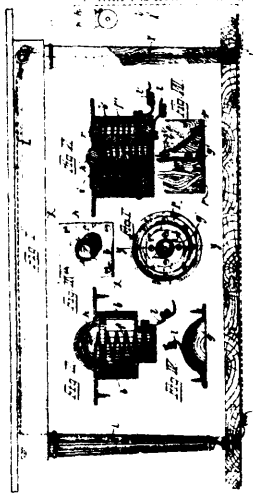
33902 Thompson's Duplicate Copies of Writing.



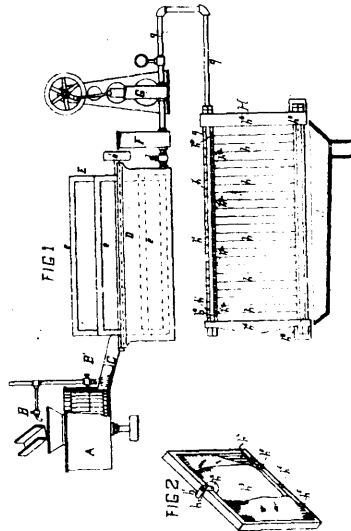
33903 Whitten's Fetter.



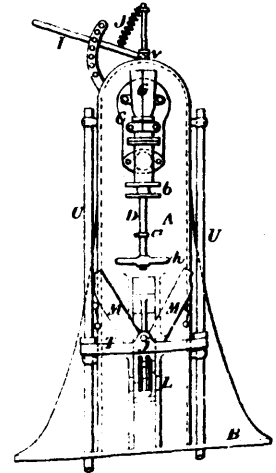
33904 Ryland's Machine for Forming Bottles.



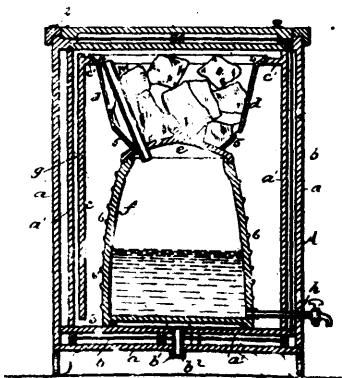
33905 Studte's invisible Transportable Telegraph for the Household.



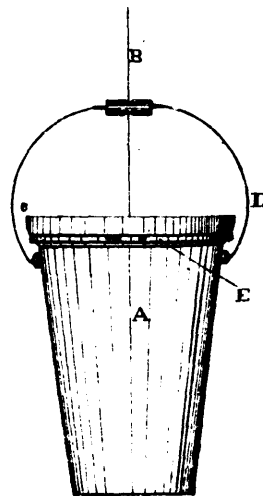
33906 McNab's Leaching and Filtering Process.



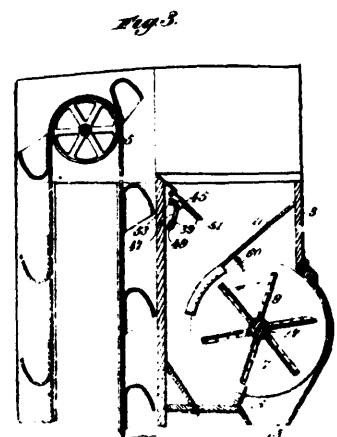
33907 Ashley's Machinery for the Manufacture of Glass Bottles, etc.



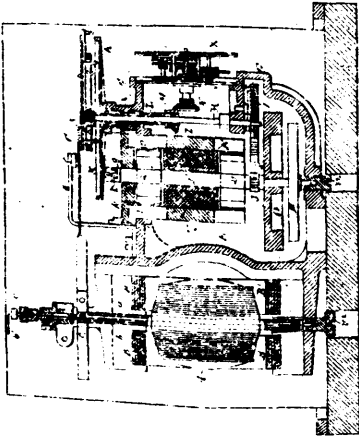
33908 Davis' Water Cooler.



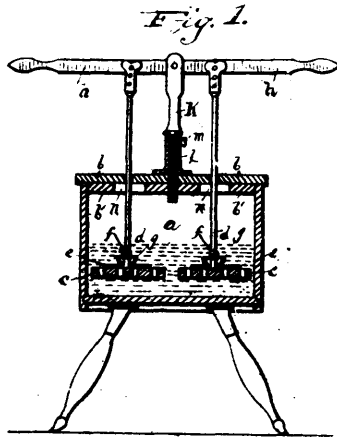
33909 Warren's Fire Bucket.



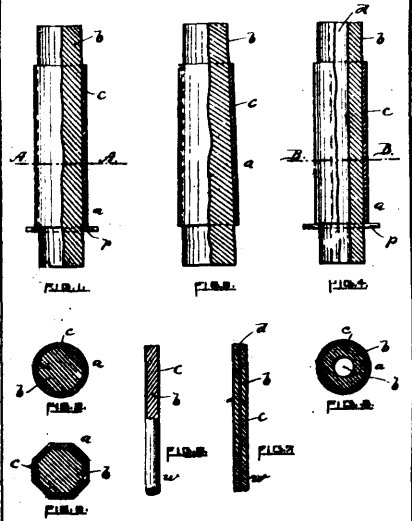
33910 Cowan's Grain Measure.



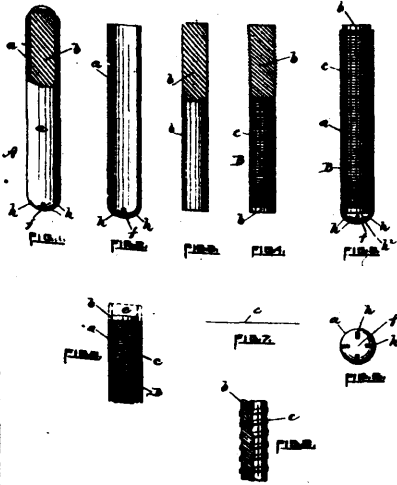
33911 Frager's Electric Meter.



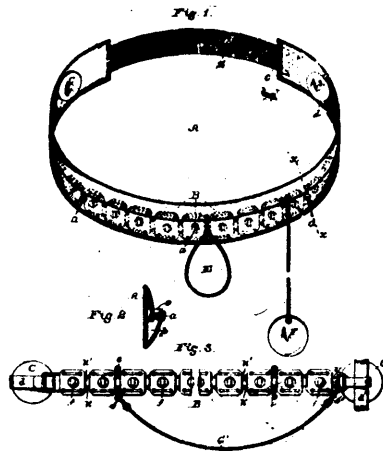
33912 Kallen's Churn.



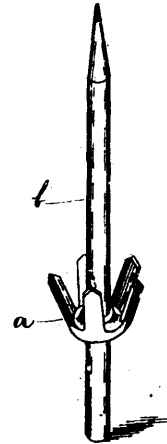
33913 Burdon's Ingot, etc.



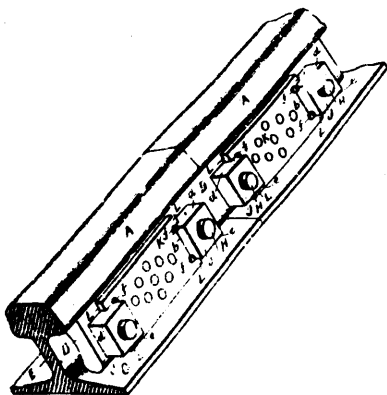
33914 Burdon's Ingot.



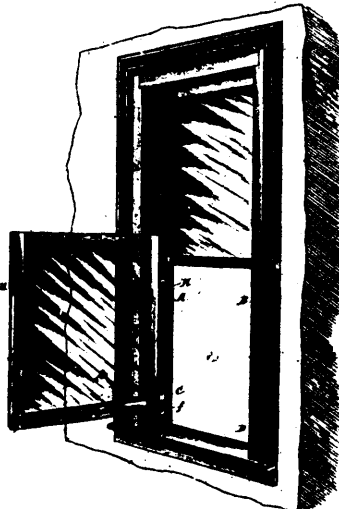
33915 DeBaun's Electric Belt.



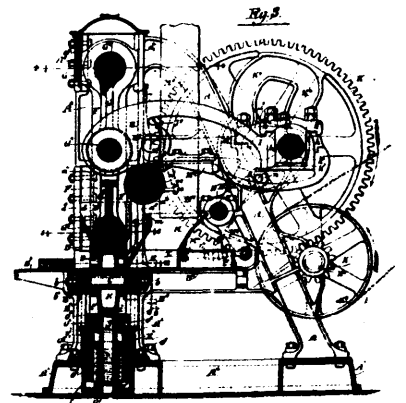
33916 Kent's Pen and Pencil Clasp.



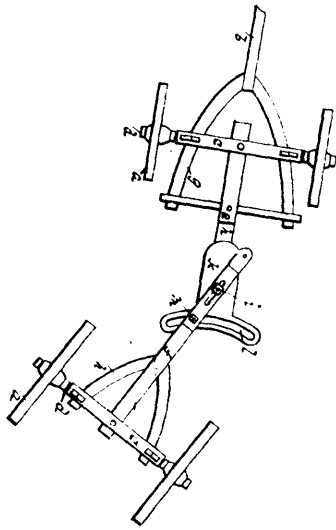
33917 Tisdale's Nut Lock.



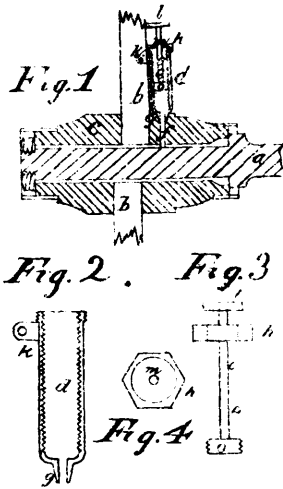
33918 Olcese's Sash Attachment.



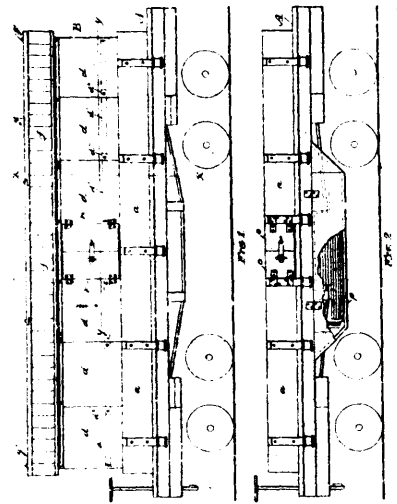
33919 Boyd & White's Brick Making Machine.



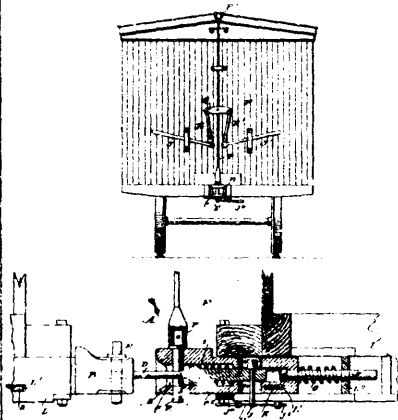
33920 **Fleishman's Running Gear, etc.**



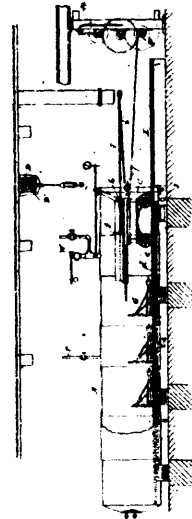
33921 **Pringle's Method of Lubricating Axles, etc.**



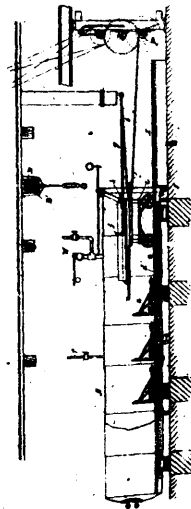
33922 **Borner's Railway Car.**



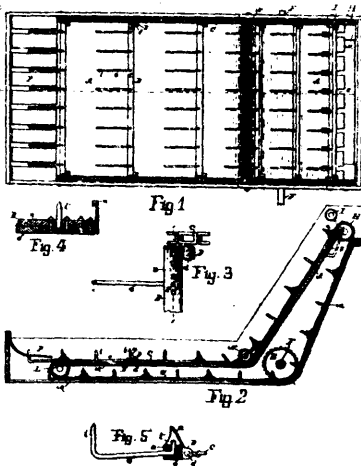
33923 **Finley & Harper's Car Coupling.**



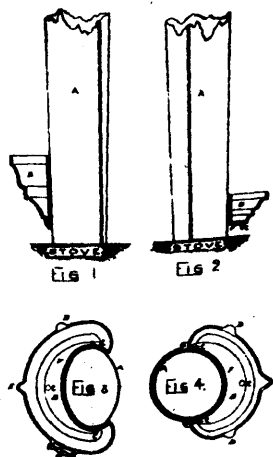
33924 **Mitchell's Method of Devulcanizing and Desulphurizing Rubber Waste.**



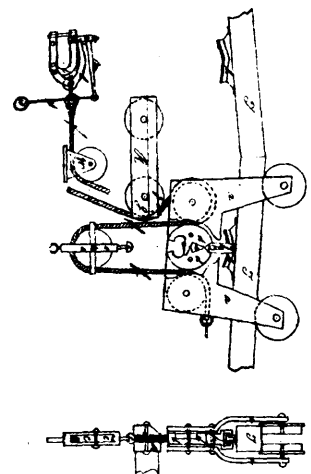
33925 **Mitchell's Apparatus for Devulcanizing Rubber.**



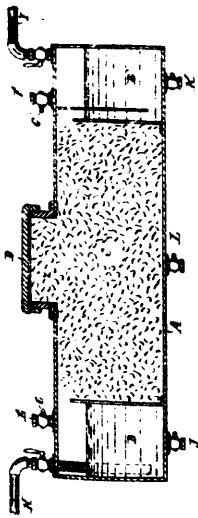
33926 **Keeth's Grain Carrier.**



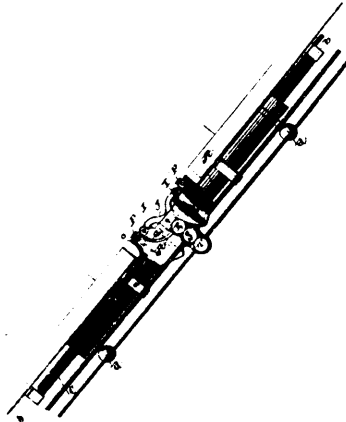
33927 **Norgate & Milne's Stove.**



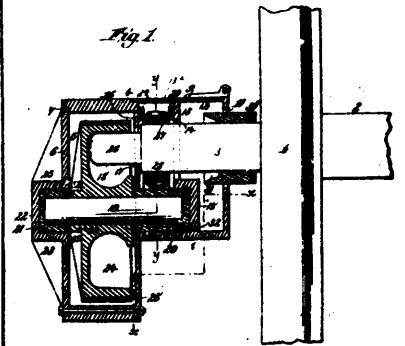
33928 **Ray's Hay Lifter, etc.**



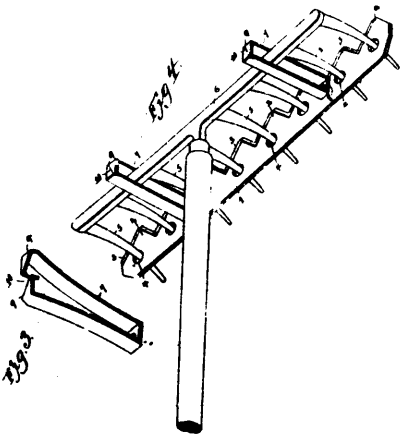
33929 Bury & Bidelman's Carburetor.



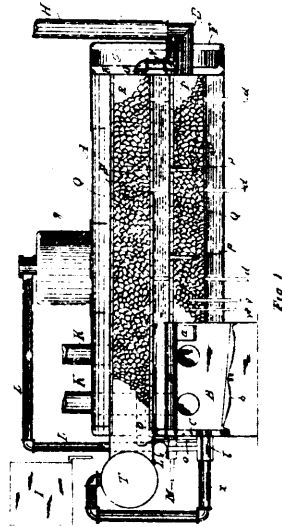
33930 Thomas' Car Coupling



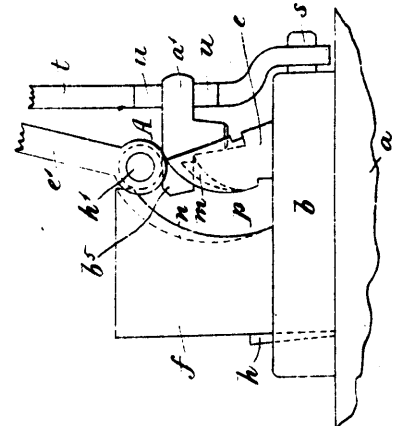
33931 Sweeney's Journal Bearing.



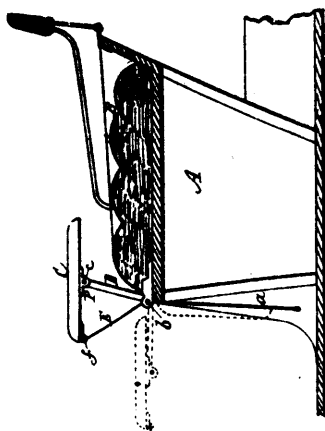
33932 Thompson's Rake.



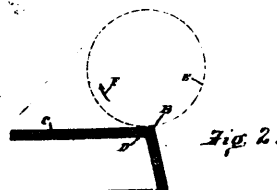
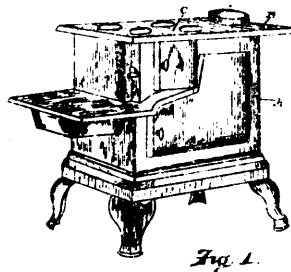
33933 Laird's Fuel Economizing Furnace, etc.



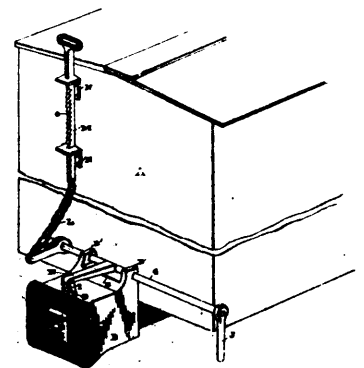
33934 Laundry's Apparatus for Making Hammers



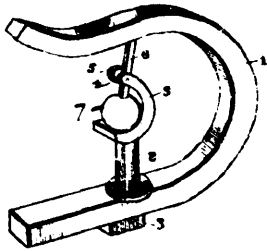
33935 Cook's Carriage Seat.



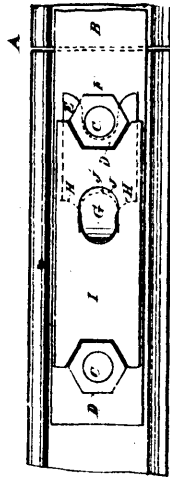
33936 Carr's Stove.



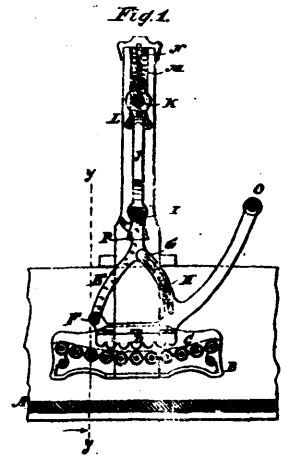
33938 Wendt's Car Coupling.



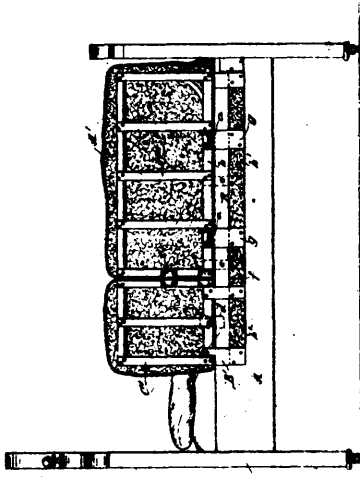
33939 Roe's Check Hook.



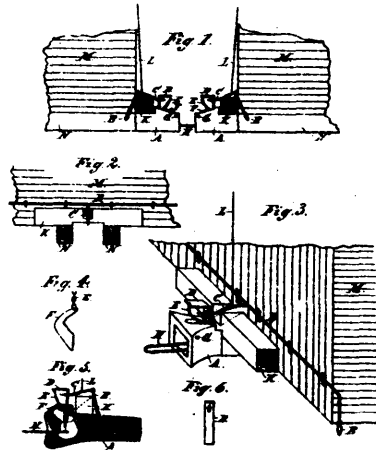
33940 Elster, Young & Knapp's Nut Lock.



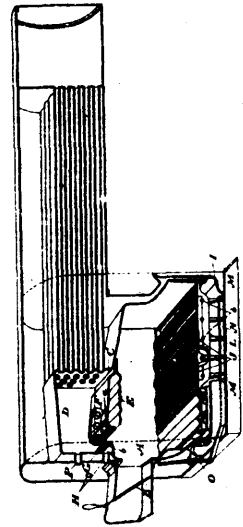
33941 Leverich's Washing Machine.



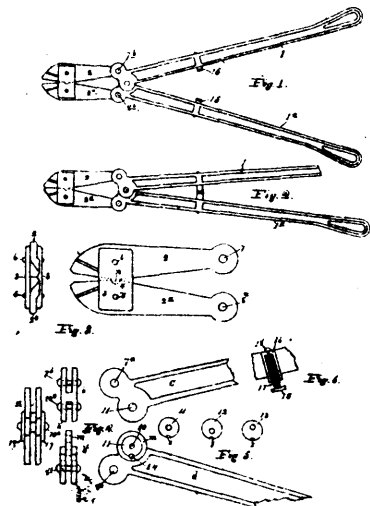
33942 Blanken's Sliding for Beds



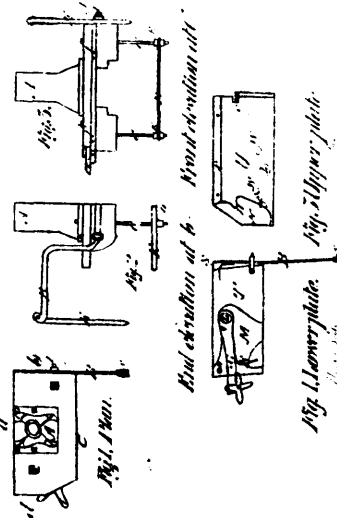
33943 Ford & Whitworth's Car Coupler.



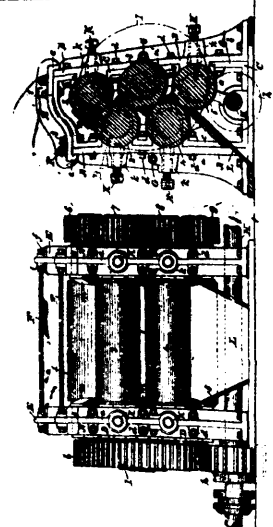
33944 Abell's Steam Boiler Fire Box.



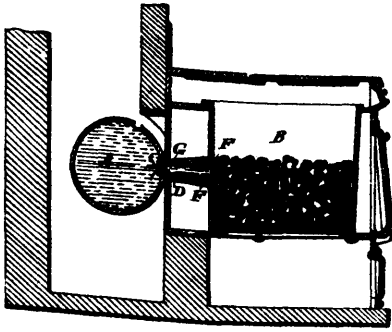
33945 Dutcher's Bolt Cutter.



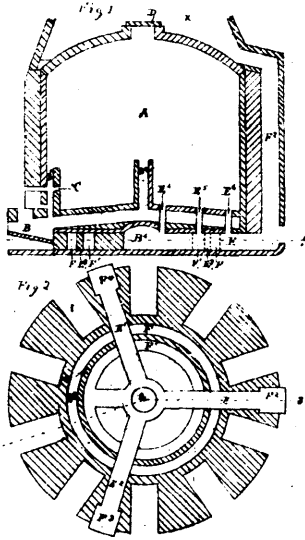
33946 Best & Derry's Car Coupler, etc.



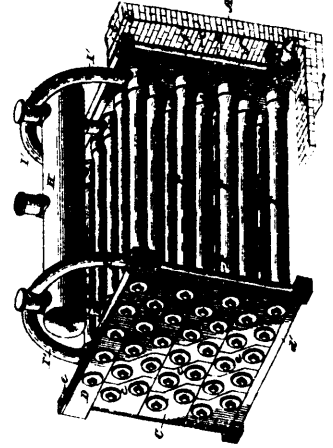
33947 Mitchell's Rubber Sheeting Mill.



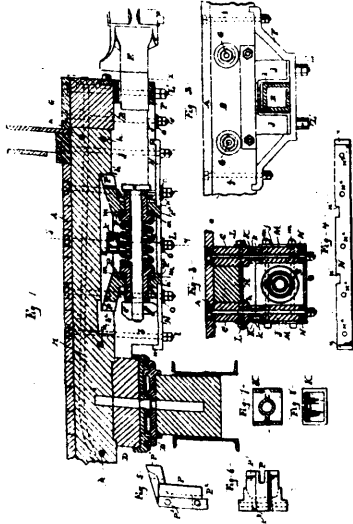
33948 Rees' Range Boiler.



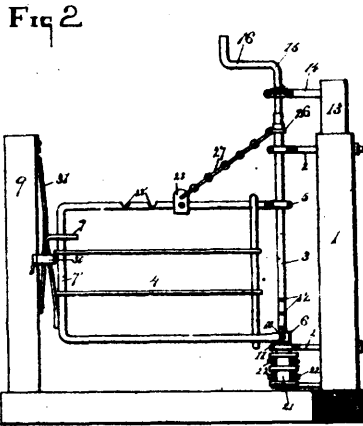
33949 Snow's Pottery Kiln.



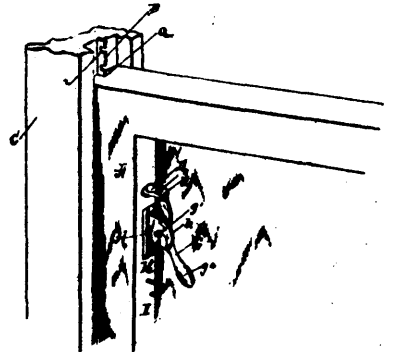
33950 Ricker's Boiler.



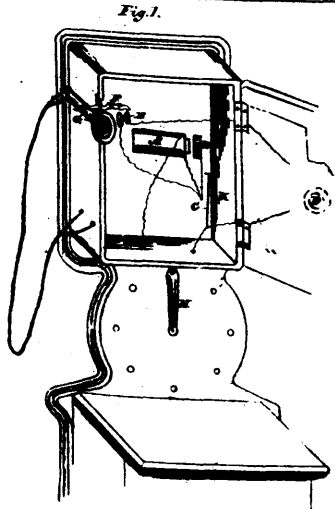
33951 Graham's Draft Rigging for Railway Cars.



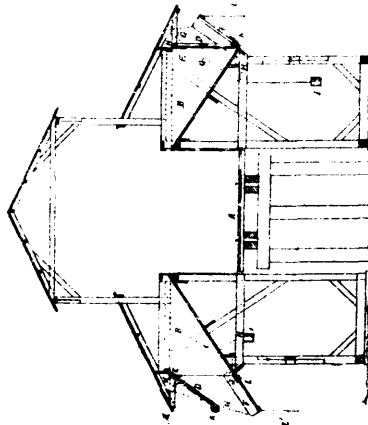
33952 Carter's Hand Operated Swinging Gate.



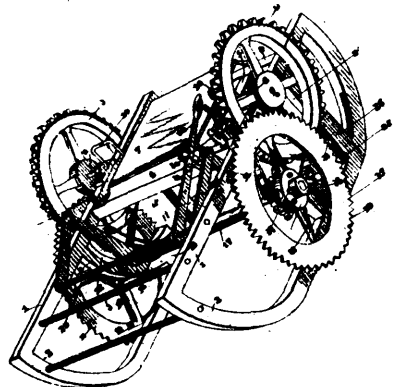
33953 Livermore's Sash Fastener.



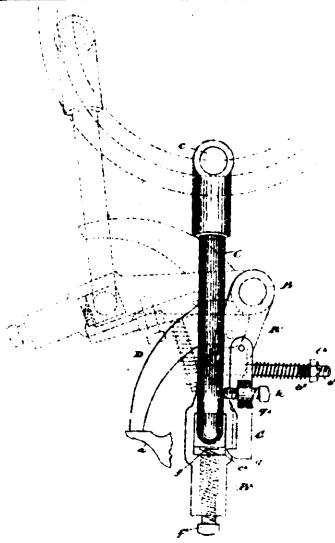
33954 Jannard's Telephone.



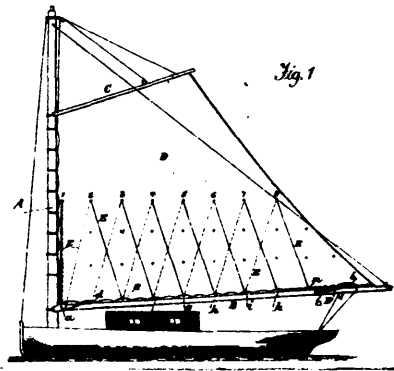
33955 Susemil's Coal Chute.



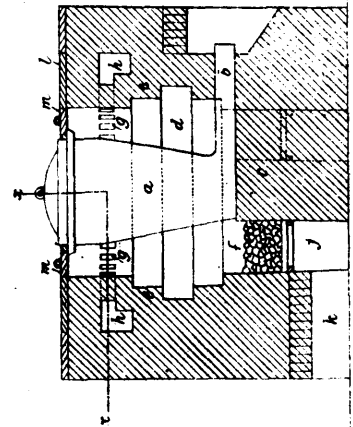
33956 Robertson's Sled.



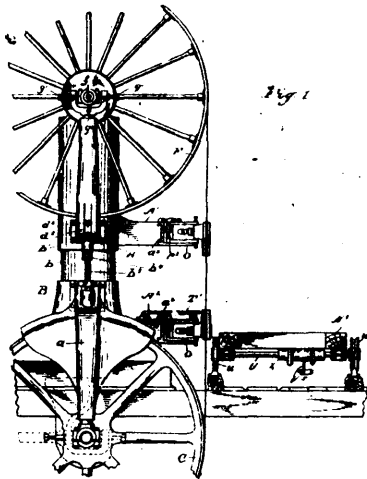
33957 Seiberling's Grain Binder



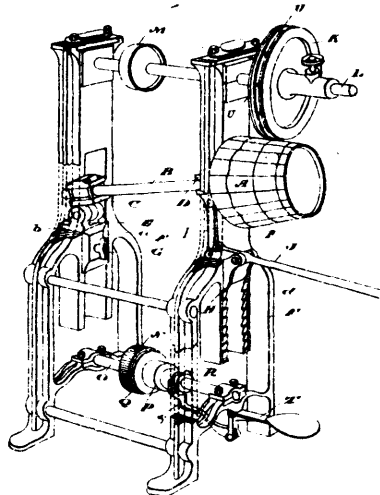
33958 Kellinger's Reefing Apparatus.



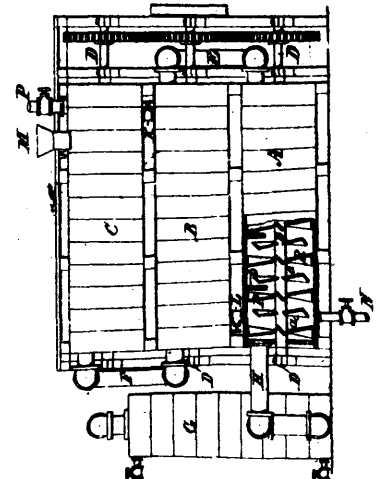
33959 Cunningham & Havemann's Furnace, or Apparatus for the Extraction of Gold, etc.



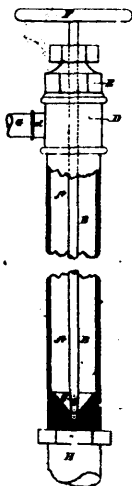
33960 Prescott's Band Saw Mill.



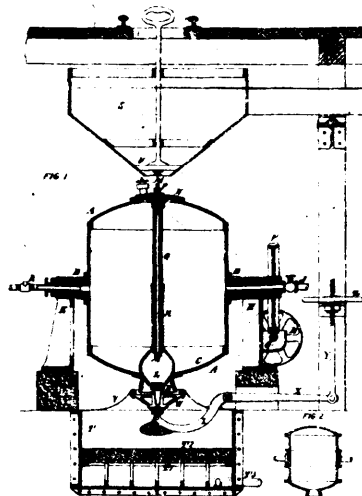
33961 Stratton's Machine for Hooping Pails, etc.



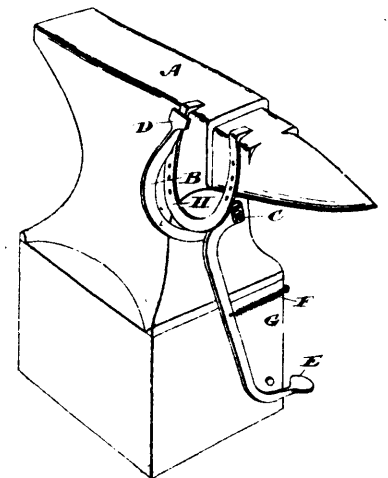
33962 Catlin's Charging Liquid with Gas.



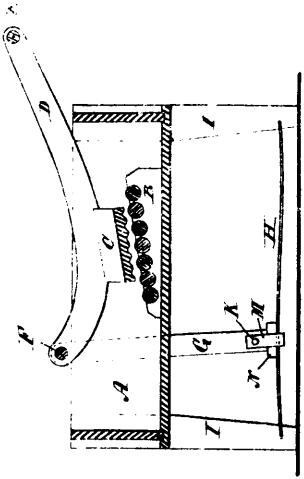
33963 Houlgrave's Steam Trap.



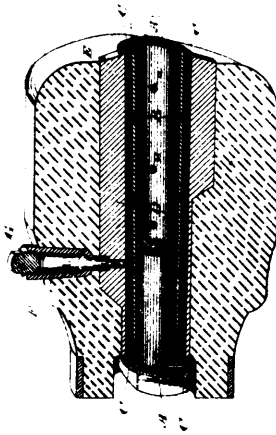
33964 Alley's Apparatus for Treating Metallic Ores.



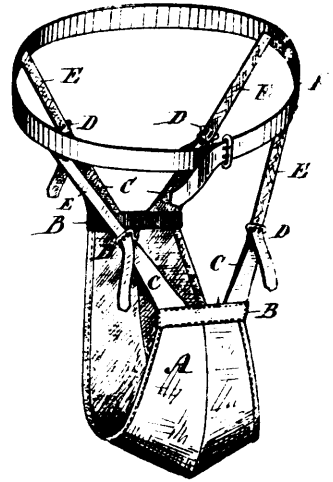
33965 Way's Anvil Clamp.



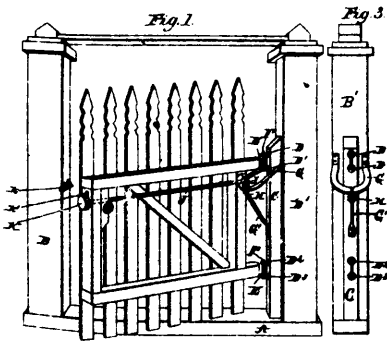
33966 Bellamy's Washing Machine.



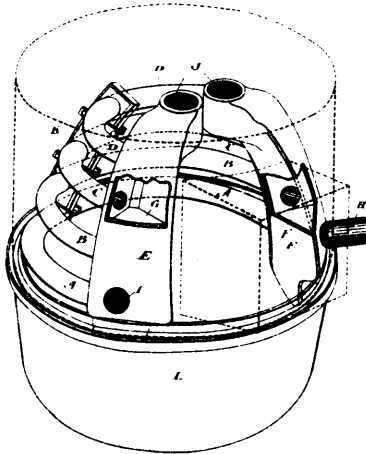
33967 McAllen's Axle Oiling Device.



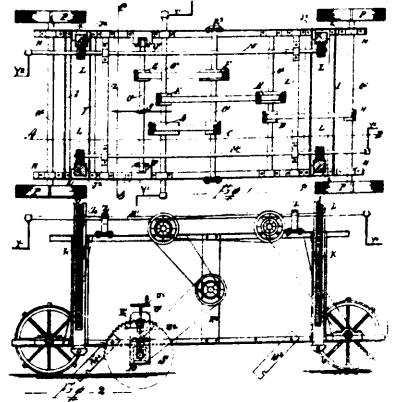
33968 Ferguson's Catamenial Sack



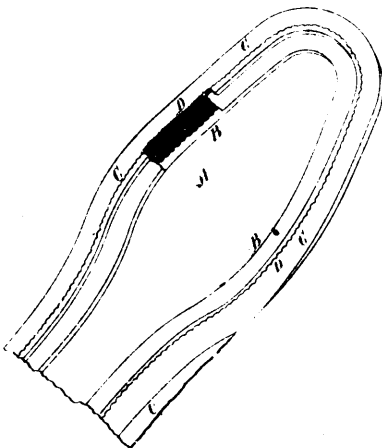
83569 Wells' Gate Hinge.



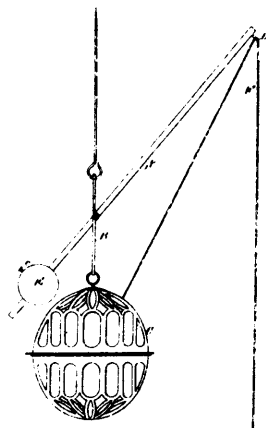
33970 Bigley's Hot Water Heater.



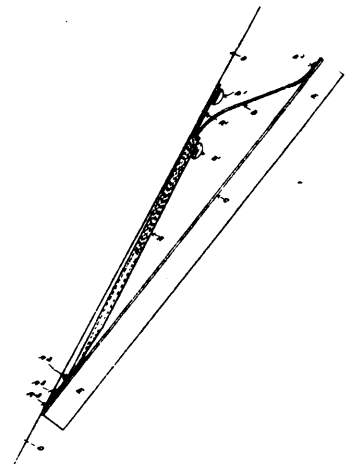
33971 Baxter's Implement for Cutting or Harvesting Ice.



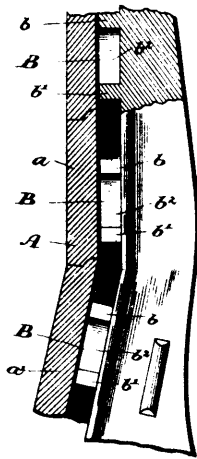
33972 Culley's Manufacture of Shoes.



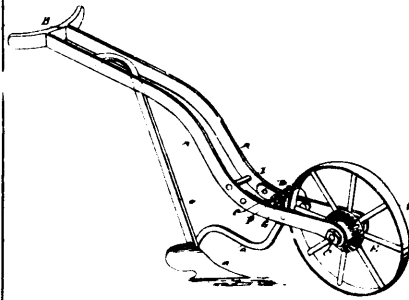
33973 Long's Take-up for Twine.



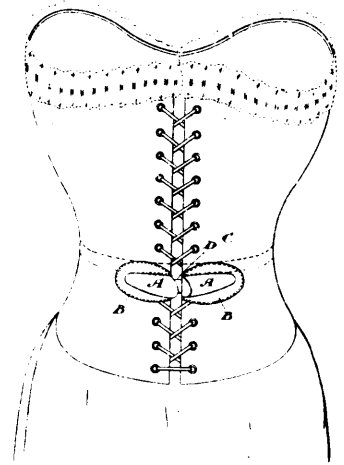
33974 Siddall's Picture Hanger.



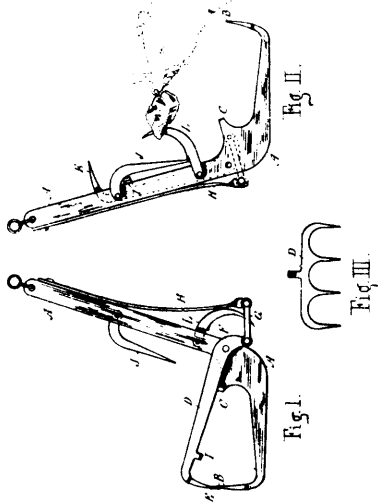
33975 Peregrine's Fastening for Slatted Furniture.



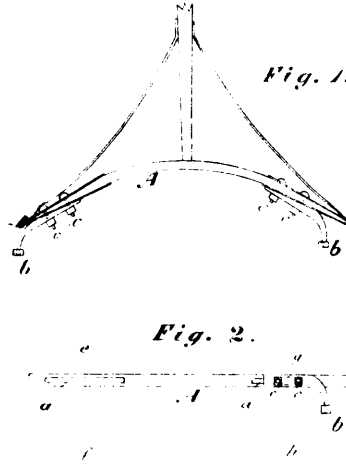
33977 Collins' Garden Plough, etc.



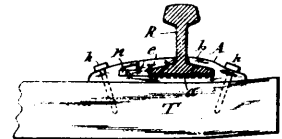
33978 Smith's Corset.



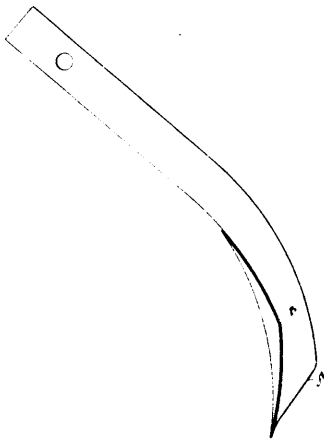
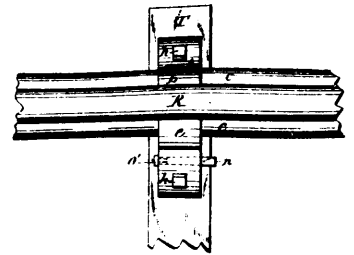
33979 Dunlap's Animal Trap.



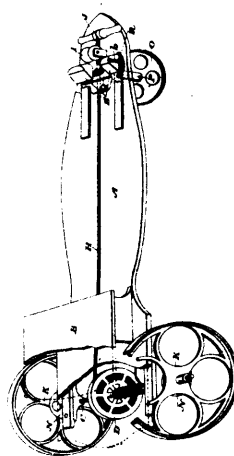
33980 White's Carriage Pole.



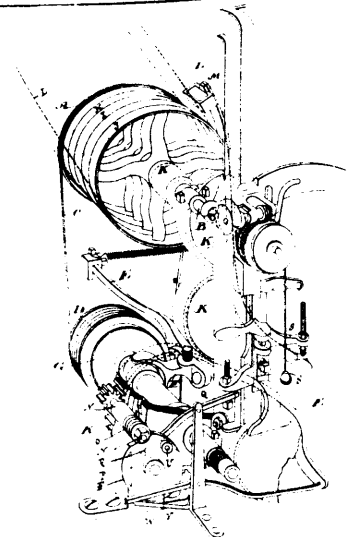
33982 Browne & Clune's Railroad Chair.



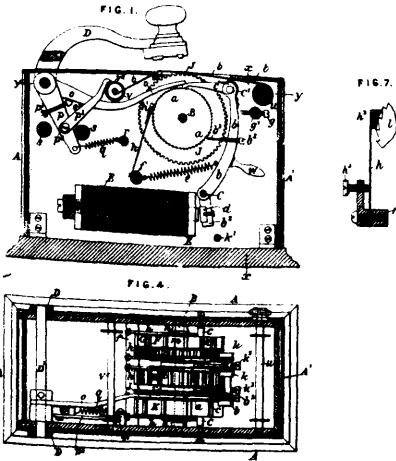
33983 Noxon's Cultivator Tooth.



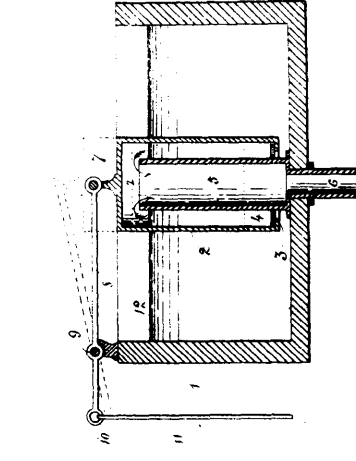
33984 Draper's Motor Power.



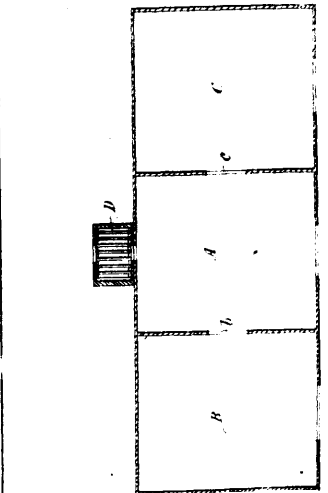
33985 Brook's Reversing Mechanism.



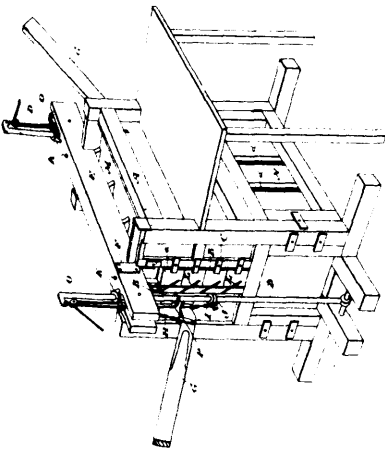
33986 Randall's Electric Printing Stamp.



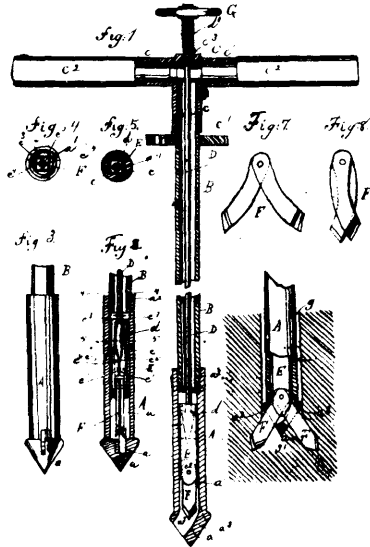
33987 Orr's Syphon.



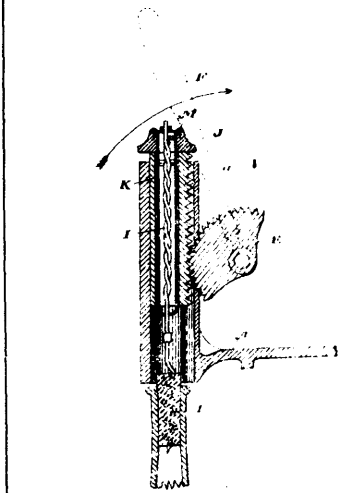
33988 Gower & St. George's Treatment and Utilization of Blast Furnace Slag, etc.



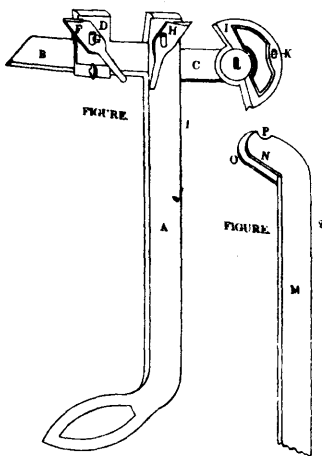
33989 Arnold's Hay Press.



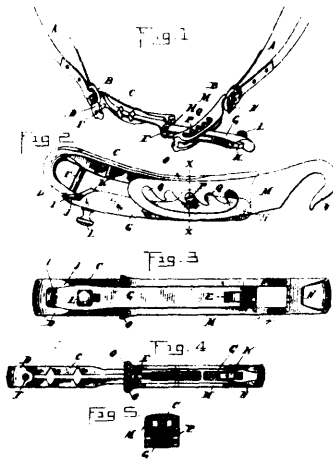
33990 Kilpatrick's Rock Drilling Implement.



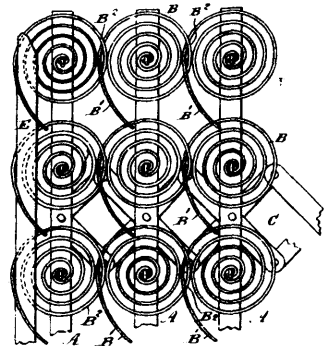
33991 Kelly's Cork Extractor.



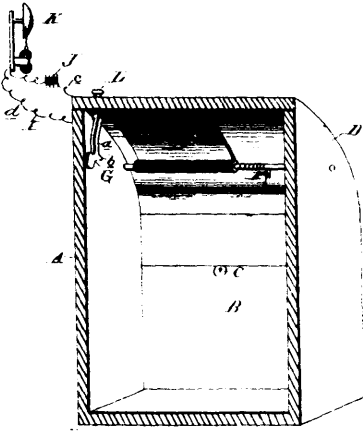
33992 Ross' Machine for Holding, Straining and Knotting Wire.



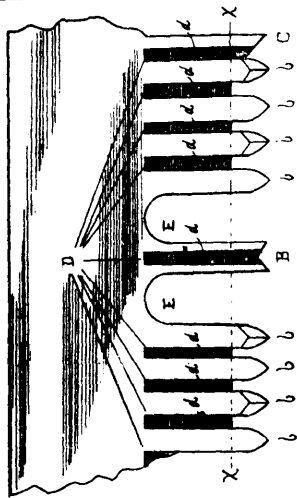
33993 Everett's Hame Fastener.



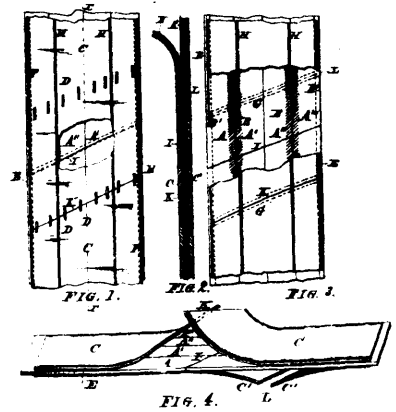
33994 Rheubottom's Bed Bottom.



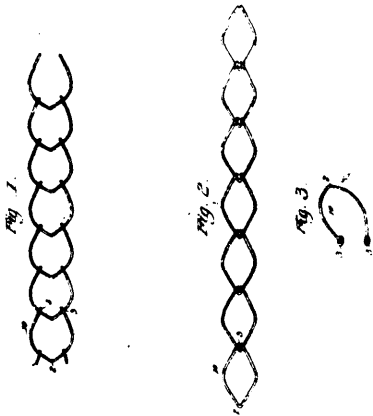
33895 Reed's Electric Alarm.



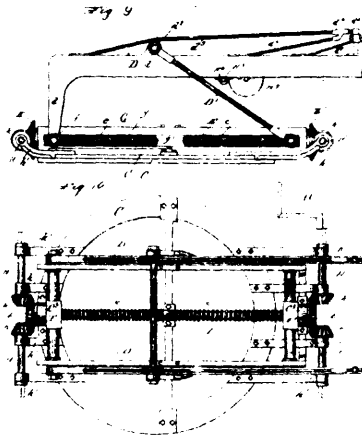
33987 Kerr's Cross-Cut Saw.



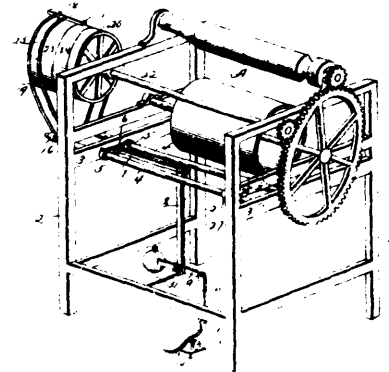
33998 Gingras's Belting.



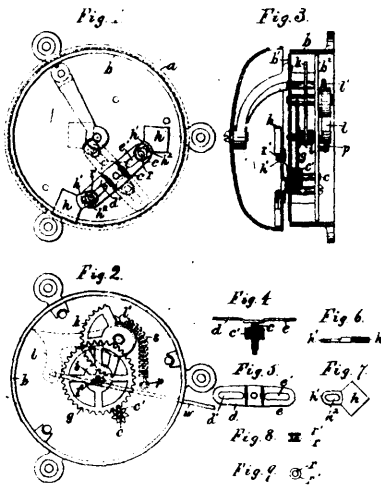
33999 Redwood's Elastic Chain.



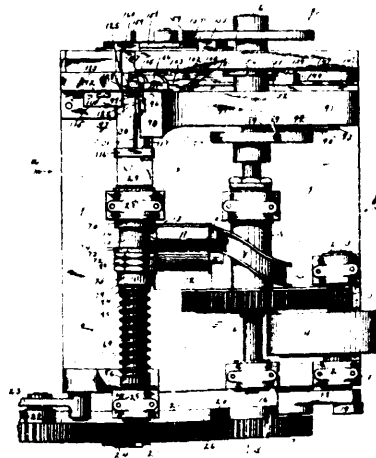
34000 Preston's Ladder Truck.



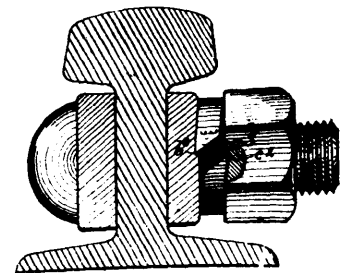
34001 Daley's Belt Shifting Mechanism.



34002 Allen & Goulden's Alarm Bell.



34003 Morse's Bale Tic Machine.



34004 Davis' Nut Lock