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INVENTIONS PATENTED.

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

No. 38,377. Brick Kiln. (*Four à briques.*)

Henry S. Mattlen, Benjamin F. Jones and Henry A. Kent., assignees of John Theodore Cullens, all of Kansas City, Missouri, U. S. A., 1st March, 1892; 5 years.

Claim.—1st. A brick kiln, consisting of a central longitudinal flue B, divided midway of its length by the dead wall or partition E, forming two sections, each of which communicates at its outer end with the horizontal flues C, C, connecting with the lower end of the flues D, communicating with the chimney, substantially as described. 2nd. A brick kiln, having the central longitudinal flue B, divided into sections by dead walls, as described, the longitudinal flues G, parallel with the flue B, and formed by the longitudinal partitions H, said flues G and partitions H being divided into several sections by the transverse walls I, which terminate at the walls on either side of the flue B, transverse flues F, communicating with the several flues G, each flue F, being the outlet of the heat which passes into the section of flues G, and partitions H, between two dead walls or partitions I, said flues F, communicating with the vertical flues F^1, in the side walls of the kiln, which flues F^1, communicate with the chimneys, substantially as and for the purpose set forth and described. 3rd. The combination of the several flues and partitions mentioned, forming the transverse bricks A^{111}, the perforated floor of the kiln, substantially as described. 4th. The combination and arrangement of the flues F, and partitions I, placed alternately, the said partitions I, dividing the draft system of the flues G, into sections, each flue F, conveying the heat from its own section to the flues F^1, thence to the open air, substantially as described. 5th. The combination between the perforated floor thus constructed, and the fire boxes J, through the openings K, vertical passages L, connected by dampers N, and openings M, substantially as described. 6th. The combination of a brick kiln, having the fire boxes J, the openings K, vertical passages L, controlled by dampers N, openings M, and the combustion chambers S, communicating with the passages L, by means of the perforated brick R, and with the outer air through the passage T, substantially as described. 7th. In a brick kiln, the fire boxes J, having the vertical passage communicating therewith, the air chambers S, communicating through the perforated bricks R, with said passages L, and the openings O, which the bricks or plugs P, normally occupy, substantially as described. 8th. The combination of the fire boxes J, having the vertical passages L, the air chambers S, communicating therewith, and the flues Z, controlled by the dampers A^1, and formed by the partition Y, in the chimney, communicating with the body of the kiln through the medium of the openings O, and flues 1, formed by the brick to be burned, or otherwise, as desired, substantially as described. 9th. The combination of the kiln body provided with the central longitudinal flue B, divided at its middle, the short flues G, parallel therewith, formed by partitions H, and communicating with the flues F, the intersecting partitions I, and transverse bricks A^{111}, forming a perforated floor, said aerial flues communicating with the escape flues D and F^1, a series of furnaces or fire boxes J, communicating with vertical passages L, communicating with the interior of the kiln, the dampers N, in said passage L, by means of which the draft may be cut off and with the removal of the bricks P, from the openings O, and the opening of the damper A^1, be turned in a new direction, substantially as set forth.

No. 38,378. Holder for Air-Brake Hose.

(*Porte-tuyau de frein atmosphérique.*)

Beery Valve Company, assignees of Samuel Masson Beery, Chicago, Illinois, U. S. A., 1st March, 1892; 5 years.

Claim.—1st. A holder for air-brake hose D, comprising a pair of connected spring-controlled co-operating jaws adapted to embrace the coupling on the hose and close the opening therein, substantially as described. 2nd. A holder for air-brake hose D, comprising, in combination, two pivotal spring-controlled jaws B, and C, provided with heads p and p^1 formed, respectively, with a boss o, to fit the opening in one side of a coupling m, and open to engage the projection m^1, on the other side thereof, substantially as described. 3rd. In combination with a car and the air-brake hose-section D, thereon having a coupling m, a holder A, comprising spring-controlled jaws B and C, adapted to embrace the said coupling and close the opening therein, and a chain h, swiveled to one of the handles of the holder and fastened to the car-platform, substantially as and for the purpose set forth. 4th. In combination with a car and the air-brake hose-section D, thereon, having a coupling m, a holder A, comprising pivotal jaws B, and C, having a spring k, compressed between its handles l, and provided with heads p, and p^1, formed, respectively, with a boss o, to fit the opening in one side of the coupling m, and annular to engage the projection m^1, on the other side thereof, and a chain h, having a swiveled connection at one end with one of the handles and fastened at its opposite end to the car platform, substantially as and for the purpose set forth.

No. 38,379. Typograph. (*Typographe.*)

John Raphael Rogers, Cleveland, Ohio, U. S. A., 3rd March, 1892; 5 years.

Claim.—1st. The combination, with a movable character member carrier having a series of ways, and character members travelling on the latter, of a base on which the assembled character members rest when in alignment, a support which maintains said carrier raised while the character members are assembled so as to clear the latter from said base, and means for removing said support and permitting said carrier to drop to position wherein the assembled character members may rest on said base when in alignment, substantially as set forth. 2nd. The combination, with a movable character member carrier provided with a bearing and having a series of ways, and character members travelling on the latter, of a base on which the assembled character members rest while in alignment, a rock shaft which supports said carrier bearing at different times at different elevations, whereby said carrier may be maintained in position while the character members are assembling so as to clear the latter from said base, and whereby said carrier may be maintained in its lower position after the character members are assembled, so that the latter may rest on said base when aligned, substantially as set forth. 3rd. The combination, with a movable character member carrier provided with a bearing and having a series of ways, and character members travelling on the latter, of a base on which the assembled character members rest when aligned, a rock shaft having two supports for said carrier bearing, said supports projecting different distances

from the shaft and adapted to maintain said carrier bearing at different elevations, whereby said carrier may be held while the character members are assembled so as to clear the latter from said base and may then be held in lower position so as to permit the assembled character members when aligned to rest on said base substantially as set forth. 4th. The combination, with a swinging character member carrier supported at its rear by trunnion bearing and supported at its forward central portion by a leg, said carrier having a series of ways on which character members travel, and a base independent of said carrier on which the assembled character members rest when aligned, of a spring actuated rock shaft, and justifying mechanism connected with the latter, said shaft carrying two supports of different projections for said leg, substantially as set forth. 5th. The combination, with a character member way having its assemblage portion angular to its distributive portion, and a character member, of a guide or check constructed to be engaged by the assembling character member as the latter travels on said distributive portion and cause it to assume a proper position for travel on said assemblage portion, substantially as set forth. 6th. The combination, with a character member way having its assemblage portion angular to its distributive portion, and a character member, of a guide or check located on the distributive side of the angular junction of said assemblage and distributive portions, and constructed to be engaged by the assembling character member before the latter passes from said distributive portion on to said assemblage portion, substantially as set forth. 7th. The combination, with a character member way having its assemblage portion angular to its distributive portion, and a character member, of a guide or check angular to the path of the assembling character member and constructed to be engaged by the latter while on said distributive portion, substantially as set forth. 8th. The combination, with a character member way having its assemblage portion angular to its distributive portion, and a character member, of a guide or check having free spring action and constructed to furnish a cushion bearing for the assembling character member, substantially as set forth. 9th. The combination, with a character member way having its assemblage portion angular to its distributive portion, and a character member, of a guide or check having a free yielding extremity and constructed to be engaged by the assembling character member, substantially as set forth. 10th. The combination, with travelling character members, and ways having assemblage portions collected together at different elevations in a common plane and having distributive portions respectively located in lines angular to said plane, of two guides or checks each having a yielding rear extremity angular to the path of the assembling character members, and constructed to be engaged by the lower portions to the latter before travelling from off said distributive portions on to said assemblage portions, substantially as set forth. 11th. The combination, with character members, and means for assembling them in line, of two rear bearings for the character members, respectively located in transverse planes to the latter, which do not pass through the characters, said character members being without rear bearing for those portions thereof which are in transverse plane with said characters, substantially as set forth. 12th. The combination, with character members, and means for assembling them in line, of a mould having an opening fitted against the front edges of the assembled character members, and two rear bearings for the character members respectively located above and below the plane of the mould, the portions of the character members intermediate of said two rear bearings being without rear support, substantially as set forth. 13th. The combination, with the character members, and means for assembling them in line, of two rear bearings for the character members, respectively located in transverse planes to the latter, which do not pass through the characters, said character members being without rear bearing for those portions thereof which are in transverse plane with said characters, and spaces fitting in between said two rear bearings and extending into said line, substantially as set forth. 14th. The combination, with character members, and means for assembling them in line, of a compressor shaft constructed to have a combined longitudinal and rocking movement, a spring actuated rock shaft, and mechanism connecting the latter with said compressor shaft, substantially as set forth. 15th. The combination, with character members, and means for assembling them in line, of a longitudinally movable compressor shaft having pin and groove connection with a relatively stationary member of the machine, a portion of said groove being angular to the longitudinal axis of the compressor shaft, substantially as set forth. 16th. The combination, with character members, and means for assembling them in line, of a compressor shaft movable so as to bring the compressor in proper clamping position against said line, and an actuating shaft engaging with said compressor shaft for such purpose, said actuating shaft carrying a locking device which interlocks with said compressing mechanism to maintain the compressor in said clamping position, substantially as set forth. 17th. The combination, with character members, and means for assembling them in line, of a compressor shaft movable so as to bring the compressor in proper clamping position against said line, and a rock shaft engaging with said compressor shaft for such purpose, said rock shaft carrying a projection which interlocks with said compressor shaft to maintain the compressor in said clamping position, substantially as set forth. 18th. The combination, with character members, and means for assembling and compressing them in line, of a rocking space carrier, and spaces supported on the latter, and constructed to be expanded by the rocking movement of said carrier, substantially as set forth. 19th. The combination, with character members, and means for assembling and compressing them into line, of a rocking space carrier, and spaces constructed to be expanded by the rocking movement of said carrier, said spaces further constructed to have travel on said space carrier longitudinally thereof, substantially as set forth. 20th. The combination, with character members, and means for assembling and compressing them in line, of a rocking space carrier, and compound spaces fitted on the latter, and constructed to expand the line by the rocking movement of said carrier, said spaces also constructed to have travel longitudinally on said carrier, each of the engaging faces of the parts of each space being inclined reversely to the other, substantially as set forth. 21st. The combination, with the character members, and means for assembling and compressing them in line, of a space carrier common to all the spaces, and independent of said means, and out of said line, and spaces constructed to fit in said line while on the carrier, substantially as set forth. 22nd. The combination, with character members, and means for assembling and compressing them in line, of a space shaft on one side of said line, and spaces constructed to fit in said line while on the shaft, substantially as set forth. 23rd. The combination, with character members, and means for assembling and compressing them in line, of a space carrier common to all the spaces, and independent of said means and out of said line, spaces which fit in said line while on the space carrier, and justifying mechanism formed independent of said compression means, substantially as set forth. 24th. The combination, with character members, and means for assembling and compressing them in line, of a space shaft parallel with and out of said line, compound expansible spaces which fit in said line while on the shaft, and space expanding mechanism formed independent of said compressing means, substantially as set forth. 25th. The combination, with character members, and means for assembling and compressing them in line, of a space carrier common to all the spaces and independent of said means, and located outside of the plane of said assembled character members, and spaces on the space carrier and projecting into the plane of the assembled character members, said spaces contsructed to be assembled in any desired plurality on said space carrier respectively at different points of the line, and to be distributed therefrom at the breaking up of the line, substantially as set forth. 26th. The combination, with character members, and means for assembling and compressing them in line, of a rocking space carrier independent of said means, and spaces on said space carrier and constructed to expand the line by the rocking movement of said series, substantially as set forth. 27th. The combination, with character members, and means for assembling and compressing them in line, of a rocking space carrier independent of said means and located outside of the plane of said assembled character members, and spaces supported on said space carrier and having their working portions projecting from the latter into the plane of the assembled character members, said spaces constructed to expand the line by the rocking movement of the space carrier, substantially as set forth. 28th. The combination, with character members, and means for assembling and compressing them in line, of spaces, and justifying mechanism formed independent of said compressing means, and constructed to expand the line and to simultaneously move the spaces along the line, substantially as set forth. 29th. The combination, with character members, and means for assembling and compressing them in line, of spaces, and space operating mechanism formed independent of said compressing means, and constructed to move the space members in planes angular to the line and at the same time to move the spaces longitudinally of said line, substantially as set forth. 30th. The combination, with character members, and means for assembling and compressing them in line, of spaces, and carrying mechanism formed independent of the character carrying mechanism and also of said compressing means, said space carrying mechanism constructed to operate the spaces in their justification of the line and at the same time laterally move them along and within said line, substantially as set forth. 31st. The combination, with character members, and means for assembling and compressing them in line, of compound expansible spaces, and mechanism formed independent of said compressing means, and constructed to expand said spaces within the line in justifying the latter, and to simultaneously move the spaces bodily along said line, substantially as set forth. 32nd. The combination, with character members, and means for assembling and compressing them in line, of a space carrier, compound expansible spaces on the latter, and space expanding mechanism formed independent of said compressing means, and constructed to expand the spaces within the line and to simultaneously move the space carrier parallel with the line, substantially as set forth. 33rd. The combination, with character members, and means for assembling and compressing them in line, of spaces constructed to expand the line by rocking movement, and mechanism constructed to simultaneously rock said spaces and move them bodily along said line, substantially as set forth. 34th. The combination, with character members, and means for assembling and compressing them in line, of a rocking space carrier, and means for moving the latter at right angles to its plane of rocking movement simultaneously with such rocking movement, spaces on said carrier and constructed to expand said line by said rocking movement of the carrier, and at the same time to be carried bodily along said line with the carrier as the latter moves at right angles to its said plane of rocking movement, substantially as set forth. 35th. The combi-

nation, with character members, and means for assembling and compressing them in line, of a rocking space carrier, and means for moving the latter endwise simultaneously with its rocking movement, spaces constructed to expand said line by the rocking movement of the carrier and to be at the same time carried bodily along said line by the endwise movement of the carrier, substantially as set forth. 36th. The combination, with character members, and means for assembling and compressing them in line, of a rock shaft carrying spaces constructed to expand said line by rocking movement, a relatively fixed member of the machine connected to said rock shaft by a pin and groove connection which causes said shaft to travel longitudinally as it is rocked, substantially as set forth. 37th. The combination, with character members, and means for assembling and compressing them in line, of a rock shaft carrying spaces constructed to expand said line by rocking movement, a sleeve readily secured to the machine bed and through which said shaft projects, said shaft and sleeve connected by pin and groove connection, said groove being angular to the axis of said shaft, substantially as set forth. 38th. The combination, with character members, and means for assembling them in line, of a longitudinally movable compressor shaft, a rocking space carrier carrying spaces constructed to expand said line by the rocking movement of said carrier, together with actuating mechanism constructed to first move said compressor shaft longitudinally and then to rock said space carrier, substantially as set forth. 39th. The combination, with character members, and means for assembling them in line, of a longitudinally movable compressor shaft, and a rocking space carrier carrying spaces constructed to expand said line by the rocking movement of said carrier; intermediate connecting mechanism constructed to first actuate said compressor shaft in longitudinal movement, then lock said compressor shaft against longitudinal movement, and then rock said space carrier, substantially as set forth. 40th. The combination, with character members, and means for assembling and compressing them in line, of a rotary shaft, of rock shaft, and justifying mechanism connected to the latter, said rotary shaft provided with a cam which engages with a stud projecting from a slide link which latter connects together said two shafts, substantially as set forth. 41st. The combination, with character members, and means for assembling and compressing them in line, of a rotary shaft, of a rock shaft, and justifying mechanism connected to the latter; intermediate connection between said two shafts, a treadle, a pulley loosely secured to said rotary shaft, and connection between said treadle and pulley, substantially as set forth. 42nd. The combination, with character members, and means for assembling and compressing them in line, of a rock shaft carrying a cam, and an arm actuated by said cam; a rocking space carrier, and an automatically operative lever connected to said carrier and to said arm, said carrier carrying spaces constructed to expand said line by its rocking movement, substantially as set forth. 43rd. The combination, with character members, and means for assembling and compressing them in line, of a rock shaft carrying a cam, and an arm actuated by said cam; a rocking space carrier, a rack engaged with the latter, and an automatically operative lever which actuates said rack in one direction, said arm being connected to said lever, said carrier carrying spaces constructed to expand said line by its rocking movement, substantially as set forth. 44th. A compound space having two sections, one section having a rocking movement relative to the other section, and mechanism constructed to expand the compound space by said rocking movement, substantially as set forth. 45th. A compound space having two sections, one section having a rocking movement relative to the other section, said two sections having adjacent faces constructed to expand the compound space by said rocking movement, substantially as set forth. 46th. A compound space having two sections, one section having a rocking movement relative to the other section, the two sections having engaging faces respectively inclined reversely to each other, substantially as set forth. 47th. A compound space having a disc section and a swing section, one of said sections having circular movement relative to the other, said two sections having adjacent faces which co-operate to expand the compound space by said circular movement, substantially as set forth. 48th. A compound space having a disc section and a wing section, said disc section having a circular movement relative to said wing section, said two sections having engaging faces respectively inclined reversely to each other, substantially as set forth. 49th. The combination, with character members, and means for assembling and compressing them in line, of an expansible space having a rocking section and a non-rocking section, the latter section provided with a projection and a machine member having a groove in which the projection of said non-rocking section loosely fits, substantially as set forth. 50th. The combination, with character members, and means for assembling and compressing them in line, of spaces constructed to expand said line by rocking movement, a rocking space carrier on which said spaces loosely fit, when in said line, together with a space way jointed to said carrier so that the latter may have rocking movement independent of said way, said spaces having travel on said way to and from said carrier, substantially as set forth. 51st. The combination, with character members, and means for assembling and compressing them in line, of spaces constructed to expand said line by rocking movement, a rocking space carrier on which said spaces loosely fit when in said line, together with a space way jointed to said carrier, said carrier and way having similar cross-sections constructed to be located at proper times in same planes with each other, whereby said space may freely slide from the one to the other, substantially as set forth. 52nd. The combination, with character members, and means for assembling and compressing them in line, of spaces constructed to expand said line by rocking movement, a rocking space carrier on which said spaces loosely fit when in said line, together with a space way jointed to said carrier and and having like angular cross sections therewith, said space way being inclined and constructed to cause the spaces to be assembled on said carrier by gravity travel down the way, substantially as set forth. 53rd. The combination, with character members, and means for assembling and holding them in line, of a mold chamber having an open side for presentation to said line, and having its opposite wall provided with a recess having an ingate, and a melting pot having a conduit constructed to fit in the recess with its discharge orifice communicating with the ingate, substantially as set forth. 54th. The combination, with character members, and means for assembling and holding them in line, of a mold chamber having an open front side for presentation to said line, and having its rear wall provided with a recess in which there is an ingate, said mold chamber having end portions respectively located on opposite sides of said recess, and a melting pot having a conduit to fit in the recess with its discharge orifice registering with the ingate, substantially as set forth. 55th. The combination, with character members, and means for assembling and holding them in line, of a mold chamber formed with an open front side for presentation to said line, and with a circular recess in the central portion of its rear wall having an ingate, and a melting pot having a circular conduit to fit in the recess with its discharge orifice registering with the ingate, substantially as set forth. 56th. The combination, with character members, and means for assembling and maintaining them in line, of a mold chamber formed with an open side for presentation to said line, and with its opposite wall provided with a recess having an ingate, the mold having a conduit opening communicating with the recess, and a melting pot having a conduit constructed to fit in the conduit opening with its discharge orifice registering with the ingate, substantially as set forth. 57th. The combination, with character members, and means for assembling and holding them in line, of a mold chamber having an open front side for presentation to said line, and having its rear wall provided with a recess in which the ingate is formed, the mold being composed of an upper section and a lower section, the lower section having its bottom provided with a conduit opening communicating with the recess, and a melting pot having a conduit constructed to fit in the conduit opening, and have its discharge orifice register with the ingate, substantially as set forth. 58th. The combination, with character members, and means for assembling and holding them in line, of a mold having an open front side for presentation to said line, and having a rear conduit opening angular to the mold chamber, said conduit opening having front and rear walls formed straight sided and inclined towards each other for a certain portion of their length, and a melting pot having a discharge conduit in counterpart to and constructed to closely fit between said inclined portions of said front and rear walls, substantially as set forth. 59th. The combination, with character members, and means for assembling and holding them in line, of a mold having an open front side for presentation to said line, and having a rear conduit opening angular to the mold chamber, said conduit opening having front and rear walls formed straight and inclining towards each other in their portions which are located in the same plane with the mold chamber, and a movable melting pot having a conduit formed in counterpart to and constructed to be detachably wedged in between said inclined wall portions with its discharge orifice registering with the mould ingate, substantially as set forth.

No. 38,380. Car Coupler. (*Attelage de chars.*)

Nicholas Sedore, Town of LeTellier, Manitoba, Canada, 3rd March, 1892; 5 years.

Claim.—In a car coupling, the tongue B, having the squared hole *b*, in combination with the bail C, having, on one of the outer arms, the squared part c^1, which fits said tongue hole *b*, and the journals *c c*, which turn in the sides of the drawhead, substantially as shown and described.

No. 38,381. Manufacture of Candy.

(Fabrication de bonbon.)

William Peter Kirchhoff and James William Kirchhoff, both of New Orleans, Louisiana, U.S.A., 3rd March, 1892; 5 years.

Claim.—1st. The improved process or method of manufacturing candy, consisting in cooking a mixture or compound of cane sugar and grape sugar, or glucose, in vacuo, to a consistency less than that appropriate for the production of the candy demanded, and consequently boiling or cooking this already boiled product, consisting of the partly evaporated compound of cane sugar and grape sugar, or glucose, in an open vessel, or under normal atmospheric pressure, until it acquires a consistency suitable for the production of the candy required, substantially as described. 2nd. The improved process of manufacturing candy, consisting in cooking compound or mixture of cane sugar and grape sugar, in vacuo, and then boiling or cooking the partly evaporated product in an open vessel until it arrives at a proper consistency, substantially as described.

No. 38,382. Method of Applying Celluloid to Key Boards. (*Application de la cellulose aux claviers.*)

Augustus Newell, Chicago, Illinois, U.S.A., 3rd March, 1892; 5 years.

Claim.—In the manufacture of key boards and similar articles, the process consisting of interposing an adhesive containing a latent solvent of celluloid between the inner sides of the front and top strips of celluloid and the wood, the upper edge of the front strip meeting and being pressed against the lower face of the top strip before the adhesion to the wood is effected, then applying pressure to the outer faces of said strips of celluloid, then subjecting the whole to heat while under pressure, then withdrawing the heat and restoring the whole to normal temperature, substantially as herein described.

No. 38,383. Veneering Press. (*Presse à plaquer.*)

Augustus Newell, Chicago, Illinois, U.S.A., 3rd March, 1892; 5 years.

Claim.—1st. In a veneering press, the combination of the horizontal arms A^4, arranged in line, a plate A^9, arranged beneath said arms, screws A^6, extending upward from said plate through said arms to unequal heights, and having at their upper ends overlapping handwheels A^7, substantially as shown and described. 2nd. The combination, with the duplex clamp arches supported in line, and having at each side the horizontal arms A^4 and A^5, screws A^6, extending through said arms A^4, toward the arms A^5, and plates A^9, extending beneath said screws, of a cord B, applied to each end of one of the plates A^9, and extending over one or more rollers B^1, thence down toward the floor, thence up and over one or more rollers B^1, to the adjacent end of the other plate A^9, and a weight B^2, suspended from the lower portion of said cord, in such manner as that said weight may shift upon said cord, substantially as and for the purpose set forth. 3rd. In a press, a series of screws arranged in line, two plates opposite to the ends of said screws, one of said plates having an upward extension directed toward the other plate, and a series of horizontal screws opposite said extension, and in a plane passing between said plates and through said extension of one of the plates, substantially as shown and described. 4th. In a press, a series of screws arranged in line, two plates opposite the ends of said screws, one of said plates being hollow and having a hollow upward extension directed toward the other plate, and a series of horizontal screws opposite said extension, and in a plane passing between said plates and through said extension of one of the plates, substantially as shown and described. 5th. In a press, having the horizontal arms A^4 and A^5, the combination, with said arms, of screws A^6, extending downward through said arms A^4, a plate A^9, extending beneath said screws, a plate C, located on the arms A^5, beneath the plate A^9, and having the upward extension C^2 at its rear, and the horizontal screws F, supported by the arms A^5, and directed toward the extension C^2, of the plate C, substantially as shown and described. 6th. In a press, having the horizontal arms A^4 and A^5, the combination, with said arms, of screws A^6, extending downward through said arms A^4, a plate A^9, extending beneath said screws, a plate C, located upon the arms A^5, beneath the plate A^9, and arranged to be moved forward upon said arms A^5, and having the hollow upward extension C^2, at its rear, and the horizontal screws F, supported by the arms A^5, and directed toward the extension C^2, of the plate C, substantially as described. 7th. In a press, having the horizontal arms A^4 and A^5, the combination, with said arms, of screws A^6, extending downward through said arms A^4, a plate A^9, extending beneath said screws, a plate C, located upon the arms A^5, beneath the plate A^9, and having the upward extension C^2, at its rear, and the horizontal screws F, directed toward the extension C^2, and chairs F^1, through which such screws extend, seated adjustably upon the arms A^5, substantially as shown and described. 8th. In a press, having the horizontal arms A^4 and A^5, the combination, with said arms, of screws A^6 extending downward through said arms A^4, a plate A^9 extending beneath said screws, a plate C located loosely upon said arms A^5, a rack E applied to the bottom of the plate C at each end, a stationary, rotary shaft E^1 extending beneath the plate C, and a spur wheel E^2 fixed upon said shaft E^1 beneath each rack E and meshing into the latter, substantially as and for the purpose set forth. 9th. In a press having the horizontal arms A^4 and A^5, the combination, with said arms, of screws A^6, extending downward through said arms A^4, a plate A^9 extending beneath said screws, a plate C located loosely upon said arms A^5 and having the upward extension C^2 at its rear, a rack E applied to the bottom of the plate C at each end, a stationary, rotary shaft E^1 extending beneath the plate C, a spur wheel E^2 fixed upon said shaft E^1 beneath each rack E and meshing into the latter, and the horizontal screws F, supported by the outer ends of the arms A^5, and directed toward said extension C^2, substantially as and for the purpose set forth. 10th, In a veneering press, having the arms A^4 and A^5, and downward directed screws A^6 supported by said arms A^4, and horizontal screws F, supported by said arms A^5, the combination with said arms and screws of a plate A^9, extending beneath the screws A^6 and and a hollow plate C located beneath the plate A^9, and having the hollow upward extension C^2, at its rear communicating with the main portion of said plate and a pipe D leading into, and a pipe D^1 leading from the interior of said plate, substantially as shown and described. 11th. In a veneering press having the arms A^4 and A^5, and downward directed screws A^6, supported by said arms A^4, and horizontal screws F supported by said arms A^5, the combination with said arms and screws, of a plate A^9 extending beneath the screws A^6, and a plate C having the upward extension C^2 at its rear, and a passage D^2 leading back and forth through the horizontal portion of said plate and thence into and longitudinally through the extension C^2, and induction and eduction pipes D and D^1, substantially as shown and described. 12th. The combination with the plate C having the horizontal surface and an upward extension at the rear with a vertical inner surface, of a plate lying against the inner surface of said extension and arranged to be raised to allow one edge of a sheet of veneer to enter beneath said plate, substantially as herein set forth. 13th. The combination with the hollow plate C having the horizontal surface C^1, and a hollow upward extension C^2, which latter has a vertical inner surface C^3, of a polished plate C^4 lying upon the surface C^1, and a polished plate C^7, resting against the extension C^2, and arranged to be raised to allow one edge of a sheet of veneer to enter beneath said plate, substantially as herein set forth. 14th. The combination, with the hollow plate C having the horizontal surface C^1, and the vertical surface C^3, of a polished plate C^4, lying upon the surface C^1, a plate C^5, extending from behind the rear edge of the polished plate C^4, upward along the surface C^3, and supporting a polished plate C^7, extending down to rest above the inner edge of the horizontal strip of veneer, and having a projecting lip to rest upon the upper edge of the vertical strip of veneer, and a spring or equivalent device for pressing said lip downward, substantially as and for the purpose specified. 15th. The combination, with the hollow plate C having the horizontal surface C^1, and the vertical surface C^3, of a polished plate C^4, lying upon said horizontal surface, the vertical plate C^5, extending behind the edge of the plate C^4, and bearing the polished plate C^7, extending downward almost to the plate C^4, and a lip to rest upon the upper edge of the vertical strip of veneer, springs or equivalent device to press down upon said plates and lip, and a rock-shaft for controlling said springs, substantially as and for the purposes set forth.

No. 38,384. Improvements in Lining Boilers or Digesters used in the Manufacture of Paper Pulp and for other Similar Purposes. (*Perfectionnements dans le doublage des chaudières ou digesteurs en usage dans la fabrication de la pâte à papier et autre objets semblables.*)

Carl Kellner, Vienna, Austria, 3rd March, 1892; 5 years.

Claim.—The herein described methods of forming the lining for boilers or digesters used in the manufacture of paper pulp and for other similar purposes, and consisting of two cement coatings composed respectively of ground slate made into a paste with "water glass"; and Portland cement only mixed with water or with a weak solution of "water glass"; these with or without an intermediate or third coating composed of half ground slate and half Portland cement mixed with water.

No. 38,385. Carriage Gear. (*Train de voiture.*)

Joseph J. Kinsman, Tampa, Florida, U. S. A., 3rd March, 1892; 5 years.

Claim—In a vehicle, the combination, with the axles, a bolster pivotally mounted on the centre of each axle, and a spring carried thereby and having eyes at its ends, of a clevis pivotally mounted in each of said eyes and depending therefrom, another clevis linked into the first, side bars passing loosely through the lower clevises, plates on the lower faces of the side bars pivotally connected with the lower clevises, and a wagon-body supported by the side bars, substantially as hereinbefore described.

No. 38,386. Car Brake. (*Frein de chars.*)

Anthony Benezette Pool and Joseph Jackson Beals, Boston, Massachusetts, U. S. A., 3rd March, 1892; 5 years.

Claim.—1st. In a car-brake a right and left hand worm fitted to rotate on the car body; nuts fitted to travel on said worm; means for rotating said worms from the car and connecting mechanism between said nuts and the car-brake beams, substantially as described. 2nd. In a car-brake beam, a right and left hand worm fitted to rotate on the car body; mechanism for actuating said worm from the car body; nuts fitted to travel in opposite directions on said worm; rods connecting said nuts with the car-brake beams and springs on said rods in engagement with said beams. 3rd. In a car-brake, the combination of a supplemental brake-beam; a right and left worm disposed between said beam and the main brake-beam; nuts fitted to travel on said worm; springs secured to said nuts and engaging the respective beams; and means for rotating the worm from the car body, substantially as specified. 4th. In a car-brake, a supplemental beam on the car body disposed adjacent to one brake-beam, and connected by rods with the brake-beam at the opposite end of the car, in combination with a worm rotatable from said body and connecting mechanism actuated thereby for spreading the adjacent beams. 5th. In a car-brake, a supplemental beam on the car body disposed adjacent to one brake-beam and connected by rods with the brake-beam at the opposite end of the car, in combination

with a worm rotatable from said body and connecting mechanism actuated thereby for spreading the adjacent beams, and springs for returning said beams when released by the worm, substantially as described. 6th. In a car-brake, a supplemental brake-beam in a plane parallel with the main beam, in combination with a right and left hand worm rotatable from the car body; nuts on said worm; semi-elliptic springs on said nuts bearing respectively against said beams; and springs for returning the beams when released, substantially as described. 7th. In a car-brake, an elongated brake-beam pendent from the car body; rods connecting said brake-beams with a supplemental beam pendent centrally from the car body, in combination with a worm rotatable from said body and connecting mechanism thereby for spreading adjacent beams, substantially as described. 8th. In a car-brake, a worm and means for actuating the same from the car body, in combination with a nut fitted to travel on said worm; a semi-eliptical spring pivoted to said nut; and balls mounted in sockets on the spring ends in position to engage the brake-beam, substantially as described. 9th. In a car-brake, a centrally pivoted half elliptical spring having its ends bearing against the car-brake beam, and mechanism for forcing said spring against said beam, substantially as described. 10th. In a car-brake mechanism, a signal device fitted to be projected beyond or above the car and actuated by the brake-rod, substantially as and for the purpose set forth. 11th. In a car-brake, a signal-plate fitted to be projected from the car-body, in combination with a brake-rod and mechanism connecting said plate and rod whereby the plate may be actuated as said rod is rotatated, substantially as described. 12th. In a car-brake, a rotary rod geared to the car-brake rod and bearing a sprocket-wheel; a worm bearing a sprocket-wheel connected with the rod sprocket; a nut on said worm; and a semi-elliptical spring pivoted centrally to said nut having its free end engaging the car-brake beam, substantially as described. 13th. In a car-brake, a right and left worm and actuating mechanism connecting with the car-brake rod, in combination with a swinging beam; swiveled rods connecting said beam with a brake-beam at the outer end of the car; nuts fitted to travel on said worm and half-elliptic springs pivoted on said nuts and bearing respectivsly against said swinging-beam and an adjacent brake-beam, substantially as described.

No. 38,387. Cattle Guard. (*Garde-bétail.*)

Kennet William Blackwell and George David Smith, both of Montreal, Quebec, Canada, 3rd March, 1892; 5 years,

Claim.—A surface cattle guard formed of a series of longitudinal metallic angle bars H, made from flat bars and having an undulating form in a vertical plane, so that the concave part of one comes opposite the convex part of its neighbour, said bars being joined to transverse angle irons E, F, and G, also made from flat plates, and filling blocks I, and J, all substantially as described and for the purposes set forth.

No. 38,388. Centrifugal Steam Injector.

(*Injecteur à vapeur centrifuge.*)

Martin Rose Ruble, Newark, New Jersey, U. S. A., 3rd March, 1892; 5 years.

Claim—1st. The improved centrifugal steam injector herein described consisting of a steam drum connected with the exhaust of a steam cylinder, a drum within said steam drum secured to a revolving shaft, a series of blades arranged on the outer periphery of said inner drum in the form of a continuous perfect screw, steam passages secured to the rear of said blades and extending down and through said inner drum, fans secured to the base of said steam passages and within the exhaust steam receiving chamber, and converging pipes, connecting said steam drum through openings in its rear plates directly with the boiler, all said parts being arranged and adapted to operate, substantially as described and for the purposes set forth. 2nd. In a steam injector, a centrifugal injecting mechanism consisting of a stationary steam drum connected with the boiler and with the exhaust chamber of a steam cylinder, a hollow drum adapted to revolve within said steam drum, a series of blades secured to the outer periphery of said inner drum in the form of a continuous perfect screw, steam passages secured to said blades and extending through said inner drum, and fans connected to said steam passages, all said parts being arranged and adapted to centrifugally force the exhaust steam through said steam drum into the boiler, substantially as described and set forth. 3rd. In a centrifugal steam injector, the combination, with a steam drum, centrifugal mechanism within said drum, and a driving shaft, of an auxiliary steam drum connected to said first mentioned drum and provided with a bearing for said shaft, and an air chamber between said bearing and the steam chamber, substantially as described and for the purposes set forth. 4th. In a centrifugal steam injector an inner drum *f*, secured to the driving shaft and arranged between the inner periphery of an outer steam drum and the outer periphery of the exhaust steam chamber, substantially as described and for the purposes set forth. 5th. The method or process substantially as herein described of injecting exhaust steam into a boiler consisting in conducting the exhaust steam into a steam drum, forcing the steam by revolving fans into steam passages, and then driving the steam by centrifugal force through said passages into the outer portion of said drum under great pressure, and then by the action of revolving blades forcing it through the pipes into the boiler.

No. 38,389. Car Coupler. (*Attelage de chars.*)

James Hoyt Brown, Denver, Colorado, U.S.A., 3rd March, 1892; 5 years.

Claim.—1st. The combination, in a car coupler, of the draw bar E, having a projection or stop *e*, at one end, and arms *a a*^{1}, having perforated ends bent or twisted at an angle to the body of said draw bar at the other end, and a swinging jaw G, having a hook *f*, formed with vertical ridges *i*, and corrugations *h*, at one end and perforated arms *g*, having a bend or twist at an angle to said jaw at the other end, substantially as described. 2nd. The combination, in a car coupler, of the draw bar E, having arms *a a*^{1}, bent or twisted at an angle to said draw bar, a swinging jaw G, having arms or plates *g*, bent or twisted at an angle corresponding to the arms of the draw bar, and a perforated extension *g*^{1}, cast with said arms or plate *g*, whereby said jaw may be locked rigidly in place, substantially as described. 3rd. The combination, in a car coupler, of a draw bar E, having arms *a a*^{1}, with their ends inclined at an angle and a round stem *e*^{1}, a swinging jaw G, having perforated arms *a a*^{1}, formed with their ends inclined to the body of the jaw, and a double hook *f g*, formed on the opposite end of said jaw and projecting therefrom at opposite sides, whereby said jaw may couple with a variety of types of automatic couplers, substantially as described. 4th. The combination, with the draw bar B^1, of a link and pin coupling, of a draw bar E, having a stop *e*, at one end, arms *a a*^{1}, having a bend or twist therein at the other end, and arranged below said first named draw bar, and riding on its stem, and a jaw G, having arms bent or twisted at an angle at one end and a hook *f*, at the other end, substantially as described. 5th. The combination, in a car coupler, of the draw bar E, having arms *a a*^{1}, formed with inclined bearing surfaces at their ends, a jaw G, having arms *g*, at one end formed with inclined bearing surfaces corresponding with the bearing surfaces of the draw bar arms, a standard P, pivotally mounted in an angle iron Q, a lever or rod N, secured to said standard, a chain M, connecting said rod and jaw, a hand lever R, pivotally secured to said standard, and a bar *s*, having a recess for locking or detaining said hand lever when the jaws are uncoupled, substantially as described.

No. 38,390. Nail Making Machine. (*Machine à clou.*)

Louis Goddu, Winchester, Massachusetts, U.S.A., 3rd March, 1892; 5 years.

Claim.—1st. In a machine for forming nails from wire like material, the combination of the following described instrumentalities, viz.: the feed mechanism to feed the wire, the combined cutting and forming mechanism to sever the wire and form a double blank and offset the same where the blank is to be separated to constitute the points for two nails, the carrying wheels for the blank, and the cutting mechanism to separate the double blank at its offset portion and form points for the nails, substantially as described. 2nd. In a machine for forming nails from wire like material, the combination of the following described instrumentalities, viz.: the feed mechanism to feed the wire, the combined cutting and forming mechanism to sever the wire to form a double blank and offset the same where the blank is to be separated to constitute the points for two nails, the carrying wheels for the blank, and the cutting mechanism to separate the double blank at its offset portion and form points for the nails, and the transfer to operate, substantially as described. 3rd. In a machine for forming nails from wire like material, the combination of the following described instrumentalities, viz.: the feed mechanism to feed the wire, the combined cutting and forming mechanism to sever the wire to form a double blank, and to offset the same, the carrying wheels for the double blank, the cutting mechanism to separate the double blank at its offset portion and form points for the nails, and the die rolls having die grooves, substantially as described. 4th. The combination in a nail making machine, of a former bar to bend the stock to form a double blank, and blank carrying wheels having grooves out of line with each other, as described, and a transferer to transfer the offset blanks into the said grooves, substantially as described. 5th. In a machine for making nails, the former bar, carrying wheels having grooves out of line, as described, and a transferer to transfer the offset double blank into the said grooves, combined with cutting mechanism to sever the offset blank and form points for the nails, substantially as described, without waste of stock. 6th. In a nail making machine, blank carrying wheels having grooves out of line, as described, and the cutters to sever the offset blanks, combined with die rolls having die grooves, and with headers to head the nails held in the said die grooves, substantially as described. 7th. The former and anvil to offset the double blank, the transferers, the carrier wheels for the blank and the cutting mechanism to sever the offset blank, combined with a shield having flanges to permit the escape from the grooves of the separate blanks, substantially as described. 8th. In a nail making machine, the carrier wheel and the compound shaft 40, 42, to which it is attached, substantially as shown and described.

No. 38,391. Car Coupler. (*Attelage de chars.*)

Hans B. Ledel, Minnesota, Minnesota, U. S. A., 3rd March, 1892; 5 years.

Claim.—1st. The herein-described draw-head for car-couplings, the same consisting of a draw-head having an open mouth, a frame-work

projecting laterally therefrom and having grooves or ways, a plate moving in the grooves thereof, a rigid link projecting from the plate, and means for holding the latter at either end of the frame-work, substantially as and for the purpose hereinbefore set forth. 2nd. The herein-described draw-head for car-couplings, the same consisting of a draw-head having an open mouth, a pin-support within said draw-head, a grooved frame-work projecting laterally from the mouth of the draw-head, a plate half the length of said frame-work, and moving in the grooves thereof, a link projecting from the centre of said plate, and means for holding the plate removable at either end of the frame-work, substantially as and for the purpose hereinbefore set forth. 3rd. The herein-described draw-head for car-couplings, the same consisting of a draw-head having an open mouth, a frame work projecting laterally therefrom and having grooves or ways, a plate moving in the grooves thereof, a rigid link projecting from the plate, and a vertical pin removably inserted through the centre of the frame-work for holding the plate at either end thereof, substantially as and for the purpose hereinbefore set forth.

No. 38,392. Foot Warmer. (*Chauferette.*)

Albert Augustus Hesser, Scuylkill, Pennsylvania, U. S. A., 3rd March, 1892; 5 years.

Claim.—A water-bag of triangular or wedge shape formed with filling-opening E, and side folds deepest where united to end piece B, and vanishing near meeting edge of the two sides, and also with a fold in the flat end D, thus permitting the bag when filled to stand upon said end D, and to lie flat when empty, all as and for the purpose described.

No. 38,393. Cloth Finishing Machine. (*Machine pour finir le drap.*)

William Hebdon, Boston, Massachusetts, U. S. A., 3rd March, 1892; 5 years.

Claim.—In a cloth finishing apparatus, a horizontal rotary perforated cylinder fitted to receive steam, and provided with journals c, c^1, bearings for said journals arranged at different heights to give the cylinder an inclined axis, whereby the lower internal surface of the cylinder is given a continuous incline from one end to the other, said cylinder being also provided with inwardly projecting tubes having bent or hooded inner ends and with an outlet for the escape of water, combined with a perforated cone or cone frustum having guard tubes g^1, and outlet orifices i, located at the lower end of the cylinder, and a steam supply pipe entering said cone frustum as set forth.

No. 38,394. Cooler and Aerator for Milk.
(*Garde-lait.*)

Henry Fowell, Belleville, Ontario, Canada, 3rd March, 1892; 5 years.

Claim.—In a milk cooler and aerator, the combination of the funnel shaped hopper a, the strainer C, having an inwardly turned wall provided with perforations g, said strainer supporting said hopper, the conical cooler B, provided with perforations W, and D, and having an exterior rim E, around the base, and legs L, said cooler at the apex supporting the strainer, as and for the purpose set forth.

No. 38,395. Method of Producing Lithographic Stippling. (*Méthode de production du pointillage lithographique.*)

Charles Hamilton Gordon, East Orange, New Jersey, U.S.A., 3rd March, 1892; 5 years.

Claim.—1st. The herein described method of producing lithographic stippling, consisting in first forming by transfer an even stipple on the stone or plate by an acid resisting ink, and then etching the unprotected part of the stone or plate, after which the ink stipple is removed from the stone, substantially as set forth. 2nd. The herein described method of producing lithographic stippling, consisting in first forming by transfer an even stipple on the stone or plate by an acid resisting ink, then etching the unprotected part of the stone or plate, after which the ink stipple is removed from the stone, and then graining the stone with fine sand, substantially as set forth. 3rd. The herein described method of producing lithographic stippling, consisting in first forming by transfer an even stipple on the stone or plate by an acid resisting ink, then etching the unprotected part of the stone or plate, after which the ink stipple is removed from the stone, then graining the stone with fine sand, and then forming the picture on the points of the stipple with the ordinary lithographic crayon, the solids being made with ink, substantially as set forth.

No. 38,396. Brake and Cleaner for Hemp.
(*Machine à broyer et nettoyer le chanvre.*)

John Daniel Shely and John Henry Shely, both of Lexington, Kentucky, U. S. A., 3rd March, 1892; 15 years.

Claim.—1st. In a hemp brake, the combination, with a reciprocatory breaker frame, of front stationary guides and rear stationary guides located on different horizontal planes adjacent to the opposite sides of said breaker frame, to afford a clearance for the stalks, substantially as described. 2nd. In a hemp brake, the combination, with a reciprocatory breaker frame, of guides adjacent to the front and rear sides of said breaker frame, for holding the stalks to the stroke of said frame, the rear upper guide being located below the horizontal plane of the front upper guide to afford a clearance for the stalks, substantially as described. 3rd. In a hemp brake, the combination, with a reciprocatory breaker frame, of guides adjacent to the front and rear sides of said breaker-frame, for holding the stalks to the stroke of said frame, the lower rear guide being located below the horizontal plane of the lower front guide, substantially as described. 4th. In a hemp cleaning machine, a frame provided with longitudinal slats, in combination with driving mechanism for effecting a vibratory movement of said frame in an elliptical path in a plane paralell with the slats, substantially as described. 5th. The combination of a reciprocatory breaker frame having a passage for stalks, stationary guides in front and rear of the breaker frame for holding the stalks to the action of said frame, and a cleaner having a vibratory frame provided with slats arranged longitudinally in the direction of the path of the fibre or stalks for removing hurds from lint, substantially as described. 6th. In a hemp brake, the combination of feed rollers, a breaker device, and a cleaner having a vibratory frame for removing hurds from the lint and dividing the gavel longitudinally as it passes lengthwise of said cleaner, substantially as described. 7th. In a hemp brake, the combination, with a cleaner, of a reciprocating breaker, and stationary guides in front and rear of said breaker, for holding the stalks to the action of the breaker, said front and rear guides being located in different horizontal planes, substantially as and for the purpose described. 8th. In a hemp cleaning machine, the combination, with a cleaning mechanism, of a shield located above said cleaning mechanism to receive the hurds which are thrown out from the upper side of the lint, substantially as described. 9th. A combined hemp brake and cleaner consisting of hemp breaking and cleaning devices, and a series of dividers located between the hemp breaking and cleaning devices, substantially as described. 10th. A combined hemp brake and cleaner, consisting of hemp breaking device, a cleaner having a vibratory frame for removing hurds from the lint and dividing the gavel longitudinally as it passes lengthwise of said cleaner, and means for vibrating said frame in a plane intersecting and in line with the movement of the fibre, substantially as described. 11th. In a hemp brake, the combination, with the obliquely reciprocating breaker frame supported in an oblique rearwardly inclined plane, of guides at the front and rear of said breaker frame for holding the stalks to the stroke of said frame, the lower rear guide being located below the plane of the front guides and below the limit of stroke given to the breaker frame to afford a clearance for the broken stalks, substantially as described. 12th. In a hemp brake, the combination, with the obliquely reciprocating rearwardly inclined breaker frame, the cleaners and the feed rollers, of the front stationary guides between said rollers and breaker frame, and the rear stationary guides between the breaker frame and cleaners, and located below the plane of the corresponding front guides, to afford a clearance for the broken stalks, substantially as described. 13th. In a hemp brake, the combination of the feed rollers, the breaker frame, the stationary and vibratory cleaner frames, the front stationary guides between the feed rollers and breaker frame, and the rear stationary guides between the breaker frame and cleaner frames, and located below the plane of the corresponding front guides, substantially as described. 14th. In a hemp cleaning machine, the combination, with the feed rollers and breaking device, the series of stationary dividers 19, placed between the breaking and cleaning device for dividing the hemp longitudinally in its passage to the cleaners, substantially as herein specified. 15th. In a hemp cleaning machine, cleaner frames separated from each other throughout their entire length, to afford a space for the gavel to be fed in at one end and discharged at the other, each of said frames comprising parallel longitudinal slats for removing the hurds from the lint and dividing the gavel longitudinally as it passes lengthwise between the frames and parallel with the cleaner slats, substantially as described. 16th. In a hemp cleaning machine, the stationary frame 21, provided with longitudinal slats 22, in combination with the vibratory frame 24, provided with longitudinal slats 25, with driving mechanism for moving the vibratory frame in the path, a, d, substantially as herein specified. 17th. A combined hemp brake and cleaner, consisting substantially of the feed rolls, the reciprocating breaker frame 4, stationary guides on each side of the breaker frame, and the stationary and vibratory cleaner frames provided with longitudinal cleaning slats, substantially as described. 18th. A combined hemp brake and cleaner, consisting of the hemp breaking device, the cleaner frames, a series of dividers located between the hemp breaking and cleaning devices, and means for actuating one of the cleaner frames, substantially as described. 19th. In combination with the cleaner frame 21, the conveyor M, and the shield O, substantially as specified. 20th. The combination, with an upper cleaner frame and a lower cleaner frame, each provided with longitudinal slats for removing hurds from lint, of a breaker frame having a slot for the passage of stalks, and stationary guides in front and rear of the breaker frame for holding the stalks to the action of said frame, the rear guides being located below the plane of the front guides to afford a clearance to the cleaner frames, substantially as described. 21st. The combination of the longitudinally slatted cleaner frames, the rearwardly inclined breaker frame, the feed rolls, the front stationary guides, the rear stationary guides located below the plane

of the front guides, and the stationary dividers located between the breaking and cleaning frames to divide the hemp longitudinally in its passage to the cleaners, substantially as described. 22nd. The combination of the feed rolls, the breaker frame, the stationary guides in front and rear of said frame, the dividers in rear of the breaker frame, the stationary and vibratory cleaner frames, and the conveyor located above the stationary cleaner frame, substantially as described.

No. 38,397. Method of Making Key Boards.

(Méthode de fabriquer des claviers.)

William Carl Zeidler, Toronto, Ontario, Canada, and Augustus Newell, Chicago, Illinois, U.S.A., 3rd March, 1892; 5 years.

Claim.—The herein described method of manufacturing key boards for pianos and organs, which method consists in applying a sheet of celluloid and a wooden blank face to face with an adhesive interposed between them, then bending said blank and celluloid with the convexity on the side of the celluloid, then subjecting the celluloid and blank to pressure while so bent until the adhesive and celluloid are set, then releasing the blank and celluloid from pressure and allowing the celluloid to shrink, substantially as shown and described.

No. 38,398. Protector for Closet Seats.

(Protecteur pour sièges de latrines.)

Thomas Avery Swann, Baltimore, Maryland, U.S.A., 3rd March, 1892; 5 years.

Claim.—A pocket closet seat protector of material impervious to water, and of substantially triangular form, having a main portion A, adapted to lie along the front of the seat, a flap a, adapted to be folded upon the underside of the part A, and the end flaps a^1, substantially as set forth. 2nd. A pocket closet seat protector of material impervious to water, and of substantially triangular form, having a main portion A, adapted to lie along the front of the seat and permanently provided with short pointed tacks C, having the flap a, adapted to extend down by the front edge of the seat or to be folded upon the underside of said part A, and having the end flaps a^1, substantially as set forth. 3rd. A folding pocket seat protector having pointed securing tacks adapted to hold the device in place during use, and to be covered by folding the protector, substantially as set forth.

No. 38,399. Apparatus for Playing Duplicate Whist.

(Appareil pour jouer le double whist.)

Cassius M. Paine, Milwaukee, Wisconsin, and James L. Sebring, Kalamazoo, Michigan, both in U.S.A., 3rd March, 1892; 5 years.

Claim.—1st. A tray for the game of duplicate whist, provided with four holders arranged to retain the several hands of the original play by themselves and in order for the duplicate play, substantially as and for the purposes set forth. 2nd. A tray for the game of duplicate whist, having four holders arranged to retain the orignal hands separate and in order for the duplicate play, and an indicator designating the proper position of the tray for the duplicate play with reference to the original play, substantially as and for the purposes set forth. 3rd. A tray for the game of duplicate whist, having four holders arranged to retain the original hands separate and in order for the duplicate play, an indicator denoting the proper position of the tray with reference to the players, and an index designating the leading hand, substantially as and for the purposes set forth. 4th. A tray for the game of duplicate whist, having four holders arranged to retain the original hands separate and in order for the duplicate play, said holders consisting of elastic bands extending over the edges of the tray toward the center thereof, and attached to the tray at their ends, substantially as and for the purposes set forth. 5th. A series of trays for the game of duplicate whist, having marks on the back to distinguish the individual trays, each tray being provided with four holders arranged to retain the original hands separate and in order for the duplicate play, an indicator denoting the proper position of the tray with reference to the players, and an index designating the leading hand, substantially as and for the purposes set forth.

No. 38,400. Steam Engine. (*Machine à vapeur.*)

Ransford W. Basom, Pittsburg, Kansas, U.S.A., 4th March, 1892; 5 years.

Claim.—1st. In a steam engine, a cylindrical valve chamber open at both ends, in combination with a hollow or tubular exteriorly screw threaded reciprocating valve stem closed at both ends, four piston heads interiorly screw threaded and adjustably mounted, respectively, near the ends and near the center of said valve stem, ports or openings formed in the latter between the two upper and the two lower piston heads, respectively, and connecting the upper and lower compartments formed by said piston heads, exhaust and live steam pipes connected with the valve chamber, to register, respectively, with the central and with one of the communicating chambers formed by the piston heads upon the valve stem, and a port connecting the valve chamber with each of a pair of single acting cylinders, substantially as and for the purpose set forth. 2nd. The combination, with a pair of single acting cylinders closed at their upper ends and having the reciprocating pistons, of the single ports conecting the upper ends of said cylinders with a valve chamber open at both ends, a valve arranged to reciprocate in said chamber and having a tubular exteriorly screw threaded stem and four interiorly screw threaded adjustable heads or pistons forming two end compartments that communicate through said tubular stem and a central separate compartment, and the exhaust and the live steam pipes connected, respectively, to the said central and to one of the said communicating compartments, substantially as set forth. 3rd. In a steam engine, the combination of two pairs of vertical cylinders arranged centrally over a single crank shaft and having closed upper ends, the reciprocating pistons, the pitmen connecting the pistons of each pair of cylinders with diametrically opposite cranks, the cranks of the two pairs being disposed at right angles to each other, two cylindrical valve chambers open at both ends, single ports connecting the upper end of each cylinder with one of said valve chambers, the reciprocating valves arranged in said valve chambers and comprising each a tubular stem and four heads or pistons forming two end compartments that communicate through said tubular stem and a central separate compartment, the exhaust and live steam pipes connected, respectively, to the said central and to one of the said communicating compartments, and the pitmen connecting the valves with eccentrics upon the crank shaft, substantially as set forth. 4th. In an engine, the combination, with a cylindrical casing open at both ends, of a reciprocating valve comprising two communicating end compartments and a separate central or intermediate compartment formed by the walls of the casing, and discs or pistons mounted so as to be longitudinally adjustable upon the valve stem, said casing being provided with suitably located openings for the admission and escape of steam and for its passage to and from the cylinders, and said valve stem being provided with a longitudinal opening having ports whereby communication is established between the end compartments, substantially as set forth.

No. 38,401. Thill Coupler. (*Armon de limonière.*)

Archibald Paul, Cohoes, New York, U. S. A., 4th March, 1892; 5 years.

Claim.—1st. In a thill-coupling, the combination of a clip, a thill-iron having a conical eye therein, the adjustable sleeve fitted in one of the arms of the clip and having the inner conical or tapered end fitted snugly in said thill-iron, and the interior screw-threads at its outer end, and a bolt passing through the clip and sleeve, engaging the screw-threads in said sleeve, and having a nut which bears against the outer end of the sleeve, substantially as described. 2nd. In a thill-coupling, the combination of a clip, a thill-iron having a conical eye therein, a sleeve passing through one of the clips, with its tapered inner end fitting in the eye of the thill-iron and having the interior screw-threads at its outer end, a bolt passing through one arm of the clip and screwed into the threaded end of the sleeve and having the threaded portion 13 near its head, and a spring arranged to straddle an arm of the clip and having a slotted end fittted loosely on the bolt and a threaded eye at its opposite end, into which eye the threaded portion 13 of the bolt is screwed, substantially as described.

No 38,402. Nut Lock. (*Arrête-écrou.*)

Joseph Broadly, Elkhorn, Manitoba, Canada, 4th March, 1892; 5 years.

Claim.—1st. The combination, with a pair of rotary parts, turning one upon or within the other, having one or more longitudinal grooves on their engaging surfaces, of a locking piece or strip insertible in said grooves, when in registration, adapted to frictionally lock the said parts together when either is turned so that the grooves are out of registration. 2nd. The combination, with a screw-threaded bolt and a screw-threaded nut having longitudinal grooves on their engaging surfaces, of a locking piece or strip insertible within the grooves, when in registration, adapted to frictionally lock the nut to the bolt, when either is turned, so that the grooves are out of registration. 3rd. The combination, with a pair of rotary parts, turning one upon or within the other, having longitudinal grooves on their engaging surfaces, of a locking piece or strip composed of soft metal insertible within said grooves when in registration, adapted to be crushed between said parts, when either is turned so that the grooves are out of registration, substantially as and for the purpose set forth. 4th. The combination, with the screw-threaded bolt A, having the groove a, of the nut B, having the groove b, and the locking strip C, composed of soft metal, arrangeable and operating substantially as described.

No. 38,403. Flour Bolt. (*Blutoir.*)

Charles Aloyes Schied, Rochester, New York, U.S.A., 4th March, 1892; 5 years.

Claim.—The combination, with the beater C, consisting of one stationary and one turning head, and connecting slats, of the coupling k, sliding on the shaft D, provided with teeth that engage with teeth of the turning head, and the spring m attached to the shaft and locking the coupling in place, as herein shown and described.

No. 38,404. Protector and Cell for Queen Bees.

(Protecteur et cellule pour les reines abeilles.)

Noah Dibble West, Middleburg, New York, U.S.A., 4th March, 1892; 5 years.

Claim.—1st. The combination, in a queen nursery, of one or more vertically arranged queen-cell protectors, and one or more subjacent queen cages in communication with such protectors, each protector being provided at its upper end with a suitable cover and having at its lower end an orifice through which the queen may issue into the subjacent cage when the cell within the protector is hatched, substantially as hereinbefore specified. 2nd. The combination, in a queen nursery, of a vertically arranged queen-cell protector, and a subjacent queen cage, communicating with each other at the lower end of the protector, and both having bodies of spiral wire, with attaching spurs formed by the upper extremities of the wire of both, and adapted to be thrust into or through a honeycomb to unite and support them, substantially as hereinbefore specified. 3rd. The combination, with a suitable cover, of a queen-cell protector body of spiral wire, having an attaching spur and cover holding close coils at its upper end and a contracted lower end provided with a queen outlet, and a queen cage having a spiral wire body, the upper end of which incloses said lower end of the protector, and has like close cribs to receive the same, or a different cover after the protector is detached, substantially as hereinbefore specified. 4th. A queen-cell protector, composed of a spiral wire body, having an attaching spur at its upper end and a contracted queen outlet at its lower end, and a suitable cover applied to its upper end, substantially as hereinbefore specified. 5th. A queen-cell protector composed of a spiral wire body, having an attaching spur and cover holding close coils at its upper end and a contracted queen outlet at its lower end, and a suitable cover held between said close coils by the elasticity of the wire, substantially as hereinbefore specified. 6th. A queen cage, constructed with a spiral wire body, having an attaching spur at its upper end, substantially as hereinbefore specified. 7th. A queen cage constructed with a spiral wire body, having cover holding close coils at its upper end, substantially as hereinbefore specified. 8th. A queen cage having a spiral wire body provided at its lower end with a cup shaped queen feeder closing said lower end of the body, substantially as hereinbefore specified. 9th. A queen cage body composed of spiral wire, with a tapering lower end which is provided with a feeder in the form of a flanged cup tightly fitted into the extremity of said lower end, substantially as hereinbefore specified. 10th. The combination, with a suitable cover, of queen-cell protector and queen cage bodies of spiral wire of one and the same pattern except as to length, the protector body being closed at top by said cover, and having a tapering lower end provided with a queen outlet, and the longer queen cage body having its upper end filled by said lower end of the protector body, and having its contracted lower end provided with a queen feeder, substantially as hereinbefore specified.

No. 38,405. Varnish Bottle, Etc. *(Bouteille à vernis, etc.)*

Thomas Graham Watson, Paris, Ontario, Canada, 4th March, 1892; 5 years.

Claim.—1st. The pan A, hinged to the bottle B, substantially as and for the purpose specified. 2nd. The pan A, provided with fingers D, pivoted to the band C, movably connected to the neck of the bottle B, substantially as and for the purpose specified. 3rd. The pan A, provided with fingers D, pivoted to the band C, movably connected to the neck of the bottle B, in combination with the pot E, provided with hook F, to fit between the band C, and neck of the bottle B, substantially as and for the purpose specified.

No. 38,406. Car Coupler. *(Attelage de chars.)*

Charles Henry Shuttleworth and Frank F. Hoyer, both of Corunna, Michigan, U.S.A., 4th March, 1892; 5 years.

Claim.—1st. In a car coupler, the combination with the draw head having a vertical opening therethrough, and provided on its upper surface with suitable projections, of a link pivoted in said vertical opening, the outer end of said link provided with a cross piece adapted to engage in projections on the adjacent draw head, substantially as described. 2nd. In a car coupler, the combination, with the draw head having a vertical opening therethrough and provided on its upper surface with suitable projections, said projections recessed on their inner sides, of a link pivoted in said vertical opening, the outer end of said link having a T shape, whereby it may engage in the recesses on the inner face of the projections of the adjacent draw head, substantially as described. 3rd. In a car coupler, the combination, with the draw head, provided with a vertical opening therethrough, and a link pivoted in said vertical opening, of a crank arm engaged to the pivot of said link, and devices extending from said crank arm to the outer edges or top of the car, whereby the link may be raised without going between the cars, substantially as described. 4th. The combination, with a car frame and draw head having the opening E and shaft F, of the cross piece G having the block S located in said opening, and against which the end of the draw head bears, all arranged and operating substantially as shown and described. 5th. The combination, with a car frame and draw head having the opening E and shaft F, of the cross piece G having the block *g* located in said opening, and against which the end of the draw head bears, and the spring H bearing against said block and said draw head for keeping the latter in its advanced position, substantially as described.

No. 38,407. Process of Producing Ozone Water and Ozone Oil. *(Appareil pour la production de l'eau et de l'huile d'ozone.)*

Dr. Bernhard Graf and Fritz Piekenbrock, assignees of Carl Friedrich Wilhelm Stelzer, all of Berlin, Prussia, 4th March, 1892; 5 years.

Claim.—My improved process for producing ozone water and ozone oil, which will retain all its properties for a considerable length of time, by adding a small quantity of hydrochloric acid or hydrochloric acid with a chloride or chloride compound, substantially as and for the purpose specified.

No. 38,408. Ammonia Engine. *(Machine à ammoniaque.)*

Joseph Henderson Campbell, New York, U. S. A., 5th March, 1892; 5 years.

Claim.—1st. In ammonia engines, the method herein described of absorbing the exhaust ammonia vapor, which consists in bringing said vapor in contact with partially spent aqua ammonia (a solution) drawn from the boiler, and then subjecting such solution in presence of unabsorbed vapor to successive absorptions simultaneous with coolings taking place within a series of lateral tubes in a horizontal absorber, aiding each such absorption by removing the access of sensible heat generated thereby, substantially as and for the purpose described, 2nd. In ammonia engines, the method herein described of aiding absorbtion of the exhaust vapor, which consists in interposing between the inlet of a horizontal absorber, drained by gravity, and the feed pump, a body of absorbing liquid, through which any free gas must pass before reaching the feed pump, substantially as set forth. 3rd. In ammonia engines, the method herein described of absorbing exhaust ammonia vapor from the engine, which consists in bringing such vapor in contact with a continuous stream of cooled, partially spent ammonia solution from the boiler, then subjecting such solution and unabsorbed vapor to successive absorptions and coolings after each absorption, in a horizontal absorber, to remove the access of sensible heat produced thereby, draining the solution from such absorber by gravity, into a partially filled closed vessel or well, entering the same below the surface of ammonia solution contained therein, substantially as and for the purpose described. 4th. In ammonia engines, the method herein described of absorbing vapor of ammonia, which consists in passing the same together with cooled and partially spent ammonia solution from the boiler into the upper part of a horizontal absorber, draining therefrom, by gravity, such solution and absorbed gas and free gas adhereing to such solution, through lateral tubes and vertical chambers, substantially as described. 5th. The method herein described of operating an aqua ammonia engine, which consists in propelling the engine with vapor of ammonia expelled from aqua ammonia in a boiler by heat, bringing the exhaust vapor in contact with cooled, partially spent ammonia solution from the boiler, subjecting such solution together with unabsorbed exhaust vapor to successive absorptions, simultaneous with coolings, taking place within a series of lateral tubes in a horizontal absorber, alternating with the evolutions of heat generated by absorption in vertical chambers, and returning the liquid, which has absorbed the exhaust ammonia vapor to the boiler, substantially as described. 6th. The method herein described of operating an aqua ammonia engine, consisting in expelling ammonia vapor by heat from aqua ammonia in a boiler, propelling the engine with such vapor, passing the exhaust ammonia vapor together with cooled partially spent ammonia solution, withdrawn from the boiler into the upper part of a horizontal absorber, provided with lateral tubes, so as to drain the liquid therefrom by gravity into a secondary absorber, provided with cooling surfaces, entering it below the surface of a body of ammonia solution contained therein, and returning the contents of such secondary absorber to the boiler, substantially as set forth. 7th. The method herein described of operating an aqua ammonia engine, consisting in expelling ammonia vapor by heat from aqua ammonia in a boiler, propelling the engine with ammonia vapor, passing the exhaust vapor together with partially spent ammonia solution from the boiler into the upper part of a horizontal absorber, provided with lateral tubes and vertical chambers so as to drain the liquid therefrom by gravity into a secondary absorber provided with cooling surfaces, entering it below the surface of a body of ammonia solution contained therein, then passing such liquid into a well from which it is returned to the boiler, substantially as set forth. 8th. In ammonia engines, the method herein described of increasing the efficiency of the engine, which consists in removing the exhaust from the cylinder by bringing the same in contact with absorbing liquid, and forcing the two combined into a closed well, by means of a suction and force pump, situate and operating between an absorbing apparatus and the well, substantially as described. 9th. The method herein described of operating a vapor pump or secondary engine in combination with an aqua ammonia engine, the same consisting in driving such pump or secondary engine directly by vapor of aqua ammonia and absorbing the exhaust vapor of said pump or secondary engine by the absorbing liquid which serves also to absorb the exhaust of the principal

engine, substantially as set forth. 10th. The method herein described of relieving the boiler of an aqua ammonia engine of an excess of pressure, which consists in transferring the vapor from the boiler directly to the absorbers and well, without passing it through the engine, and bringing said vapor in contact with a continuous stream, under boiler pressure, of the cooled weak solution, or fluid, while in transit to the absorbers, as set forth. 11th. In an aqua ammonia engine, the method herein described of preventing scale or other foreign matter from passing from the boiler to the absorbing jet, which consists in interposing in the pipe connecting the same a suitable strainer, substantially as set forth. 12th. The method herein described of lubricating the cylinder of an aqua ammonia engine, by injecting into its valve chest aqua ammonia under boiler pressure, and withdrawn from the boiler. 13th. In an aqua ammonia engine, the combination with the boiler of a spray jet and absorbers for absorbing the exhaust vapor, an air pump, receiving well and a feed pump, said well being placed between said pumps, substantially as set forth. 14th. In an engine of the character described, the combination with an apparatus for reabsorbing the exhaust vapor, the pump P^1, placed between the absorbers and the well W, and a by-pass around said pump, with suitable valve, substantially as set forth. 15th. In an engine of the character described, the combination with the boiler and spray pipe J, of the casing U, with detachable bottom and containing the strainer Z, substantially as set forth. 16th. In an engine of the character described, the combination with the boiler and the spray pipe of the strainer Z, and cock C^4, substantially as specified.

No. 38,409. Fanning Mill. (*Tarare cribleur.*)

Ninian Michael Newkirk, Chatham, Ontario, Canada, 5th March, 1892; 5 years.

Claim.—1st. In a fanning mill, the combination of the blast fan M, with the perpendicular air trunk E, having a grain discharge D, at the bottom and a deflecting board U, at the top, whereby the grain passes twice through the air blast, and also substantially as and for the purpose hereinbefore set forth. 2nd. The combination of a shaking shoe L, with the chess board T, and the dividing passage H, substantially as and for the purpose hereinbefore set forth.

No. 38,410. Rotary Engine. (*Machine Rotative.*)

Gorden C. Hollar, Bethany, Missouri, U.S.A., 5th March, 1892; 5 years.

Claim.—1st. In a rotary engine, the wheel, the rim of which is provided with buckets in its opposite sides or faces, and with annular flanges adjacent to the inner and outer edges of said buckets, in combination with the segmental casing-strips having ribs fitting between the said annular flanges, and in contact with the faces of the buckets and steam inlet and exhaust-ports, substantially as set forth. 2nd. The combination of the wheel having the buckets and the annular flanges adjacent to said buckets, with the casing-strips having the ribs fitting between said annular flanges and segmental flanges bearing against the latter, substantially as set forth. 3rd. In a rotary engine, the combination of the wheel having the buckets and the annular flanges adjacent to said buckets, the casing-strips having the segmental ribs and flanges and provided with radial flanges at their inner or adjacent edges, the segmental casing-strips mounted in said flanges and having the segmental ribs and flanges, said ribs being provided with bucket-shaped recesses, and the inclined or slanting steam and exhaust ports communicating with said recesses, substantially as set forth. 4th. In a rotary engine, the combination of the wheel the rim of which is provided in opposite sides with triangular buckets and with annular flanges adjacent to the inner and outer edges of said buckets, the segmental casing plates arranged on opposite sides of the said wheel in pairs and having the segmental ribs and flanges to make tight joints, the segmental plates mounted detachably between the said casing plates and having the steam and exhaust ports and provided with bucket-shaped recesses in their inner sides, communicating with said steam and exhaust ports, and the supporting-standards for the casing-plates, having buckets provided with bearings for the wheel-carrying shaft, substantially as and for the purpose set forth.

No. 38,411. Revolving Mold for Glassware.

(*Moule tournant pour la verrerie.*)

Asa G. Neville and William H. Meacham, both of Blairsville, Pennsylvania, U. S. A., 5th March, 1892; 5 years.

Claim.—1st. A glass-mold having fixed end portions and an oscillatory intermediate or centre portion, substantially as described. 2nd. The combination, with the glass-mold and the standard, of the two-part cover hinged together by the pin, which in turn is hinged to the said standard, substantially as described. 3rd. The combination, with a glass-mold, of an oscillatory portion D, and a two-part cover E, substantially as and for the purpose described. 4th. The combination, with the glass-mold having separable parts, of spray-pipes having their valve stems adapted to be operated by the said movable or separable parts, substantially as described. 5th. The combination, with the glass-mold having movable parts, of the spray-pipes having automatically-closing valves, the valve-stems being projected within the path of said movable parts to be struck thereby when opened, substantially as and for the purpose described.

No. 38,412. Concrete Stone Gulley.

(*Egouts en pierre de béton.*)

Ebenezer North, London, Ontario, Canada, 7th March, 1892; 5 years.

Claim.—1st. A catch basin A, communicating with a sewer or drain, and formed with or without the trap B, and a pocket D, all made of artificial concrete stone, in combination with the grate C, substantially as shown and described and for the purpose specified. 2nd. A catch basin A, communicating with a sewer or drain and formed with or without the trap B, and the pocket D, all made of artificial concrete stone, in combination with the grate C, arms E, E, and trap F, substantially as shown and described and for the purpose specified. 3rd. A catch basin A, communicating with a sewer or drain, and formed with or without the trap B, and pocket D, and the receptacle H, all made of artificial concrete stone, in combination with the grate C, and cover G, substantially as shown and described and for the purpose specified.

No. 38,413. Loom for Weaving. (*Métier à tisser.*)

Archibald Hay, Woodstock, Ontario, Canada, 7th March, 1892; 5 years.

Claim.—1st. In a loom, the combination of a pattern drum with removable pins, a series of treadles pivotally attached to a series of upright spindles with eyelets through which the warp strands are threaded, and expansion springs for keeping the upright spindles normally raised, substantially as described and specified. 2nd. In a loom, the combination of a pattern drum with removable pins, a ratchet disc, a counterweighted balance lever pivoted on the spindle of the pattern drum, a spring dog adapted to engage with the teeth of the ratchet disc, a notched bent arm, a spring guide, and a lug on a wheel adapted to engage with a notch on the bent arm, and a spindle connected with the balance lever and pivoted to the upper part of the bent arm and provided with an expansion spring bearing on the upper side of the balance lever, substantially as described and for the purpose specified. 3rd. In a loom, a nipper rod journaled on the weft frame, and provided with nippers adapted to open and clutch the weft strand at the end of the transverse throw of the rod and draw the weft strand through the shed, a forked rod pivotally connected with a cross-head on the upper-rod, a bracket to which the forked rod is pivoted, attached to the batten frame, a contracting spring connected with the bracket and forked rod, an arm pivoted to the batten frame and having a head adapted to move on an inclined plane on the frame of the machine, an adjustable link pivoted to the pivoted arm, as well as to the forked rod, and a pivoted arm or pitman attached to a driving wheel and to the upper part of the batten frame, for operating the same, substantially as described and in the manner specified. 4th. The ratchet wheel S^1, in combination with expansion spring X, lever 20, pivoted on spindle 21, of the ratchet-wheel *a*, spring dog 22, weft frame L, on batten H, and feed roller F, substantially as specified. 5th. The ratchet-wheel S^1, in combination with expansion spring X, lever 20, pivoted on spindle 21, spring dog 22, batten frame H, feed roller E, feed roller F, warp strands *d*, threaded through the machine, and tension rods V, substantially as specified. 6th. The combination, with the feed roller E, journaled on the frame of the machine, of the feed roller F, adjustably journaled, and the adjusting screw rods *f*, substantially as described and specified. 7th. The combination, of the batten H, pivoted to the frame, the pitman J, and the driving wheel K, the reed T, having compartments *i*, and adapted to pick the weft strands *p*, in place between the warp strands d^1, substantially as described and in the manner specified. 8th. The nipper-rod M, having bearings on the weft frame L, and adapted to reciprocate transversely, in combination with rod 4, adapted to open and close the jaws Y Y^1 of the nippers, the spring dog Z, on fixed spindle Z^1, pivoted lever 2, and spring 5, substantially as specified. 9th. The nipper-rod M, having bearings on the weft frame L, and adapted to reciprocate transversely, in combination with rod 4, adapted to open and close the jaws Y Y^1, of the nippers, the spring dog Z, on fixed spindle Z^1, pivoted lever 2, spring 5, batten frame H, adapted to swing longitudinally, bracket 11, and adjustable dog 12, substantially as specified. 10th. The combination, with the nipper-rod M, of the rod 4, held in position on the nipper-rod M, and adapted to move back and forward to open and close the pivoted jaws Y Y^1 of the nippers, the pin 7, diagonal slot 8, slot 9, and diagonal slot 10, substantially as specified. 11th. The combination with the feed rollers E and F, of the strings 13, thread through the upright spindles *c*, and compartments *i*, in the reed I and spring clutch 15, which holds the strings passing from the box, substantially as described and specified. 12th. The combination, of the scissors W, fixed to the side of the frame, string l^1, and weft frame L, adapted to swing longitudinally along with batten frame H, substantially as described and specified. 13th. The combination, with the warp strands *d*, threaded through upright spindles *c*, and compartments i^1, of the spring tension spindle *e*, hooked tension rods V, feed rollers E and F, and beam G, on which the woven fabric is wound, substantially as specified. 14th. The combination, of the pattern drum A, adapted to partially rotate on each revolution of the driving wheel K, the removable pins *a*, the pivoted treadles *b*, the upright spindles *c*, through which the warp strands *d* are threaded, and the expansion spring H, substantially as specified.

15th. The combination, with the bent arm U, notched at r, of the lug u^1, on driving wheel K, the balance lever T, counterweighed at g, spring dog t, ratchet disc B, expansion spring w, on spindle u, and pattern drum A, substantially as specified. 16th. The combination of the batten frame H, adapted to swing longitudinally on pivot k^1, the arm P, pivotted at l, head o, inclined plane R, adjustable link Q, spring S, bracket O, and forked arm N, pivotally connected with the nipper-rod M, so as to give the nipper-rod a transverse throw at each movement of the batten frame H, substantially as specified. 17th. In a loom for weaving cane or other material, the combination of a pattern drum operated so as to make a partial rotation while the batten frame is caused to swing once backward and forward longitudinally, and while the nipper-rod carrying the nippers is caused to move once backward and forward transversely, gripping and drawing a strand of the weft through the shed, and releasing the strand automatically from its grip when drawn through, removable pins on the pattern drum adapted to press down a series of treadles pivotted to upright spindles through which the warp strands are threaded, so as to form the lower strands of the shed, springs for holding up when their treadles are not in contact with the pins on pattern drum, the upright spindles which carry the warp strands forming the upper strands on the shed, a reed with compartments for warp strands on the batten frame pressing into place the upper strands between the warp strands at the forward swing of the batten, means for automatically feeding forward at each partial rotation of pattern drum the warp strands, while the weft strand is being pressed into place by the reed, and the woven fabric wound on the beam, and means for regulating the tension of the warp strands, substantially as described and in the manner specified. 18th. In combination, with the batten frame adapted to swing longitudinally, of a cam or head adapted to move on an inclined plane fixed to the frame of the machine, along with the batten-frame, and to give a transverse throw to the nipper-rod, substantially as specified. 19th. In combination with the spindle frame D, of adjustable spring tension-spindles c, arranged in alternating rows, and having heads 34, adapted to adjustably press the warp strands d, on the base of the spindle frame, and the guide wires 32, substantially as specified. 20th. In combination with the upper feed roller E, and adjustable feed roller F, the hand wheel 30, designed to move forward the warp strands and woven material, substantially as described and for the purpose specified.

No. 38,414. Turpentine and Means for Producing the Same. (*Térébenthine et moyen de production.*)

Thomas Drake, Huddersfield, Yorkshire, England, 7th March, 1892; 5 years.

Claim.—The treatment of petroleum spirits, shale naptha and other like spirits, which treatment consists in forcing therethrough atmospheric air, or, by distillation, increasing the specific gravity of same, forcing chlorine gas through same and removing and neutralizing the accumulated acid, all in the manner herein described, whereby such spirits are converted into a new turpentine spirit or body.

No. 38,415. Method of Constructing Tea Chests and Lining and Covers for Tea Chests. (*Méthode de construire, doubler et couvrir les caisses à thé.*)

August Schilling, Oakland, California, U.S.A., 7th March, 1892; 5 years.

Claim.—1st. As a new article, a chest for transportation of tea or the like, having its sides or ends provided with strengthening strips so as to obviate splitting or breakage, substantially as set forth and described. 2nd. A chest for transportation of tea or the like, having its end or side pieces provided with grooves and strengthening strips or pieces fitting within said grooves, for overcoming liability of same splitting or breaking, substantially as set forth and described. 3rd. A tea chest, or the like, provided with an inner lining adapted to be opened, so as to allow for removal of contents, and to allow for hermetical sealing or closure, irrespective of the chest cover, substantially as set forth and described. 4th. A tea chest, or the like, having a lining adapted to permit of closing and opening, said lining upon folding or closing to hermetically seal, thereby providing against deterioration due from exposure, substantially as set forth and described. 5th. A tea chest, or the like, having an inner lining provided with a reinforcing strip, the outer ends of which are flexible and project beyond the sides of the lining, said flexible ends adapted to form a clamp or retainer for the lining when closed, thereby permitting the same to be hermetically sealed, substantially as set forth and described. 6th. A tea chest, or the like, having an inner lining adapted to permit of closing and opening, and a supplemental cover flexibly connected with the chest, said cover adapted to be inclined by the closure of the chest lining, substantially as set forth. 7th. A tea chest, or the like, having an inner removable lining adapted to permit of closing and opening, metallic frame, or its equivalent, secured to the chest within the lining, and supplemental cover pivotally secured to said frame and adapted to rest thereon when closed, and be inclosed by the closure of the lining, substantially as set forth.

No. 38,416. Gas Engine. (*Machine à gaz.*)

Henry Thomas Dawson, Salcombe, Devon, England, 7th March, 1892; 5 years.

Claim.—1st. A gas engine having a reciprocating and rotating piston serving as valves, and in which, by the action of the piston, first a charge of gas and air is admitted to the cylinder, then by the return of the piston this charge is compressed; afterwards at the commencement of the next stroke the compressed charge is fired and when the piston again returns the products of combustion are expelled from the cylinder, substantially as described. 2nd. In a gas engine, a piston geared with the crank pin and thus rotated continuously in one direction, such piston operating as a valve controlling the admission of the gaseous charge to the engine, the ignition of the charge and the escape of the products of combustion, substantially as described. 3rd. A gas engine having a cylinder with spirally arranged ports coinciding with the track of a port (or ports) in a reciprocating and continuously revolving piston, so arranged that the piston serves as a valve for the admission of the gaseous charge to the cylinder and for the exhaust therefrom, substantially as described. 4th. A gas engine having a cylinger with spirally arranged ports coinciding with the track of a port (or ports) in a reciprocating and revolving piston, in combination with a governor controlling a gas and air inlet valve, and operating to close or partially close the valve, thereby varying the quantity of the charge whilst the proportions of gas and air remain approximately constant, substantially as described. 5th. A gas engine having an ignition apparatus consisting of a tube or capsule contained in a furnace chamber and heated externally by the combustion of gas urged by a blast, substantially as described. 6th. In combination with the tube or capsule of the ignition apparatus, the vent or passage a^4, by which, when the compressed charge is placed in communication with the ignition apparatus, a portion of the charge expels inert gas from the mouth of the ignition tube or capsule and entering it becomes ignited, substantially as described. 7th. A gas engine having a piston fitted with an internally projecting tube b^{xx}, through which the combustible charge is admitted, such tube also serving to retain a portion of the entering charge and to carry it to the ignition port, substantially as described. 8th. A gas engine having an ignition apparatus consisting of a furnace chamber lined with refractory non-conducting material partly sunk in the cylinder walls, and a tube or capsule so mounted therein as to lessen as much as possible conduction to the walls of the cylinder and heated by the combustion of gas within the furnace chamber, substantially as described. 9th. A gas engine having an ignition apparatus consisting of a tube or capsule contained in a furnace chamber, in combination with the devices for heating the tube externally by the combustion of gas at first slowly to obtain uniform expansion, then by a blast to obtain a high state of incandescence, substantially as described. 10th. A gas engine having an ignition apparatus wherein a seated tube or capsule is used for igniting the charge, and the said tube or capsule is held in position by its open end fitting air tight to a seat around the ignition port and is pressed upon by the elastic pressure of a spring, thus allowing the tube or capsule to expand or contract and also allowing it to be heated close up to the point of contact with its seat upon the ignition port. 11th. A gas engine having an air pump with disconnecting and adjusting devices to permit of its being worked by hand or by the engine, and thereby producing a blast for the supply of air and gas to the ignition apparatus, substantially as described. 12th. A gas engine having an air pump as above described and an air storage vessel for supplying a jet of air for starting the ignition apparatus and to equalize the blast. 13th. A gas engine having in combination an air pump, and ignition apparatus supplied by the said pump and a loaded valve or its equivalent, by which, when sufficient pressure is obtained, surplus air may escape, so that whatever the speed of the engine the pressure of the blast may remain constant. 14th. A gas engine having in combination an air pump supplying air to an ignition apparatus, an air storage vessel and head of water for more thoroughly equalizing pressure and providing escape for surplus air, substantially as described. 15th. A gas engine having in combination with air vessel b the cock j, pipe j^1, stop valve j^2, and perforated pipe j^3, for continuing the blast for the ignition apparatus by using a small portion of gases from the working cylinder. 16th. A gas engine having in combination, the pipe and valve w, receiving vessel w^1, return pipe w^2 and outlet pipe w^3, for ventilating the crank chamber and returning any escaping lubricant to the crank chamber. 17th. A gas engine having an ignition apparatus in which is a reel-shaped plug or fitting m, with outer annular gas and air passage, fitted within the cylinder walls and having a seat for the fitted mouth of the ignition tube or capsule and conveying passages for playing the mixed gas and air on the part of the ignition tube nearest to the cylinder, combined with refractory lining and wire gauze m^4, for preventing the flame reaching the annular passage m^2. 18th. A gas engine in which the piston is geared with the crank pin, substantially in the manner shown by the annexed drawings, so that the piston may rotate continuously whilst it travels to an fro within the cylinder.

No. 38,417. Lint Package. (*Emballage de la filasse.*)

James Wood Johnson, New Brunswick, New Jersey, U.S.A., 7th March, 1892; 5 years.

Claim.—1st. As a new article of manufacture, an absorbent cotton lint package, consisting of a homogeneous absorbent cotton bat

formed in a thin sheet, having one of its surfaces impregnated with a solution of starch pressed therein in the proportion to the thickness of the package, substantially as described. 2nd. As a new article of manufacture, an absorbent cotton lint package, consisting of a homogeneous absorbent cotton bat formed in a thin sheet, having its top and bottom surfaces impregnated with an adhesive solution pressed therein and indented or pebbled, substantially as described.

No. 38,418. Pulsating Steam Pump.

(Pompe à vapeur à pulsation.)

William Paul Theermann, Salford, England, and John Burford Foxwell, Manchester, England, 7th March, 1892; 5 years.

Claim.—1st. A steam admission valve for pulsating steam pumps formed of two semi-spherical or other convex bodies connected together at their convex sides. 2nd. In a pulsating steam pump, the combination of the two semi-spherical bodies *h*, with flat or concave faces, which form a steam admission valve H. 3rd. In a pulsating steam pump, the combination with the two working chambers of the two semi-spherical bodies *h*, with flat or concave faces which cover the ports of the chambers to form a steam admission valve H. 4th. In a pulsating steam pump, the combination of a steam admission valve H, formed of two semi-spherical hollow bodies *h*, with a steam passage or port *h*, through the valve from one side to the other. 5th. In a pulsating steam pump, the combination, with the working chamber having a conical opening formed in the casting of the grid K, which fits loosely into the conical opening, the disc valve which extends beyond the edge of the grid, and a centre supporting stud which carries the valve guard and holds the grid and valve in position, substantially as described. 6th. In a pulsating steam pump, the combination, with each of the working chambers of the conical grids K, fitting into conical openings in the castings, the disc valves D and E, covering the openings and extending beyond their respective grids and the central supporting studs *d* and *e*, which carry the valve guards and hold the valves and grids in position, substantially as described and shown. 7th. In a pulsating steam pump, the inlet or delivery valve formed of a grid let loosely into a conical opening in combination with a disc valve extending beyond the grid, a valve guard and a central pin or stud which holds the several parts in position. 8th. In a pulsating steam pump, the combination, with the working chamber and shelf L, of the central supporting stud *d*, the disc valve D, the seating or grid K, and the chilled base or casting of the chamber with a conical opening formed therein. 9th. In a pulsating steam pump, the combination, with each working chamber, of an inclined shelf or projecting plate which extends from one side to the centre near the base of the chamber. 10th. In a pulsating steam pump, the combination with four or more working chambers of a common inlet chamber and outlet chamber, and a conical pipe or nozzle leading from the inlet chamber to the delivery pipe, substantially as described. 11th. In a pulsating steam pump, the combination, with the four chambers A, A^1, B, B^1, of the chambers F and G, the valve R, and the conical pipe or nozzle S, substantially as described. 12th. In a pulsating steam pump, the combination, with the working chambers of water passages which always connect each working chamber with the other working chamber, and with the discharge chamber or delivery pipe, substantially as described. 13th. In a pulsating steam pump, the combination, with two working chambers of two air valves O, with a single inlet port, and controlled by a set screw, substantiallly as described. 14th. In a pulsating steam pump, the combination, with the two working chambers and the valve chest cover H^1, of the air admission valves O attached thereto, with air admission ports passing through the walls of the valve chest, substantially as described. 15th. In a pulsating steam pump, the combination, with the two working chambers, the valve chest and valve chest cover H^1, of the air valves O, with air passages *p*, the set screws P, which regulates the air admission to both valves, and the pawl or tumbler which engages with the notches in the head of the set screws, substantially as described. 16th. In a pulsating steam pump, the combination, with the working chambers of a triangular shaped valve chest, double valve of semi-spherical bodies H, triangular side plates H^1, with air passages through and air admission valves O affixed to the steam chamber, substantially as described and shown.

No. 38,419. Grate Bar. *Barreau de grille.*)

The Improved Zigzag Grate Bar Company and William James, assignees of Etienne Boileau, all of St. Louis, Missouri, U.S.A., 7th March, 1892; 5 years.

Claim.—1st. A zigzag grate bar having parts 13^a and removable head sections, one fitting each part 13^a, and having side wings extending transversely to the body of the bar, substantially as set forth. 2nd. In a grate bar, a removable head section adapted to fit an inclined portion 13^a of a zigzag body, with side wings 18 extending transversely to the body of the bar, and having at the edges bevels 21 parallel with the sides of the part 13^a, upon which the head section is supported. 3rd. In a grate bar, the combination of a zigzag body, composed of parts 13^a, having alternate inclination and each part having a separate removable head section having side wings 18, with serrate edges inclined inwardly from the top downwardly. 4th. In a grate bar, the combination of a zigzag body having removable head section, 17, 18, with rounded corners 23, substantially as set forth. 5th. In a grate bar, the combination of a zigzag body composed of parts 13^a, each part having a separate head section with side wings 18, having beveled serrate edges inclined inwardly from the upper part downwardly, substantially as set forth.

No. 38,420. Bath Tub. (*Baignoire.*)

Kallmann Glass and Ignatz Herrmann Rosenfeld, both of New York, U.S.A., 7th March, 1892; 5 years.

Claim.—1st. A bath tub composed of two hinged sections, a water tight packing and eccentric hooks *e*, and pins *f*, for drawing the sections together, substantially as specified. 2nd. A bath tub composed of two hinged sections and provided with tubes *j*, *k*, that communicate with each other when the tub is folded up, substantially as specified. 3rd. A bath tub composed of two hinged sections and provided with tubes *j*, *k*, and overflow branches j^1, k^1, substantially as specified. 4th. The combination of the hinged sections *a*, *b*, with toothed eccentric hooks *e*, and pins *f*, and clicks *h*, engaging the teeth on the hooks, substantially as specified. 5th. The combination of the hinged sections *a*, *b*, with the basin *i*, and doors *m*, *n*, substantially as specified.

No. 38,421. Electric Clock. (*Horloge électrique.*)

Philip A. Jenkins, Boston, and Walter Jenkins Dudley, Somerville, both in Massachusetts, U.S.A., 7th March, 1892; 5 years.

Claim.—1st. The combination of the time measuring vibrator with the impelling-lever and its restoring electro-magnet and armature, a detent for supporting said impelling-lever after being raised and released by said magnet, and the second lever pivoted independently of said impelling-lever and co-operating with said detent, substantially as described. 2nd. The combination of the pendulum-impelling device and actuating electro-magnet therefor with the circuit-closing lever fulcrumed near the point of oscillation of the pendulum, and provided with a projection to be engaged by the pendulum-rod, and a spring arm connected with said lever constituting one member of the circuit-closer in the circuit of said electro-magnet, substantially as described. 3rd. The combination of the impelling-lever with the electro-magnet and armature provided with an arm for engaging said lever, and the detent having a spring engaging portion with a shoulder to engage said impelling-lever when set by the electro-magnet, substantially as described. 4th. The combination of the time measuring vibrator with an electro-magnet and circuit-closer therefor operated by said vibrator, the train of wheel-work and the actuating ratchet-wheel thereof, the armature for said electro-magnet, provided with a pawl for engaging the teeth of said ratchet, and a cushioning-spring that engages the periphery of said ratchet-wheel to limit the ratchet-actuating movement of the armature, substantially as described. 5th. The combination of the time-measuring vibrator with the circuit-closing lever engaged and operated thereby, a spring-arm connected therewith provided with a laterally-projecting contact-piece, and a co-operating stationary contact piece engaged thereby, the said laterally-projecting contact and spring being proportioned to one another, as set forth, whereby the contact rocks without sliding on the co-operating contact surface as the tension of the spring varies, substantially as described. 6th. The combination of the pendulum with an impelling-lever and a circuit-closing lever, each pivoted independently of the other near the point of oscillation of the pendulum, an electro-magnet co-operating with the said impelling-lever and a detent for the lock, which latter is engaged and operated by the circuit-closing lever, substantially as described.

No. 38,422. System of Operating Railway Signals.

(Système pour actionner les signaux de chemin de fer.)

The Scarr Railway Signal Company of Harriston, Ontario, Canada, assignees of Abraham Calver Scarr, of Harriston aforesaid, 7th March, 1892; 5 years.

Claim.—1st. A movable rail held in position by a spring or its equivalent, in combination with a semaphore or signal connected to the said rail in such a manner that the movement of the rail caused by a passing train will set the said signal at danger, substantially as and for the purpose specified. 2nd. A semaphore or signal connected to and operated by a movable rail, as described, in combination with an air cushion arranged to support for a given period the said semaphore or signal at danger, substantially as and for the purpose specified. 3rd. The rail A, having bars C connected to it and resting in the grooved plates D, a spring or weight arranged to hold the said rail against one of the rails of the track B, in combination with a chain or cable connected to the said bars C, and to the lamp rod J, and semaphore arm N, substantially as and for the purpose specified. 4th. A pivoted semaphore arm N, in combination with a cylinder O pivoted on the bracket P, and provided with a piston rod R, for connecting it to the said semaphore arm, substantially as and for the purpose specified.

No. 38,423. Machine for Cutting Soles and Other Forms. (*Machine pour tailler les semelles et autres formes.*)

Allison Morris Stickney, Medford, Massachusetts, U.S.A., 7th March, 1892; 5 years.

Claim.—1st. In a machine for cutting soles and the like, a knife block, in combination with three arms f, f^1, f^2, and a driving chain, the outer arm being connected with the driving chain and the inner arm revolving about a fixed axis, all substantially as described. 2nd. In combination, a knife block, a pattern provided with a guide ledge a^5, a guide roll carried by the knife block, arms f, f^1, f^2, and a driving chain, all substantially as described. 3rd. In a machine for cutting soles and the like, a knife and a lengthwise driven chain, in combination with two pairs of wheels near the shank, one of each pair being within and one of each pair being without the driven chain and giving the shank curves, substantially as described. 4th. In a machine for cutting soles and the like, form a, auxiliary stud a^3, and spring a^7, in combination with main stud A, and a knife holder carried by main stud A to permit the clamping surface of form a to vary as the thickness of the stock varies with relation to the knife carried by the knife holder, substantially as and for the purpose set forth.

No. 38,424. Can. (*Boîte métallique.*)

Willian Pratt, Montreal, Quebec, Canada, 7th March, 1892; 5 years.

Claim.—1st. A metal can, box or receptacle, the cover of which has a single weakening bead around its perimeter, for the purpose set forth. 2nd. A metal can, box or receptacle, the cover rim of which has a single weakening bead around its perimeter about midway of its depth, for the purpose set forth. 3rd. A metal can, box or receptacle, the cover rim of which has a single main weakening bead around its perimeter about midway of its depth, and a branch bead from said main bead to the edge of the rim, for the purpose set forth. 4th. A metal can, box or receptacle, having upon its perimeter a single horizontal main weakening bead and a branch weakening bead at an angle to the main bead, for the purpose set forth.

No. 38,425. Electric Ignitor for Gas Engines.

(*Inflammateur électrique pour machine à gaz.*)

Mora M. Barrett and John F. Daly, both of San Francisco, California, U. S. A., 7th March, 1892; 5 years.

Claim.—1st. The combination with the gas engine cylinder, of the supplemental chamber secured thereto, electrodes secured therein, one of said electrodes being movable and terminating within the engine cylinder so as to be operated by the movement of the engine piston, substantially as and for the purpose set forth. 2nd. In combination with a gas engine, a supplemental chamber secured thereto, electrodes secured therein, so as to be exposed to the inflowing gas, whereby they are maintained in a cool condition, one of said electrodes being movable and by its upward or downward movement to make and break the electrical circuit, as and for the purpose set forth. 3rd. In a gas engine, the combination of the supplemental chamber, electrodes secured within said chamber out side the engine or combustion cylinder, one of said electrodes being movable and extending within the engine cylinder, downwardly extending finger formed on the end thereof, said electrode being adapted to be operated by the stroke of the engine piston, as and for the purpose set forth. 4th. In a gas engine, the combination, with two flexible electrodes secured outside the combustion chamber, one of said electrodes extending within the chamber and adapted to be operated by the movement of the piston, so as to make and break the electrical circuit, as and for the purpose set forth. 5th. The combination, with a gas engine, of two flexible electrodes adapted to be operated outside the combustion chamber of the engine, and adapted by the stroke of the engine to make and break the electrical circuit, as and for the purpose set forth. 6th. The combination, with a gas engine, of two flexible electrodes located within a chamber outside the combustion chamber, the electrode rod for making and breaking the circuit, and of mechanism for operating said rod, as and for the purpose set forth. 7th. The combination with a gas engine, of the electrode located within a chamber outside the combustion chamber, and of a movable electrode for making and breaking the electrical circuit, as and for the purpose set forth. 8th. In a gas engine, the combination, with the electrodes, vertical rod adapted to contact with one of said electrodes in order to complete the electrical circuit by uniting of the electrodes with the movement thereof, and of the cam secured to the operating shaft, for operating said rod, as and for the purpose set forth. 9th. In a gas engine, the combination of two electrodes, one of said electrodes adapted with its upward and downward movement to make and break the electrical circuit, as and for the purpose set forth.

No. 38,426. Electric Clock. (*Horloge électrique.*)

Frank Alexander Ellis, Toronto, Ontario, Canada, 7th March, 1892; 5 years.

Claim.—1st. The combination of mechanism arranged in connection with the hands of a clock and actuated by gravitation and the make and break of an electric circuit, the said make and break being effected by the escape wheel or other suitable operating part of a standard clock, substantially as and for the purpose specified. 2nd. A vertical bar suspended from an arm or lever extending from the armature of an electric magnet, a pawl pivoted on the said bar and designed to engage with a ratchet wheel fixed to the hand spindle of a clock, in combination with an electric circuit extending from the magnet F to the escape wheel, or other moving part of a clock, by which the said circuit may be made and broken at stated intervals, substantially as and for the purpose specified. 3rd. A vertical bar M, suspended from the arm or lever L, connected to the armature K, a pawl N, pivoted on the bar M, and designed to engage with the teeth P, a spring O, designed to act against the pawl N, in combination with an electric circuit extending from the magnet F, to the escape wheel or other moving part of a clock, by which the said circuit may be made and broken at stated intervals, substantially as and for the purpose specified. 4th. A vertical bar M, suspended from the arm or lever L, connected to the armature K, a pawl N, pivoted on the bar M, and designed to engage with the teeth P, a spring O, designed to act against the pawl N, a pin T, extending from the bar M, and designed to come in contact with the teeth P, when the bar has fallen, in combination with an electric circuit extending from the magnet F to the escape wheel or other moving part of a clock, by which the said circuit may be made and broken at stated intervals, substantially as and for the purpose specified. 5th. A vertical bar M, suspended from the arm or lever L, connected to the armature K, a pawl N, pivoted on the bar M, and designed to engage with the teeth P, a spring O, designed to act against the pawl N, a pin T, extending from the bar M, and designed to come in contact with the teeth P, when the bar has fallen, the spring pawl U, engaging with the teeth P, in combination with an electric circuit extending from the magnet F to the escape wheel or other moving part of a clock, by which the said circuit may be made and broken at stated intervals, substantially as and for the purpose specified. 6th. A vertical bar M, suspended from the arm or lever L, connected to the armature K, a pawl N, pivoted on the bar M, and designed to engage with the teeth P, a spring O, designed to act against the pawl N, a pin T, extending from the bar M, and designed to come in contact with the teeth P, when the bar has fallen, the spring pawl U, engaging with the teeth P, in combination with the wire E, connecting the magnet F to the battery A, the wire G connecting the magnet F to the insulated post H, the wire B connecting the battery A to the frame C, in which the escape wheel D is journaled, a pin F extending from the escape wheel D, and designed to come in contact with the spring I, which is connected to the post H, substantially as and for the purpose specified.

No. 38,427. Apparatus for Making Moulds for Castings. (*Appareil pour faire les moules de coulage.*)

Stephen Alley and John Alexander MacLellan, both of Glasgow, Lanark, Scotland, 7th March, 1892; 10 years.

Claim.—1st. Moulding apparatus comprising in combination a hydraulic cylinder with its ram extending upwards and bearing a platen, a pattern fixed on the platen, a parting plate with a contour opening through which the pattern can project, adjusting pins screwed in the platen to determine the position of the parting plate when lifted by the platen, a mould box or flask, a resisting block above the platen and fixed to a bracket upon a pillar at the back of the machine, a movable chock plate for temporarily supporting the platen at a point in its descent, and a valve for controlling the action of the water in the hydraulic cylinder, the several parts being arranged and operating, substantially as herein set forth. 2nd. In moulding apparatus having a rising platen with a pattern fixed on it, a parting plate adjustable in relation to the platen, combined with a device for guiding the platen and stopping the parting plate when the platen has partly descended, such device consisting of rods fixed to the bed plate and extending up through guide tubes fixed to the platen with their upper ends acting as stops for the parting plate, substantially as herein set forth. 3rd. In moulding apparatus having a rising platen or a parting plate with a pattern fixed on it, a heating device applied under the platen, substantially as and for the purpose herein set forth.

No. 38,428. Fruit Jar. (*Jarre à fruits.*)

The Petaluma Fruit Packing Company, Petaluma, assignees of Delmar Edward Ashby, Menlo Park, all of California, U.S.A., 7th March, 1892; 5 years.

Claim.—1st. A jar having a groove or channel around its upper part forming a shoulder below the top, an upwardly projecting lip around the inner periphery of the top, a flat ledge exterior to said lip, an elastic ring fitting said ledge exterior to the lip, in combination with a metallic cap adapted to compress the elastic ring having a rim projecting downwardly, surrounding the upper part of the jar, the lower edge of said rim being turned inwardly beneath the shoulder, whereby the elastic ring is compressed and the cap retained in position upon the jar, substantially as herein described. 2nd. The process for cooking in glass and preventing the glass from breaking, consisting in submerging the glass vessel in an exterior receptacle containing cold water, plunging this vessel into a tank of boiling water until the contents are cooked, then removing the vessel with its contents which are still surrounded by water, and allowing the whole to cool together, substantially as herein described.

No. 38,429. Derrick. (*Grue.*)

Foster Milliken, New York, State of New York, U. S. A., 7th March, 1892; 5 years.

Claim.—1st. In a derrick, the combination with the mast constructed of a series of spaced and connected longitudinal metal sections, of a boom of like construction pivoted to the mast, substantially as shown and described. 2nd. In a derrick, the combination, with the mast constructed of a series of spaced and connected metal sections provided at its lower end or heel with a tubular pivot pin communicating with the interior of a base provided with a socket adapted to receive the pivot pin of the mast, a friction wheel pivoted in the base, a portion of the peripheral surface of which wheel is beneath the pivot of the base, a pulley journaled in an opening of the mast near its upper end, a boom of like construction to the mast and pivoted thereto, means for elevating the boom, and a hoist cable passing over the pulley in the base through the pivot of the mast and the mast, and over the upper mast pully, the said cable being carried at one end by the boom, as and for the purpose specified. 3rd. In a derrick, the combination, with a base provided with a socket and a pulley, of a tubular mast, and a tubular pivot pin at the heel of the mast, adapted to enter the socket of the base, whereby the hoist cable may be passed from the base pulley through the pivot pin and into the mast, as and for the purpose set forth. 4th. In a derrick, the combination, with a base provided with a socket, and a pulley journaled in the base, a portion of the periphery of which pulley is adjacent to the socket, of a tubular mast, a tubular pivot pin secured to the mast, communicating with its interior and adapted to enter the base socket, a pulley journaled in an opening near the top of the mast, a hoist cable passed under the pulley of the base through the mast pivot and the mast, and over the upper pulley of the mast, a counterpoise block adapted to receive the hoist cable, said block being free of the mast, a boom pivoted to the mast, a cable attached to the counterpoise block and passed over a pulley in the mast, over the boom, and a pulley journaled therein, and a means for elevating and lowering the boom, substantially as specified. 5th. In a derrick, a mast constructed of a series of spaced and connected longitudinal metal sections, said sections being provided with opposed flanges, whereby bearings are provided in the sections for the pivot pins of pulleys and similar devices, as specified.

No. 38,430. Coupler for Railway and Other Vehicles.

(Attelage pour chars et autres voitures.)

American Mechanical Construction Company, assignees of Otto Flohr, all of Buffalo, New York, U.S.A., 8th March, 1892; 5 years.

Claim—1st. In an improved coupler for railway coaches, trucks, wagons and like vehicles, the combination of a draw head, having a swinging coupling jaw and a swinging pawl for locking the jaw, together with means for minimizing the friction on the chain used for operating the pawl by the use of an elongated slot through which said chain passes, a cover for said slot to prevent the entrance of dust, etc., into the draw head, also an inclined axis carrying the locking jaw, causing said jaw to have a tendency to swing outwardly, an inclined axis carrying the pawl, giving said pawl a tendency to swing to the locked position, means for re-inforcing the guiding horn of the coupler and the improved construction of the fastening portion of the coupling, all substantially as and for the purposes hereinbefore described, set forth and illustrated in the drawings annexed. 2nd. In an improved coupler for railway coaches, trucks, wagons and like vehicles, the combination, with an enclosing draw head, a horizontally swinging coupling jaw and a horizontally swinging pawl for locking the latter in the coupled position, of a chain or equivalent flexible connection attached to said pawl, said draw head constructed with an elongated slot in its upper wall through which said chain passes out, said slot formed to uncover the path traversed by the point of attachment of said chain during the swinging of the pawl, whereby when said chain is pulled in order to unlock said pawl, the tension exerted is transmitted directly to the pawl throughout its swinging movement, substantially as described and shown. 3rd. In an improved coupler for railway coaches, trucks, wagons and like vehicles, the combination, with an enclosing draw head, a horizontally swinging coupling jaw and a horizontally swinging pawl for locking the latter in the coupled position, of a chain or equivalent flexible connection attached to said pawl, said draw head constructed with an elongated slot in its upper wall through which said chain passes out, said slot formed to uncover the path traversed by the point of attachment of said chain during the swinging of the pawl, together with a cover or stopper secured to said connection and constructed when said pawl is in the locked position to cover the slot in said draw head, whereby when the coupling is in the locked position the entrance of dust within said draw head through said slot is prevented by said cover, substantially as described and shown. 4th. An improved coupler for railway coaches, trucks, wagons and like vehicles, comprising a bifurcated head and a swinging coupling jaw pivoted to one of the horns of said head on an axis inclined from the vertical, and said head constructed with its horn to which said jaw is pivoted terminating in vertical exterior faces, eccentric to the pivotal axis, whereby said horn is adapted to engage the vertical meeting faces on the head of another coupler with which it is intercoupled, substantially as described and shown. 5th. An improved coupler for railway coaches, trucks, wagons and like vehicles, comprising a bifurcated head and swinging coupling jaw pivoted to one arm thereof on an axis inclined from the vertical, said jaw formed with the axis so as to be vertical when in the coupled position, and said head formed with its arm to which said jaw is pivoted terminating in vertical exterior faces eccentric to the pivotal axis, and coincident with the exterior faces of the jaw when it is in the coupled position, substantially as described and shown. 6th. An improved coupler for railway coaches, trucks, wagons and like vehicles, comprising a head, a swinging coupling jaw and a swinging locking pawl, said pawl pivoted to the head on an inclined axis, whereby it tends normally to swing to the locked position, substantially as described and shown. 7th. An improved coupler for railway coaches, trucks, wagons and like vehicles, comprising a head, a swinging coupling jaw and a swinging locking pawl, said pawl pivoted to the head on an inclined axis, whereby it tends normally to swing to the locked position, and formed with its engaging faces vertical when in the locked position, substantially as described and shown. 8th. An improved coupler head of the described class having its guiding horn constructed with a curved vertical face wall on its front side extending backwardly, formed with a curved concentric with the pivot of the locking pawl, to constitute a re-inforce bearing therefor, and extended thence back to the supporting base of the head, and strengthening webs behind said wall in horizontal planes joining the top and bottom walls of the head, substantially as described and shown. 9th. In an improved coupler for railway coaches, trucks, wagons and like vehicles, the combination with the buffer-beam, or sill, of a plate for abutting against the front side of said beam, and having projections embracing the latter, a coupling head carried by said plate, and bolts passing the plate and clamping it to the beam, substantially as described and shown. 10th. In an improved coupler for railway coaches, trucks, wagons and like vehicles, the combination with the buffer-beam, or sill, of a plate for abutting against the front side of said beam, having projections embracing the latter, and formed integrally with a coupling head, and bolts passing through the plate for clamping it to the beam, substantially as described and shown. 11th. In an improved coupler for railway coaches, trucks, wagons and like vehicles, a coupling head, formed with a base plate adapted to fit against the front side of a buffer-beam, or sill, and having a projection for embracing the side of the beam, and bolt holes for the passage of bolts for clamping it to said beam, substantially as described and shown. 12th. In an improved coupling for railway coaches, trucks, wagons and like vehicles, a coupling head formed with a base plate adapted to fit against the front side of a buffer-beam, or sill, and having a projection for embracing the side of said beam, and a projection for embracing the rear side of the latter, and bolt holes for the passage of bolts for clamping it to said beam, substantially as described and shown.

No. 38,431. Weighing Apparatus for Vehicles.

(Appareil de pesage pour voitures.)

The Wanamaker International Car Scale Company, assignees of Charles Benjamin Wanamaker, all of Indianapolis, Indiana, U.S.A., 8th March, 1892; 5 years.

Claim.—1st. The combination, with the running gear and the platform or body of a car or vehicle, of a hydraulic jack interposed between said running gear and said platform or body, whereby the load may be raised and supported, and a scale apparatus connected thereto, whereby the weight of the load may be ascertained, said scale apparatus being mounted on said platform or body. 2nd. The combination, in a car or vehicle, of the running gear, the body or platform, interposed cylinders, pipes leading from said cylinders to other cylinders forming part of a scale apparatus, and to a pump, said pump and said scale apparatus, whereby the load mounted on said body or platform can be weighed thereon without the use of any separate scale. 3rd. The combination, with the body or platform of a car or vehicle, and the running, gear of four cylinders mounted on said running gear at or near the four corners of the vehicle, downwardly projecting bearing points or surfaces on said body or platform, with which the pistons in said cylinders will come in contact, four cylinders forming a part of the scale apparatus connected respectively with the four cylinders at the corners of the vehicle by suitable pipes, a pump also connected with said four cylinders at the corners of the vehicle by other pipes, and a scale apparatus adapted to be thrown into operative condition by the force of the liquid coming from the four cylinders at the corners of the vehicle to the four cylinders connected therewith. 4th. The combination, in a weighing apparatus, of a set of cylinders arranged to carry the load, chambers below the piston seats in said cylinders, valves between said chambers and said piston seats, a pump, pipes running from the pump to said chambers, a scale apparatus, and pipes running from said scale apparatus to said piston seats. 5th. The combination, in a weighing apparatus, of a platform, the scale mechanism, vertically moving bearings where said scale mechanism is operated, the scale-beam, and a stiff rod connecting said scale mechanism and said scale-beam, whereby all the parts are pushed into operation, when said points are lifted, substantially as shown and described. 6th. The combination of a hydraulic jack arranged upon

and adapted to lift the load of a car or vehicle, a scale apparatus connected thereto, a tank containing a fluid, and a cock and by path whereby the fluid may be returned to the tank, and the scale apparatus thus released from operative position. 7th. The combination of a hydraulic jack arranged upon and adapted to lift the load of a car or vehicle, a scale apparatus connected thereto, a tank containing the fluid, a by-path whereby the fluid may be returned to the tank, and a valve in said by-path adapted to be opened by the pressure of the fluid therein when the predetermined pressure is reached.

No. 38,432. Composition for Lighting Fires.

(Composition pour allumer le feu.)

James McDougall, Owen Sound, Ontario, Canada, 8th March, 1892; 5 years.

Claim.—A compound for lighting fires composed of saw-dust, resin, oil, and tar preferably in the proportions set forth, the whole being mixed and stamped or formed into blocks or brick of suitable size and form, substantially as and for the purposes herein before set forth.

No. 38,433. Vehicle Spring. (*Ressort de voiture.*)

George E. Bartholomew, Cincinnati, Ohio, U. S. A., 8th March, 1892; 5 years.

Claim.—1st. In a spring gear for coupling the front axle to the body, the combination of the spring bar D, pivoted underneath the body, back of its front end, a brace to hold the spring bar to the body and relieve the king bolt from strain, and springs secured to the spring bar and front axle, substantially as shown and described. 2nd. In a spring gear for coupling the front axle to the body, the combination of the spring bar D, pivoted underneath the body, back of its front end, a brace to hold the spring bar to the body and relieve the king-bolt from strain, and the quarter elliptic springs B, having their heavy ends rigidly secured to the spring bar and their light ends clipped to the front axle, substantially as shown and described. 3rd. The combination, substantially as hereinbefore set forth, of the body A, having cross bar *a*, the spring bar D, pivoted underneath said bar *a*, the brace passing transversely across the pring bar and having its ends secured to the waggon bottom, the king-bolt E, passing through the bars and brace, and the springs secured to the spring bar and front axle, substantially as shown and described. 4th. The combination of the body having cross bar *a*, the axles, the spring bar D, the flanged sleeve, the king-bolt, the bar D, pivoted to the bar *a*, the brace secured to the body and crossing the spring bar to hold it against the bar *a*, and relieve the king-bolt, and the springs coupling the spring bar and front axle, substantially as shown and described.

No. 38,434. Railway Switch. (*Aiguille de chemin de fer.*)

Axel Albin Strom, Austin, Illinois, U. S. A., 8th March, 1892; 5 years.

Claim.—1st. In combination, a split switch and a connecting medium for the switch-rails adjustable lengthwise thereof to set the gage, substantially as described. 2nd. In combination, a split switch and a tie-bar connecting the switch-rails and adjustable lengthwise thereof to set the gage, substantially as described. 3rd. In combination, a split switch and a tie-bar extending obliquely between and connecting the switch-rails and adjustable at one end lengthwise of the adjacent rail to set the gage, substantially as described. 4th. In a split-switch, the combination, with the point-rails, of re-inforcing bars secured to and extending along their inner sides and having their bearing-bases laterally beyond those of the point-rails, substantially as and for the purpose set forth. 5th. In a split switch, the combination, with the point-rails, of gage adjusting horizontally-inward-projecting sections inclining inward from the point-rails, and a tie-bar connecting the point-rails at and adjustable on the said sections lengthwise thereof, substantially as and for the purpose set forth. 6th. In a split switch, the combination, with the point-rails, of gage-adjusting horizontally-inwardly-projecting sections inclining toward each other from the point-rails and provided with bolt-holes, perforated plates fitting against the sides of the said sections and bolted thereto, and a tie-bar connecting the point-rails at the said sections and held by the said plates, substantially as and for the purpose set forth. 7th. In a split switch, the combination, with the point-rails, of guard-rails bolted to and extending along the inner sides of the point-rails, and spacers interposed between the point-rails and guard-rails, substantially as and for the purpose set forth. 8th. In a split-switch, the combination, with the point-rails, of re-enforcing bars secured to the inner sides of the said rails and extending beyond the points thereof, and a tie-bar connecting the point-rails at the said extensions, substantially as described. 9th. In a split switch, the combination, with the point-rails B, of guard-rails C, bolted to and extending along the inner sides and beyond the points of the rails B, bent sections D, at the ends of the guard-rails, having holes *q*, perforated plates E, bolted to the said sections through holes *q*, and a tie-bar F, connecting the point-rails at the sections D, and engaged by the adjustable plates, substantially as and for the purpose set forth.

No. 38,435. Flood Gate. (*Porte d'amont.*)

Joshua Shellaborger, Calvin S. Monk and Frank M. Hardestry, all of Rockford, Ohio, U. S. A., 8th March, 1892; 5 years.

Claim.—1st. In a flood-gate, the posts B, supports extending therefrom, the gate rods connected at their lower ends to the gate and pivotally connected at their upper ends to the outer ends of the supports, levers pivotally connected between their ends to the said posts, connections between the inner ends of the levers and the gate, and weights upon the outer ends of the levers, substantially as shown and described. 2nd. The posts or uprights having sockets in their upper ends, and the inclined supports secured to the inner sides of the posts, combined with the rods F, which are pivoted between them, the flood-gate secured to the lower ends of the rods or timbers, counter weighted levers mounted upon the posts and having a free universal movement, and suitable connections for attaching them loosely at one end to the gate, substantially as shown and described.

No. 38,436. Butter Worker. (*Batte à beurre.*)

Fred Clarence Whiting, Johnson, assignee of Samuel Hahnemann Waters, Burlington, both in Vermont, U. S. A., 8th March, 1892; 5 years.

Claim.—1st. In a butter-worker, the combination, with a suitable frame, of a tray resting and movable thereon, gear rotating a shaft having a pinion meshing with a rack, a clutch shafting device automatically operated by the movement of the tray, and means for locking and unlocking the shifting devices automatically, substantially as described. 2nd. In a butter-worker, the combination, with a movable tray, of oppositely revolving pulleys loose upon an arbor connected with a shaft provided with a fluted roll, and having a gear driving a shaft which has a pinion meshing with a rack connected to the bottom of said tray, a clutch splined to the shaft between said pulleys, clutch shifting bars arranged parallel to the shaft, and a forked arm engaging the clutch and having connection with the ends of the shifting bars, said springs being adapted to slide the said bars by means of wedges on the tray, substantially as described. 3rd. In a butter-worker, the combination, with a movable tray, of oppositely-revolving pulleys loose upon an arbor, a shaft geared therewith and having a pinion meshing with a rock connected to the bottom of the tray, a clutch splined to the arbor between said pulleys, shifting bars parallel with the arbor, a forked arm engaging the clutch and connected with the ends of the shifting bars, springs connected to the opposite ends of the shifting bars, and a pivoted latch having notches engaging a catch plate on the other end of the clutch-shifting bars, said latch being operated to unlock said bars by projections on the tray, substantially as described. 4th In a butter-worker, the combination, with a suitable frame and with a tray movable thereon, of a conductor arranged beneath said tray and adapted to be drawn out to receive the buttermilk flowing from a discharge tube in the tray, and to be pushed under the same, when not in use, substantially as described. 5th. In a butter-worker, the combination, with a tray moveable on a suitable frame, of a shaft mounted at one end in a vertically adjustable bearing plate and having a fluted roll, a clutch connecting said shaft with the driving mechanism, clutch shifting bars having one end connected to a cross piece, a forked arm moved by said cross piece and connected with the clutch lying between two loose oppositely revolving pulleys on an arbor connected with said shaft, a shaft geared with the arbor and having a pinion meshing with a rack bar on a slide bolted to the bottom of the tray, and moving in parallel guides, and means for actuating the clutch shifting bars in the opposite movement of the tray, substantially as described. 6th. In a butter-worker, the combination, with a tray having a rack bar carried by a slide secured to its bottom, of a shaft carrying a pinion meshing with said rack, said shaft having bearings in supports upon which the guides for said slide are mounted, substantially as described.

No. 38,437. Process of Manufacturing Stone.

(Procédé de fabrication de la pierre.)

Otto E. C. Guelich, Detroit, Michigan, U.S.A., 8th March, 1892; 5 years.

Claim.—1st. The described composition, consisting of sulphate of baryta, litharge and acetate of lead, combined in the proportions named and in the manner described, when used in combination with cement and water, saturated with alum and borax, in the formation of slabs of artificial stone, substantially as and for the purpose described. 2nd. The described composition, consisting of sulphate of baryta, litharge and acetate of lead, combined in the proportions named, and in the manner specified, when used in combination with coloring pigments, cements and water for the formation of slabs of artificial stone, substantially as described.

No. 38,438. Rectal and Vaginal Syringe.

(Seringue recto-vaginale.)

Henry George Leisuring, Wayne, Nebraska, U.S.A., 8th March, 1892; 5 years.

Claim.—As an improved article of manufacture, the syringe herein described, consisting of the hard-rubber rectal tip having screw-threaded tapered portion, the hard-rubber vaginal tip having screw-threaded tapered portion engaging the threaded tapered portion of

the rectal tip, and having reduced end, the bulb secured to the vaginal tip and comprising in a single piece a firm, thick half and a thin flexible half, and a hard-rubber handle C, secured centrally to the flexible half of the bulb, all substantially as shown and described.

No. 38,439. Clamp for Stationary Basins.

(Crampon pour bassins stationnaires.)

James Joseph O'Donnell, Danville, Virginia, U.S.A., 8th March, 1892; 5 years.

Claim.—1st. A clamp for basins, comprising the body or plate adapted to support the edge of a basin and having a bolt-opening, and the lugs standing from the body or plate, and arranged upon opposite sides of the bolt-opening, to prevent the pressure caused by the bolt being exerted upon the basin, substantially as described. 2nd. A clamp for basins, comprising the body or plate provided with the extension and having the elongated bolt-opening, and the lugs arranged on opposite sides of the opening, to prevent the pressure caused by the bolt being exerted on the basin, substantially as described. 3rd. A clamp for basins, comprising the body or plate having the depending curved flange at its inner edge, and provided with the extension at its outer edge and having the elongated bolt opening, and the lugs arranged at opposite edges of the extension and on opposite sides of the bolt-opening, substantially as described.

38,440. Grinding Mill. (*Machine à moudre.*)

Herbert W. Fleury, Aurora, Ontario, Canada, 8th March, 1892; 5 years.

Claim.—1st. A grinding or crushing mill having three corrugated rollers, two of them supported in adjustable bearings and arranged together in such a manner that the material being ground shall first pass between the stationary and one of the adjustable rollers, and then between the said stationary and the other adjustable roller, substantially as and for the purpose specified. 2nd. A grinding or crushing mill having three corrugated rollers, two of them supported in adjustable bearings and arranged together in such a manner that the material being ground shall first pass between the stationary and one of the adjustable rollers and then between the said stationary and the other adjustable roller, in combination with spur wheels fixed to the respective shafts of the rollers and having elongated teeth, the said gear being arranged to drive the adjustable rollers at a higher speed than that of the stationary roller, substantially as and for the purpose specified. 3rd. A grinding or crushing mill having three corrugated rollers, one carried in horizontal bearings adjustable towards the stationary roller and the other in bearings angularly adjustable towards the stationary roller, in combination with springs arranged to support the roller carried in the angularly adjustable bearings, substantially as and for the purpose specified.

No. 38,441. Transposing Piano Action.

(Transposition d'action de piano.)

Carl Gustav George, Toronto, Ontario, Canada, 8th March, 1892; 5 years.

Claim.—In transposing piano actions for overstrung scales, the base or treble hammers deflected to avoid the space at the point where the wires cross each other, in combination with straight keys and straight lifters, arranged substantially as and for the purpose specified.

No. 38,442. Underground Electrical System of Street Car Propulsion. (*Système électrique souterrain pour la propulsion des chars.*)

Elias Hazleton and Harley Ingersoll, both of Lansing, Michigan, U.S.A., 8th March, 1892; 5 years,

Claim.—1st. In an electrical system of street car propulsion, an insulated conductor having the insulation perforated at intervals, whereby electrical contact may be formed with the conductor at said perforated points, substantially as described. 2nd. In an electrical system of street car propulsion, the combination with an underground conduit, of a shoe depending from the car and extending into said conduit, said shoe provided with an electrical conductor, substantially as described. 3rd. In an electrical system of street car propulsion, the combination, of a main line insulated electrical conductor having its insulation perforated at intervals, and means to make electrical connection with said conductor at the points of said perforations, substantially as described. 4th. In an electrical system of street car propulsion, the combination of a main line insulated electrical conductor having its insulation perforated at intervals, and means to make electrical connection with said conductor at the points of said perforations, said means normally out of contact with said conductor, substantially as described. 5th. In an electrical system of street car propulsion, the combination, with an underground conduit, of a main electric line conductor, a shoe in said conduit carried by the car carrying an electrical conductor, and means to form electrical contact between the main line conductor and the conductor carried by the shoe, substantially as described. 6th. In an electrical system of street car propulsion, the combination of a conduit, a main line electrical conductor, a shoe movable in said conduit carrying an electrical conductor, and means located at intervals said conduit operated by said shoe to form electrical connection between said main line conductor and the conductor carried by the shoe, substantially as described. 7th. In an electrical system of street car propulsion, the combination, with an underground conduit, of an insulated main line eletrical conductor having its insulation perforated at intervals, a movable shoe in said conduit carrying an electrical conductor, and means located at intervals adjacent to the perforations in the insulations of the line wire and normally out of contact therewith, whereby electrical contact may be made at said perforated points with the main line conductor, and with the conductor carried by the shoe, substantially as and in the manner described. 8th. In an electrical system of street car propulsion, the combination of a main line electrical conductor, a movable shoe carrying an electrical conductor, and a spring plunger operated by said shoe to form electrical connection between said line wire and said conductor, substantially as described. 9th. In an electrical system of street car propulsion, a conduit having side rails or plates, and in combination therewith an electrical line wire, a series of casings engaged at intervals with one of said side rails, a shoe movable in said conduit carrying an electrical conductor, and means engaged with said casings and operated by said shoe whereby electrical connection may be formed between the line wire and said conductor, substantially as described. 10th. In an electrical system of street car propulsion, the combination with a conduit of electrical line wires, a shot movable in said conduit carrying electrical conductors, and means operated by said shoe whereby electrical connection may be made between both the line wires and said conductors, substantially as and in the manner described. 11th. In an electrical system of street car propulsion, the combination, with a conduit of a main line electric conductor, a shoe movable in said conduit provided with an electrical conductor and yielding means to make electrical connection between said conductors, substantially as described. 12th. In an electrical system of street car propulsion, a conduit having its walls constructed with flanged plates or rails forming a channel a leading thereinto, substantially as described. 13th. In an electrical system of street car propulsion, the combination, with a conduit, of a longitudinally extended shoe movable therein provided with electrical conductors, main line electrical conductors, and contact devices located at intervals in said conduit to make electrical connection between the main line conductors and the conductors carried by the shoe, the construction and arrangement being such that the shoe will engage one of said contact devices at one end before being disengaged with the contact device at the opposite end, substantially as described. 14th. In an electrical system of street car propulsion, the combination with a car of a shoe bracket arms jointedly connected with the car and carying said shoe, said shoe and bracket arms provided with an electrical conductor, substantially as described. 15th. In an electrical system of street car propulsion, the combination, with a car, of a flexible shoe connected with the car and carrying an electrical conductor, substantially as described. 16th. In an electrical system of street car propulsion, the combination of a conduit, a main line electrical conductor and contact devices located at intervals in said conduit to make electrical connection with said conductor, substantially as described. 17th. In an electrical system of street car propulsion, the combination, with a conduit formed with a channel a, of a flexible shoe movable in said conduit, said shoe provided with a metal strip f 5, projecting through said channel, substantially as and for the purpose described. 18th. In an electrical system of street car propulsion, an underground conduit constructed with flanged rails A A, and an underlying base, said rails secured upon said base and separated one from the other to form an open channel into said conduit, substantially as described. 19th. In an electrical system of street car propulsion, an underground conduit constructed with perforated side rails or plates having in combination therewith exterior fillings, and a main line electrical conductor carried in said filling, substantially as described.

No. 38,443. Stopper for Bottles and Jars.

(Appareil pour boucher les bouteilles et jarres.)

Edward Hirsche, Hamburg, and Franz Gerike, Klein Schoenebeck, assignees of Hugo Gerike also of Klein Schoenebeck, all in the German Empire, 9th March, 1892; 5 years.

Claim.—1st. In an appliance for closing bottles and jars wherein the stopper is fixed to or has only slight motion on a loop, such as b, which is pivoted to a lever c, pivotted to the bottle neck controlling the motion of the loop and stopper in opening and closing, by means of a guiding device, such as a stud b^3, or a shoulder d^1, on the bottle, substantially as described. 2nd. In combination with the guiding device referred to in the preceeding claim, the use of a stud b^4, on the loop or on the lever, whereby the motion of the lever is limited, substantially as described. 3rd. In combination with the guiding device referred to in the first claim, the use of a wing piece c^3, upon or near to the pivot c^2 of the lever c, for effecting the turning of the latter, substantially as described.

No. 38,444. Station Indicator. (*Indicateur de station.*)

Irene Napoleon Soley and Sabin Soly, both of Montreal, Quebec, Canada, 9th March, 1892; 5 years.

Claim.—1st. In a station indicator, the combination, with a casing having two openings in its face and interior metal supports, of a series of cards in band form carrying on one side the station indi-

cating matter and on the reverse side advertisements, and the ends of such band terminating at different levels, one between and the other below such openings, so that both sides of same shall be visible through said openings, a carrier for shifting such band of cards, a portion only of which rests on same at one time, and means for rotating and arresting the movement of such carrier. 2nd. In a station indicator, the combination, with a casing having two openings in its face and an interior metal frame, of a series of cards in band form bearing the names of the stations, a carrier for shifting such band of cards, a portion of which rests on same at one time, having a disk in connection therewith, a movable locking spindle for holding such disk stationary, a movable carriage and spindle carried by it for disengaging said locking spindle and rotating such disk, and means for carrying, moving and partially rotating such carriages. 3rd. In a station indicator, the combination, with a casing having two openings in its face and an interior metal frame, of a series of cards in band form bearing the names of the stations, a carrier for shifting such band of cards, a portion only of which rests on same at one time, having a disk in connection therewith, a locking device for holding such disk stationary, a movable carriage and spindle carried by it for disengaging said locking device and rotating such disk, a switch-lever and guide-plate carried by it, and means for carrying and moving said carriage into and out of contact with and along said guide-plate, and means for locking said switch-lever in alternate positions, for the purpose set forth. 4th. In a station indicator, the combination, with a casing having one or more openings in its face and an interior metal frame, of a series of cards in band form bearing the names of the stations and each end card of the series being pivoted to such casing, a carrier for shifting such band of cards, a portion only of which rests on same at one time, having a disk in connection therewith, a locking device for holding such disk stationary, a movable carriage and spindle carried by it for disengaging said locking device and rotating such disk, a switch-lever and guide-plate carried by it, means for locking said switch-lever in alternate positions, connections between each of the pivoted end cards and such switch-lever having detent projections, and means for carrying and moving said carriage into and out of contact with and along said guide-plate and for engaging and drawing on said detent projections, for the purposes set forth. 5th. In a station indicator, the combination with a casing having two openings in its face, a metal frame within same, and a sliding bar for operating a band bearing the names of the stations, of a bell hung on said casing, a trig-hammer pivoted in said metal frame and having a light and heavy spring coiled on either side of same on its pivot-pin, each end of the heavy spring bearing normally upon the said frame, but one end being arranged to make a contact with the upper side of such hammer and the ends of the light spring bearing, respectively, upon such frame, and the under side of said hammer, for the purpose set forth. 6th. In a station indicator, the combination with a casing, a metal frame within same, a sliding bar E for operating a band bearing the names of the stations, and a bell F^2, of the trig-hammer F, F^1, hangers w, and the rod W, having a handle W^1, and an arm w^2, for throwing said trig-hammer out of its normal position, for the purpose set forth. 7th. In a series of station indicators, the combination with their casings, metal frames within same, bands bearing the names of the stations, carriers for shifting such bands, and rotating mechanism, of a number of the sliding bars E, having bent ends e, and notched disks O^2, mounted so as to be rotated by pull-cords E^1, taken along the peripheries and having spring connections whereby such sliding bars can be moved back and forth, as and for the purposes set forth. 8th in a station indicator, the combination with a casing and a metal frame within same, of a series of cards in band form bearing the names of the stations, a carrier for shifting such band of cards, a portion only of which rests on same at one time, having a disk in connection therewith a movable locking spindle for holding such disk stationary, a movable carriage and spindle carried by it for disengaging said locking spindle and rotating such disk, means for ensuring a positive action of said locking spindle and movable carriage and means for carrying, moving and partially rotating such movable carriage.

No. 38,445. Tie Bar and Connecting Rod for Railway Tracks. (*Barre de lien et bielle pour voies ferrées.*)

Axel Albin Strom, Austin, Illinois, U.S.A., 9th March, 1892; 5 years.

Claim.—1st. The method of manufacturing a rail-seat end C of a tie bar or connecting rod, which consists in forging protuberances n and n^1 on a suitable blank and punching out a portion of the metal from the opposing sides of the protuberances, thereby forming the jaws g and g^1, substantially as described. 2nd. The method of manufacturing a rail seat end C of a tie bar or connecting rod, which consists in forging protuberances n and n^1 at opposite sides of an intervening space n^2 on a suitable blank and punching out a portion of the metal from the opposing sides of the protuberances, thereby forming a base g^2 and jaws g and g^1, extending over it toward each other and inclined on their under sides, substantially as described. 3rd. In combination, dies A and B for forging protuberances n and n^1 on a suitable metal blank, each said die comprising a metal block having a central table portion q, recesses r and r^1, and an intermediate web r^2 at one side of the table portion, and a recess p at the opposite side thereof, the dies being adapted for use substantially as described. 4th. In combination, a form D, having a recess m, conforming to the outline of a device c^1, having protuberances n and n^1 at opposite sides of an intervening space n^2, and a recess k, and a punch E, comprising the parts h and i, conforming in cross-section to the flange and web of a railway rail, substantially as and for the purpose set forth.

No. 38,446. Combined Tie Bar and Slide Plate for Railway Tracks. (*Barre de lien et plaque de glissière pour voies ferrées.*)

Axel Albin Strom, Austin, Illinois, U.S.A., 9th March, 1892; 5 years.

Claim.—1st. A combined tie bar and slide plates device C, comprising a bar q, to extend between the main rails of a railroad track and having recesses r and r^1 near its opposite ends, to form seats for the main rails below the bases of the switch rails, in combination with a tie or head block p, on which the device C is supported, substantially as and for the purpose set forth. 2nd. In combination with a railroad switch, a combined tie bar and slide plates device C near the points of the switch rails on a tie or head block p, and comprising a bar q, having recesses r and r^1 near its opposite ends, forming seats for and confining the main rails, the said bar extending between and connecting the said main rails and supporting the switch rails adjacent to the inner ends of and on a plane above the bases of the recesses, substantially as and for the purpose set forth. 3rd. In combination with a railroad switch and a tie or head block p thereof, the combined tie bar and slide plates device C, comprising a bar q, having recesses r and r^1 near its opposite ends and supported on the upper side of the said tie or head block near the points of the switch rails, the main rails seated in the said recesses and connected together by the device C, and the point rails supported on the bar q, adjacent to the inner ends of the recesses on a plane above their bases, substantially as and for the purpose set forth.

No. 38,447. Typewriting Machine for the Blind.

(*Clavigraphe pour aveugles.*)

Elizabeth Sthreshley, Austin, Texas, U.S.A., 9th March, 1892; 5 years.

Claim.—1st. The combination, with a platen formed with projections, of a carriage, levers carried thereby and formed with recesses which register with the platen projections, and a carriage feeding mechanism, substantially as described. 2nd. The combination, with a platen formed with two series of projections, of a carriage, a carriage feeding mechanism, and levers formed with recesses which register with the platen projections, substantially as described. 3rd. The combination, with a paper feeding roll, of a platen formed with points or projections, a carriage, a carriage feeding mechanism, and spring pressed levers carried by the carriage and formed with recesses arranged to register with the platen projections, substantially as described. 4th. The combination, with a platen, of a carriage, character forming levers carried thereby, and means, substantially as described, whereby upon the relaxation of the power employed to depress said levers, the carriage will be fed forward, as herein set forth. 5th. The combination, with an adjustably mounted platen formed with series of points or projections, of a carriage, a carriage feeding mechanism, and levers formed with recesses which register with the platen projections, substantially as described. 6th. The combination, with the platen having one or more series of points, the cylindrical rack 30, the carriage pivoted and travelling upon the latter, the spring actuated drum 33, pivoted in said carriage and having teeth that engage the rack for feeding the carriage, of the pivoted, spacing, spring pressed lever 34, and the locking, spring pressed levers 37 and 39, arranged alongside and connected with said spacing lever, as specified, the embossing levers 45 and 45^a, pivoted upon the carriage at right angles to, and extending over, the said spacing lever, and springs 46, for holding said embossing levers normally elevated, as shown and described to operate as specified.

No. 38,448. Method of Loading Bricks from Machines.

(*Méthode de charger la brique.*)

Edward New, Hamilton, Ontario, Canada, 9th March, 1892; 5 years.

Claim.—1st. In a device for loading bricks, a turntable D, having angle mould rests K, its centre pivot E, the centre support C, having wheels F, in combination with the hinged dumping boards I, and pallets J, substantially as described and herein set forth. 2nd. In a device for loading bricks, the combination of side support and bearings B, having mould rest K, a number of cross shafts M, provided with chain or belt wheels N, endless belt O, inner support b, hinged dumping board I, and a series of pallets J, substantially as described and herein set forth. 3rd. In a device for loading bricks, the side supports and bearings B, having mould rest K^1 hinged at K^2, a number of cross shafts M, provided with chain or belt wheels N, endless belt O, inner support b, in combination with a series of attached dumping boards J, substantially as described and herein set forth.

No. 38,449. Damper for Stove Pipes.

(Clé de tuyaux de poêle.)

John Baillie Cook, Hamilton, Ontario, Canada, 9th March, 1892; 5 years.

Claim.—1st. In a stove pipe damper, the spindle rounded at each end, and the left one constructed with annular groove or recess and a washer formed with a dumb-bell shaped slot made to spring into the groove in the spindle to hold the damper in any desired position, substantially as described. 2nd. In a stove pipe damper, the combination of the spindle provided with groove *i*, the damper B and slotted washer D, substantially as and for the purpose described. 3rd. In a stove pipe damper, the combination of the damper B constructed as shown, the spindle C formed with annular groove *i*, in the rounded end *f*, the washer D formed with slot E, and enlargements of slot at *m*, *n*, the latter being bevel-edged, all constructed substantially as specified.

No. 38,450. Barrel for Liquids. (*Baril pour liquides.*)

Richard Porson Blake, Ottawa, Ontario, Canada, 9th March, 1892; 5 years.

Claim.—1st. A barrel, cask or keg, composed of counterpart sections A, C, longitudinally, each section having the semi-heads *a*, *a*, integral therewith, said sections made of paper pulp, molded or compressed to form, and hoops around the exterior to compress the sections together, as set forth. 2nd. A barrel, cask or keg, constructed of longitudinal sections, each section having a portion of the head integral therewith, said sections having their meeting edges tongued and grooved, and a casket to make a tight joint, and hoops *d*, on the outside compressing the sections together, as set forth.

No. 38,451. Electric-Magnetic Apparatus.

(Appareil électrique-magnétique.)

Leonidas Gorham Wooley, Grand Rapids, Michigan, U.S.A., 9th March, 1892; 5 years.

Claim.—1st. The combination, with an induction coil, of two circuits for the primary coil, a manual circuit closer in one circuit, and a switch lever controlled by gravity in the other circuit, both including a vibrating rheotome, whereby the device is adapted for use either as an ordinary electro-magnet, or for the production of secondary currents, substantially as shown. 2nd. The combination of a box having a partition dividing the same into two chambers, a battery in one chamber and an electro-magnet having an armature arranged in the other chamber, a normally open primary circuit and current breaker, a secondary circuit, loops in the secondary circuit in variable degrees of resistance, a pivoted lever adapted to automatically close the primary circuit on the removal of the electrode, electrodes suspended from the pivoted lever, and suitable conductors. 3rd. In an apparatus of the class described, in combination with a suitable casing and battery, an electro-magnet having a primary coil thereon, an armature and circuit breaker attached to the magnet, a lever adapted to close the primary circuit and limit the movement of the armature for increasing the rapidity of such movement, and having the electrodes of the secondary circuit suspended from the free end thereof, whereby on removing the electrodes the primary circuit will be automatically closed and the induced current set up ready for immediate use, substantially as set forth.

No. 38,452. Holder for Demijohns.

(Chantier pour dame-jeanne.)

Eric William Holmgren Holme, Toronto, Ontario, Canada, 9th March, 1892; 5 years.

Claim.—1st. A frame provided with feet to fit below the demijohn or jar, and a rocker or rockers fixed to the frame on the opposite side of the feet, substantially as and for the purpose specified. 2nd. The frame A, provided with the feet B, and rockers D, and braced by the cross bars E and F, substantially as and for the purpose specified.

No. 38,453. Wire Cleat. (*Taquet en fil de fer.*)

Robert Gorton, Plainfield, New Jersey, U.S.A., 9th March, 1892; 5 years.

Claim.—1st. A cleat formed of a single piece of wire bent to form a base, oppositely projecting arms, and connections between the arms and the base. 2nd. A cleat formed of a single piece of wire having oppositely projecting arms, a base, connections between the arms and the base, and a securing shank. 3rd. A cleat formed of a single piece of wire having a base, laterally projecting arms, connections between the base and the arms, and an opening or socket D. 4th. A cleat formed of a single piece of wire bent to form oppositely projecting arms, base pieces, having eyes or loops, and connections between the base pieces and arms.

No. 38,454. Hotel Register. (*Registre d'hôtel.*)

James Murray, Hillsboro, Ohio, U.S.A., 9th March, 1892; 5 years.

Claim.—1st. The combination of the box or casing having transverse shafts carrying the roll paper, the inclined top plate having openings for the passage of said roll, the flanges connected by a shelf and having inclined slots, the shaft journaled in said slots and carrying a blotter roller, and arms or brackets pivoted upon said shaft and carrying a cross piece upon which suitable headings may be inscribed, substantially as set forth. 2nd. The combination, with the hotel register of the class herein described, of a revoluble supporting stand comprising a disk having a central pintle or axis and concentric annular flanges, a disk provided at its edge with a single annular flange, and the interposed anti-friction balls, substantially as set forth. 3rd. The combination of the base disk having concentric annular flanges and a central pin or axis, the revoluble disk having a circumferential flange provided with a thumb screw bearing against a plate or block depending from said disk, the interposed anti-friction balls, and the register mounted upon the upper revoluble disk, and comprising a suitable box or casing having transverse shafts carrying roll paper, substantially as and for the purpose set forth. 4th. The box or casing having the transverse shafts carrying the roll paper, the blotting roller and the pivoted frame having the cross piece 19, extending transversely of the paper roll, said cross piece having its outer face ruled off and provided with suitable headings to guide the writer, substantially as described.

No. 38,455. Telegraphic Apparatus.

(Appareil télégraphique.)

Samuel Van Buren Essick, New York, State of New York, U.S.A., 10th March, 1892; 5 years.

Claim.—1st. A transmitter for use in printing or analogous telegraphic systems, having a series of key levers, a power driven shaft, and a locking bar adapted to lock any one of said key levers in its depressed position, and to hold it until released, in combination with an escapement for controlling the rotation of the shaft, and a series of stop pins carried by the shaft and lying in the path of the key levers when depressed, substantially as described. 2nd. In a printing telegraphic transmitter, a revolving shaft having stop pins corresponding in number with the characters on the type wheel of the receiver; a pole changer operatively connected with the shaft; key levers, one for each pin, and adapted to engage said pin when depressed, to check the shaft in its rotation, and hold it until again released by the raising of said key; and an escapement which regulates the forward motion of the shaft, substantially as described. 3rd. In a transmitter for a printing or analogous telegraphic system, a series of pivoted levers having a locking bar adapted to lock any one or all of said levers in a depressed position, in combination with a releasing device for releasing any one or all of the levers, and a series of sliding keys, one for each lever, each of said levers (when depressed) being adapted to release the lever last depressed, substantially as described. 4th. In a transmitter for a printing or analogous telegraphic system, a power impelled shaft provided with spirally arranged stop pins; a series of pivoted key levers, one for each pin; a series of sliding keys; a locking bar for locking any one or all of said keys in a depressed position; an escapement carried by the rotary shaft, and having half as many teeth as there are key levers; a pole changer operatively connected with the shaft; a polar magnet having an armature carrying an escapement pallet and electrical connections substantially as described. 5th. A printing telegraph receiver of the page type, having a type wheel carried by a rotary shaft, connected through a sliding unison worm and pin with a loose running gear wheel which meshes with a power impelled train of gear; a paper carriage geared to a second source of power, in combination with escapements and mechanical connections as described, whereby the carriage is moved athwart the type-wheel, printing effected, and the paper advanced line by line, substantially as described. 6th. In a printing telegraph receiver or analogous printing device, a type wheel carried by a rotary shaft, geared to a continuously acting source of power; a paper carriage geared to a second continuously acting source of power; escapements for the type wheel and paper carriage; a printing platen carried by a printing lever mechanically connected to the second source of power; mechanical and electrical connections, whereby printing is effected in page form, substantially as described. 7th. In a printing telegraph receiver or analogous printing device, a type wheel and paper carriage, and an actuating motor provided with an escapement for operating each; a retractor for moving the said paper carriage backward; feed mechanism for advancing the paper line by line, and mechanical connections between the type wheel and paper carriage for releasing the paper carriage at any point in its forward movement, substantially as described. 8th. In a printing telegraph receiver or analogous printing device, a type wheel carried by a rotary shaft geared to a continuously acting source of mechanical power; a paper carriage geared to a second continuously acting source of power; a printing platen carried by a lever having mechanical connections with the second source of power, and an escapement for each source of power, substantially as described. 9th. In a printing telegraph receiver or analogous printing instrument, a paper carriage positively connected to a power impelled train of gear through a rack and worm gear; in combination with mechanism for releasing the worm from the rack at any part of its journey, said releasing mechanism consisting of a cam lever and rock shaft, and mechanical connections with a power impelled train of gear as described, additional means being provided for returning the carriage to normal condition when released, all of said parts being regulated in their operation by an escapement, substantially as described. 10th. In a printing telegraph receiver, a type wheel geared to a constantly acting source of power; a paper carriage geared to a con-

stantly acting source of power; a printing platen carried by a printing lever mecanically connected to the latter source of power: in combination with a pair of electro-magnetic escapements, the former controlled by an electro-magnet in the main line, and the latter controlled by a second electro-magnet in a local circuit, and electrical connections, substantially as described. 11th. In a printing telegraphic receiver, a power impelled type wheel; a power impelled paper carriage; an escapement controlled by line currents for regulating the rotation of the type wheel; and a second escapement controlled by a local circuit connected to a mechanical circuit closer actuated by the first escapement for regulating the advancement of the carriage, substantially as described. 12th. In a printing telegraph, the combination of the following elements: a power impelled type wheel, an escapement therefor; a power impelled carriage and an additional escapement therefor; a unison device for connecting at will the type wheel to the shaft which carries it, and mechanical connections, substantially as described. 13th. In a printing telegraphic receiver, a type wheel borne by the shaft carrying a loose running pinion meshing with a train of gear; a spring pressed worm and unison lever and connections, whereby the shaft and gear train are connected and disconnected at will, substantially as described. 14th. In a printing telegraphic receiver, or analogous printing instrument of the page type, a paper carriage having a rack connected by worm gear and shafting to a source of power; a spring impelled drum connected to the carriage for restoring it to normal position; ratchet and pawl feeding mechanism connected to the carriage and frame, and releasing mechanism, consisting of a rock shaft, cam lever, and mechanical connections operatively connected to the worm gear and the source of power, substantially as described.

No. 38,456. Valve. (*Soupape.*)

John King, Minneapolis, Minnesota, U.S.A., 10th March, 1892; 5 years.

Claim.—1st. The combination, with the casting 2, having the longitudinal opening of varied diameter, of a plunger 9, arranged in the smaller portion thereof, and a rubber tube or washer 8, provided and secured in the larger portion, a support being provided for a lower end of said washer, substantially as described. 2nd. The combination, with the casting 2, having the longitudinal opening of varied diameter, of a plunger 9, arranged in the smaller portion thereof, a tube or washer 8, provided in the larger portion, a metal washer provided at the lower or outer end of said washer 8, substantially as described. 3rd. The combination, with the casting 2, having an outlet spout, of a plunger adapted to work in a longitudinal opening in said casting, a rubber washer or tube 9, arranged in an enlarged portion of said opening, and a strengthening sleeve for said rubber washer, substantially as described. 4th. The combination, with the casting 2, provided with the longitudinal opening, of the plunger 9, the outlet spout 3, the rubber seat washer 8, adapted to abut against the shoulder 5, of the casting, the pipe 18, and a telescoping or collapsing sleeve adapted to strengthen the inner walls of the washer or tube 8, substantially as described. 5th. The combination, of the casting having the longitudinal opening and adapted to receive the pipe 18, with the plunger 9, the long rubber washer or tube 8, a telescoping strengthening sleeve, a flange 20, for said sleeve, an outlet above said washer, and means whereby said plunger may be forced into or released from engagement with the end of said washer, substantially as and for the purpose specified.

No. 38,457. Valve-operating Mechanism for Tanks.

(*Mécanisme de soupape pour réservoirs.*)

John King, Minneapolis, Minnesota, U.S.A., 10th March, 1892; 5 years.

Claim.—1st. The combination, in a device of the class described, of a tank with a valve therefor, a float provided in connection with said valve, a tilting way or guide, a movable weight or weights in connection therewith, a movable stop for adjusting the throw thereof, and a rod for connecting said way or guide with said float and valve, substantially as described. 2nd. The combination, with the tank or reservoir, of a valve provided in connection therewith, a float in connection with said valve, a tilting way or guide, weights arranged therein, a stop in said guide for adjusting the throw of said weights, and an adjustable connection between said way or guide and said float and valve, substantially as described. 3rd. The combination, of a tank and a valve therefor, with an operating lever and a float for said valve, a tilting way or guide arranged above the same, a movable weight or weights in connection therewith, and the pivoted link 17 provided with a series of pivot openings or holes 19, substantially as and for the purpose specified. 4th. The combination, with the tank and a tank valve of a float in connection therewith, a tilting way or guide weight balls arranged therein, the adjustable stop screw 21, and the link 17, having openings 19, adapted to receive a suitable pin or lug provided on said way or guide, substantially as described 5th. The combination, in a device of the class described, of the tank and tank valve, with the operating lever 9, a float 12, a tilting tube 13, arranged upon trunnions, weight balls provided therein, an adjustable stop 21, the pin 18, the link 17, provided with holes 19, adapted to receive said pin, and an adjustable pivot block 20, upon said lever 9, substantially as described. 6th. The combination, in a device of the class described, of the guide or way adapted to tilt as described, with a float, a connection between the same movable weights provided in connection with said way or guide, and light space pieces in connection therewith whereby the desired disposition of said weights with respect to said guide is attained, substantially as described.

No. 38,458. Alternating Electric Current Motor.

(*Moteur électrique à courant alternatif.*)

William Blanch Brain, No. 24 Villiers Street, Elsternwick, and Arthur James Arnot, Melbourne, both of Victoria, Australia, 10th March, 1892; 5 years.

Claim.—1st. An alternating current motor, wherein the action of a current flowing along wire upon another current flowing along an approximately parallel and adjacent wire, is utilized to cause the rotation of the armature of said motor, substantially as herein described and explained. 2nd. An alternating current motor, consisting essentially of two spirally wound annular coils of wire (such as A, B), one of which is fixed, whilst the other can revolve, the whole being so constructed and arranged as that the motive current will be caused to travel in opposite directions around the two halves of each of said coils, a commutator and brushes being employed for inserting the different sections of the rotating coil or armature into its proper half of the circuit, so that it will correspond or harmonize with the adjacent half of the fixed coil or field, substantially as and for the purposes herein described. 3rd. An alternating current motor, consisting of a pair of spirally wound annular coils arranged parallel to each other, the one being a fixture and the other free to revolve, this latter being moreover provided with a commutator and brushes for automatically inserting its sections into the requisite circuit, combined with a laminated iron or other magnetic core inserted within either one or both of said coils, substantially as and for the purposes herein described. 4th. An alternating current motor, consisting of three or more spirally wound annular coils of wire arranged side by side, each alternate coil being a fixture, and the other revoluble, the current being led in opposite directions around the halves of the alternate coils, whose adjacent convolutions are approximately parallel to each other, a commutator or commutators and brushes being employed for automatically inserting the different sections of the revoluble annular coil or coils in circuit with one or other of its halves, so as to ensure the current flowing through said halves in opposite directions to that flowing through the corresponding halves of said fixed annular coils, the whole being constructed and arranged substantially as and for the purposes herein described. 5th. An alternating current motor, consisting of three spirally wound annular coils of wire arranged side by side, the centre one being revoluble and the other two being fixtures, the current being led in opposite directions around the two halves of the alternate coils, a commutator and brushes being employed for automatically inserting the different sections of the revoluble annular coil in circuit with one or other of its halves, and said revoluble coil being provided with a magnetic core, whilst the other two coils are constructed without any such core, substantially as and for the purposes specified.

No. 38,459. Device for Raising and Lowering Furniture. (*Appareil pour lever et baisser les meubles.*)

John D. Raymond, William P. Cogan and Frank H. Fairchild, all of Detroit, Michigan, U.S.A., 10th March, 1892; 5 years.

Claim.—1st. The combination of a tubular standard, supporting a rack, a sliding standard concentric with said tubular standard, and carrying a pinion, a locking bolt and a controlling handle, by means of which the bolt can be unlocked, substantially as and for the purpose described. 2nd. The combination of a tubular standard, supporting a rack, a sliding standard sliding in said tubular standard, a pinion supported on one of said parts and running along a rack supported on the other of said parts, a locking bolt and a flange, by means of which the standard can be secured to the supported furniture top, substantially as and for the purpose described.

No. 38,460. Process for the Simultaneous Production of Cellulose and Oxalic Acid from Ligneous Materials. (*Procédé pour la production s mulanée de la cellulose et d'acide oxalique des matières ligneuses.*)

Isaac Lifschutz, of Grunau, near Berlin, Prussia, 12th March, 1892; 15 years.

Claim.—1st. The process of producing cellulose and oxalic acid, which consists in immersing ligneous material in a mixture of nitric acid, or its described equivalent, water and sulphuric acid, or its described equivalent, separating from the liquid the converted ligneous material previous to its disaggregation, repeating the operation with new portions of material until the entire acid or its equivalent has been used up, and separating from the liquid the oxalic acid which has crystallized out, substantially as specified. 2nd. The process of producing cellulose and oxalic acid, which consists in immersing ligneous material in a mixture of nitric acid, or its described equivalent, water and sulphuric acid or its described equivalent, separating from the liquid the converted ligneous material previous to its disaggregation, repeating the operation with new portions of material until the nitric acid has been used up, the temperature of the liquid being raised at every succeding operation, cooling the remaining liquid, and separating therefrom the oxalic acid which has crystallized out, substantially as set forth.

No. 38,461. Clothes Drier. (*Séchoir à linge.*)

John McKinnon, Colfax, State of Washington, and William Jamieson, Missoula, Montana, both of U.S.A., 12th March, 1892; 5 years.

Claim.—A clothes drier, comprising a post having an arm near the top extending diagonally upward, a clip pivoted to the upper portion of the post and provided with a vertical pintle, and a depending handled rod, a dish-shaped collar pivoted on the pintle, a hub pivoted on the pintle above the collar and separated therefrom by a suitable packing, said hub having horizontal flanges at top and bottom connected by vertical flanges, and having also an annular rim with projecting arms to support the reel arms, the reel arms having their ends inserted in the recesses of the hub and having suitable lines attached thereto, and the convex plate attached to the arms so as to cover the hub, substantially as described.

No. 38,462. Damper. (*Régistre.*)

William Arthur Kemp and Albert E. Kemp, both of Toronto, Ontario, Canada, 12th March, 1892; 5 years.

Claim.—1st. The combination of a damper plate provided with a central elongated slot having a branch slot extending at an angle therefrom, a spring plate secured to the upper side of the damper plate in alignment with the branch slot, having its free end on a line with the bordering edge of the central elongated slot, and a damper rod working in bearings extending from the damper plate and provided with a downwardly bent portion registering with said central elongated slot of the damper plate, substantially as set forth. 2nd. A damper 1, provided with spindle sockets 3 and a central elongated slot 6, a damper rod passing through the said sockets and having a projecting piece 5 sprung into the slot 6, and a spring plate 10, secured to the upper side of the damper 1 and having a downwardly extending side 12, substantially as and for the purpose set forth. 3rd. The combination of a damper plate provided with a central elongated slot and a flange depending from one of the bordering edges of the slot, said slot also having a branch slot extending at an angle therefrom, a spring plate secured to the side of the damper plate in alignment with the branch slot, having its free end on a line with the bordering edge of the central elongated slot and bent downward at right angles, and a damper rod working in bearings extending from the damper plate and provided with a downwardly extending portion registering with said central elongated slot of the damper plate, substantially as set forth.

No. 38,463. Damper for Stovepipes.

(*Clé de tuyau de poêle.*)

William Arthur Kemp, Toronto, Ontario, Canada, 12th March, 1892; 5 years,

Claim.—1st. In a stovepipe damper, a damper plate provided on one of its faces with a stop arranged at an angle to the horizontal diameter, in combination with a damper rod working in bearings and having its central portion engaging with and arranged at the same angle as said stop on the face of the damper plate, substantially as described. 2nd. The combination of a damper plate provided with a slot arranged at an angle to the horizontal diameter, an L-shaped plate fastened to the damper plate, the short arm of which extends through said aperture, a damper rod working in bearings formed on said damper and having its middle portion arranged at an angle to the horizontal diameter of the damper plate, and engaging with the short arm of said L-shaped plate, substantially as described.

No. 38,464. Sleigh Truck. (*Chassis pour traineaux.*)

Carl M. Spencer, St. Johnsbury, Vermont, U.S.A., 12th March, 1892; 5 years.

Claim.—1st. A truck for sleighs and the like, comprising a suitable frame and supporting wheels therefor, said frame being provided with a groove for the reception of the vehicle, substantially as described. 2nd. A truck for sleighs and the like, comprising a suitable frame having supporting wheels and composed of the longitudinal and transverse pieces *b*, *a*, the longitudinal piece *b* being provided with a groove in which the runner fits, substantially as described. 3rd. A truck for sleighs and the like, comprising a suitable frame having supporting wheels and composed of longitudinal and transverse pieces, the longitudinal piece having a groove adapted for the reception of the runner, the sides of said groove being formed of spring material and adapted to clamp the runner between the same, substantially as described.

No. 38,465. Machine for Weighing Moving Loads.

(*Appareil pour peser les charges en mouvement.*)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 12th March, 1892; 5 years.

Claim.—1st. In a weighing machine specially adapted to weigh and record the weights of loads passing over a railway, the combination of the following instrumentalities, arranged and operating in substantially the manner hereinbefore set forth, viz.: First, a suitable depressible platform provided with tracks which form continuations of those of the railway upon which the load to be weighed is supposed to travel, and suitably supported in the proper relationship to said railway; second, the system of supporting-levers forming the connecting means between said depressible platform and its means of support, the final one of the series of said levers constituting the weight indicating beam, and being arranged to move (by the depression of the depressible platform) in opposition to the resistance of a suitable spring; third, the marking device arranged at the end of the longer arm of said final one of the series of levers, and operating to make marks of lengths corresponding with those of the movements of the said end lever, and fourth, a suitable surface for the registration thereon of the marks so made by the device at the end of said lever. 2nd. The combination of the following instrumentalities, all arranged and operating together in substantially the manner and for the purposes hereinbefore set forth; first, the railway over which the travelling loads to be weighed are supposed to travel; second, the depressible platform provided with rails which form continuations of the rails of said railway, and which is suspended from suitable supports in the proper relationship to said railway; third, the marking-beam G and an intermediate system of levers connected therewith and with each other, and operating to connect the said depressible platform with its means of support, and fourth, a dash pot applied to one of the levers (preferably to the end of the longer arm of the final lever G) and connected with some stationary part of the apparatus, and operating, as specified, to prevent the marking device of the lever G making any movement beyond the point up to which it should move, in order to make a mark that will correctly indicate the weight exerted upon the depressible platform by the load being weighed, and to thus prevent any inaccuracy in the registration of the lines or marks employed for estimating the aggregate weight of the loads passing over the depressible platform. 3rd. In a weighing apparatus or contrivance adapted specially to the weighing of travelling loads, the combination of first, the depressible platform D, suspended from suitable supports, and having its track arranged substantially in line with that of the railway over which the loads to be weighed are supposed to travel; second, a suitable supporting frame operating to sustain the suspended and depressible platform; third, a resistant spring connected at one end to the final one of the system of levers, and at the other end to some stationary portion of the apparatus, and fourth, a system of levers, each one of which has its pivotal or fulcral points (or knife edge bearings) arranged in a right line, in order that each and every one of said levers may work at all times with the same degree of leverage, and the final one of which system of levers operates to produce a record of marks, the various lengths of which correspond substantially with the variable movements of its longer arm, the said combination as a whole being and operating in the manner and for the purposes hereinbefore set forth.

No. 38,466. Machine for Weighing Moving Loads.

(*Appareil pour peser les charges en mouvement.*)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 12th March, 1892; 5 years.

Claim.—1st. The combination, with the track beams of a railway, of the slightly depressible platform suspended within a suitable frame-work supported by said track beams, and provided with rails which form continuations of those secured to said track beams, a system of levers from which said depressible platform is suspended, and which is sustained by said frame-work, and means for registering the extent of movement of the longer arm of the final lever of said system, all substantially as and for the purpose set forth. 2nd. In combination with the depressible platform D, a system of levers from which it is suspended, and a scale beam provided with a suitable resistant for indicating the extent of movement of said platform, a uniformly rotating drum or wheel M (moved by any suitable mechanism within or without said drum), and a marking device on the scale beam to register the movement of the latter on the face of said drum, whereby I am enabled to not only register the measurement marks of all weights passed over the platform D, but am also enabled to ascertain the exact times at which said loads or any of them may have made their passage over the weighing apparatus. 3rd. In combination with the tramway and the depressible platform suspended within a frame-work supported on said tramway, the system of levers, including the scale beam G, supported by said frame-work, and from which said platform is suspended, and the adjustable resistant spring I, adapted to have its tension regulated so that the machine will not begin to operate under any less load than the minimum weight of the loads to be carried over the tramway, all substantially as hereinbefore explained. 4th. In combination with the scale beam G, the registering drum M, and a suitable marker device applied to the scale beam, a guide or keeper bar *g*, and a suitable anti-friction roller mounted on the scale beam and travelling against the face of said keeper bar, in substantially the manner and for the purpose hereinbefore explained.

No. 38,467, Machine for Hoisting and Conveying.

(*Monte-charges et machine à transporter.*)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 12th March, 1892; 5 years.

Claim.—In a hoisting and conveying machine, the combination, with the hoist block or load supporting device and with the trolley or carriage, of an automatic contrivance for effecting an engagement between said load supporting device and said trolley, and for also

permitting a disengagement of these parts, composed of the following instrumentalities, viz.: First, projecting engaging devices on one of the parts to be brought into and thrown out of engagement with each other; second, suitable seats or depressed bearings on the other side of said parts for the accommodation of said engaging devices; third, suitable stops which operate to insure the descent of said engaging devices into said bearings or seats, whenever said devices are lowered immediately after having been elevated to or above a proper point; and fourth, means which insure a complete separation of the said engaging devices and the said seats whenever the former are elevated from engagement with said seats to or above a proper point, all substantially as hereinbefore set forth.

No. 38,468. Machine for Hoisting and Conveying.

(Monte-charges et machine à transporter.)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 12th March, 1892; 5 years.

Claim.—The combination of the following named instrumentalities: first, any suitable tramway; second, a tramway carriage or trolley mounted to travel on said tramway; third, a hoist rope having one end secured to a stationary point of attachment, and the other end connected with the hoisting engine in the usual manner; fourth, a sheave block in engagement with the said hoist rope and which is supported by said rope only when being raised or lowered; fifth, the hooks F, *f*, formed with depressed seats to accomodate the engaging devices of the sheave block, and from which said devices can be released only by lifting the sheave block, and sixth, suitable means for the manipulation of said hooks by an attendant, said combination of instrumentalities operating substantially in the manner and for the purposes set forth.

No. 38,469. Boring Tool. (*Machine à forer.*)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 12th March, 1892; 5 years.

Claim.—1st. In a boring tool, the combination, with the tool holder or bar A, of a plate like cutter C, pivotally connected near its inner end to said tool holder, means for adjusting or setting out the outer end of said cutter laterally of the tool holder, and means of securely holding in adjustment said cutter, the whole constructed and operating substantially as specified for the purposes set forth. 2nd. In combination with a suitable tool holder or spindle bar A, a series of plate like cutters arranged partially within suitable housings in said holder, and having their cutting edges in planes which pass radially through the said holder, suitable means for adjusting the cutting edges or portions of said plate like cutters radially of the tool holder, and equidistant respectively from the axis of said holder, and means for clamping or holding in place said cutters when properly adjusted, all in substantially the manner hereinbefore set forth. 3rd. In combination, with the tool holder A, and a plate like cutter C, arranged partially within a housing in said holder, a movable or adjustable pivotal connection between said cutter and holder, and means for holding fast the outer or operative end of the adjustable cutter, all substantially as and for the purposes set forth. 4th. In a boring tool of the type shown and described, the combination, with the slotted-out tool holder A, and a series of plate like cutters C, pivotally connected therewith, as specified, of a series of adjusting cam-like disks and a series of clamping screws for holding fast said cam-like disks and cutters, all substantially as hereinbefore set forth. 5th. In a boring tool of the type shown and described, the combination, with the tool holder A, and a cutter C, arranged partially within a housing of said holder and laterally adjustable therein, of a series of screw holes in the holder, a series of indentations in the cutter plate C, and a removable set screw adapted to effect the pivotal engagement of the cutter and holder at different points as the cutter becomes worn and has to be set further out endwise, all substantially as hereinbefore set forth.

No. 38,470. Drilling Machine. (*Machine à forer.*)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 12th March, 1892; 5 years.

Claim.—1st. A drilling tool comprising two or more separate cutters, the operative edges of which exactly meet (at their inner ends), at a point which lies in the axis of motion of the tool, all substantially as and for the purposes set forth. 2nd. In a drilling tool of the kind shown and described, the combination, with the tool stock A, having formed therein suitable seats or receptacles for the same, of two tool pieces or cutters E, E, each formed of a semi-cylindrical piece of steel having its working ends beveled or tapered in two directions, substantially as and for the purposes hereinbefore set forth. 3rd. In combination with the tool stock A, two or more cutters or tool pieces having their working ends projected beyond said tool stock, and means for adjusting said pieces endwise and also securely clamping them in place laterally, all substantially as and for the purposes hereinbefore set forth.

No. 38,471. Grab Bucket. (*Appareil à manier le charbon.*)

Alexander E. Brown, Cleveland, Ohio, U.S.A., 12th March, 1892; 5 years.

Claim.—1st. In a contrivance for gathering up and removing coal or other material, a single bucket-like device or receptacle having an axis of motion located within itself, and the working or entering edges of which move downwardly into the mass of material to be gathered up, and thence move upwardly through said mass, in combination with suitable means for imparting such action to said bucket-like device, all in substantially the manner and for the purpose hereinbefore set forth. 2nd. In a contrivance for gathering up and removing coal or other material, the combination of the following instrumentalities, viz.: First, a single oscillatory bucket or receptacle adapted to pass downwardly into and thence upwardly through the material in substantially the manner specified; second, a suitable framework adapted to rest on top of the material to be handled, and having the said bucket pivotally connected therewith, substantially as described, and third, means which effect a partial rotation of said bucket round about its pivotal connections with the said frame, the said combination being and operating in the manner and for the purposes hereinbefore set forth. 3rd. In combination with a suitable framework adapted to rest on the material to be handled, an oscillatory bucket or receptacle pivotally connected with said framework and a drive shaft mounted in the upper portion of said framework, one or more drive wheels mounted on said shaft, one or more chains arranged in engagement with said wheels, a series of chain wheels mounted on the lower portion of said framework, and chain channels or housings *e* within which travel such portions of the chain as effect an engagement with the bucket to be rotated, as substantially in the manner and for the purposes hereinbefore set forth.

No. 38,472. Gold Extractor.

(Appareil pour l'extraction de l'or.)

Louis Samson, Vancouver, British Columbia, Canada, 14th March, 1892; 5 years.

Claim.—1st. A gold extractor consisting of a hopper adapted to receive the sand, gravel, stones and water from the flume, an inclined grate in the said hopper for separating the stones, a finer inclined grate for separating the gravel, two vertical chambers connecting with the said hopper, a valve and means for operating the same closing the inlet of either of the said chambers, two horizontal passages connecting the said vertical chambers with two upwardly extended chambers of larger area than the aforesaid chambers, pockets on either sides of these chambers, and an outlet at the top, means for drawing off the water from these chambers, and pockets and doors communicating therewith, substantially as set forth. 2nd. A gold extractor, having at its entrance grates for separating the coarser material, a downward chamber connected by a passage with an upward chamber having pockets causing the water to take a zig-zag course, and means for emptying the water from said extractor and withdrawing the contents of the said passage and pockets, substantially as set forth. 3rd. In a gold extractor, the combination, with a hopper having means for separating the coarser material brought in by the flume, of two vertical chambers E, a valve F for closing the entrances to the said chambers, means for operating the said valve, the horizontal passage I, pocket R, vertical chambers J, having pockets K L, doors P, and draw-off cocks or plugs Q, and the outlets M, substantially as set forth.

No. 38,473. Gold Extractor. (*Appareil pour l'extraction de l'or.*)

Louis Samson, Vancouver, British Columbia, Canada, 14th March, 1892; 5 years.

Claim.—1st. A device for extracting gold from rivers, etc., consisting of a trench formed across the bed of the watercourse, a grate covering the top of the said trench, the said grate being level with or slightly below the surface of the bed of the said watercourse and a series of receptacles, adapted to be drawn into and out of the said trench, substantially as set forth. 2nd. A device for extracting gold from rivers, etc., consisting of a trench, excavated in the bed of the watercourse, the said trench being lined with planking, piles for supporting the sides, flat rails secured along the bottom and sides of the said trench, a covering for the top of the said trench, the said covering having a grate down the centre, a series of boxes or receptacles having runners adapted to slide on and guided by the said flat rails, the said boxes or receptacles being coupled to one another, substantially as set forth. 3rd. In a device for extracting the gold from rivers, etc., the combination, with a trench formed in the bottom of the watercourse, of the receptacle or box J, the said box being open at the top, the said box being longer at the top than the bottom, the V-shaped runners M, secured to the bottom and sides of the said box, the bands N, bolts O, and coupling eyes P, substantially as set forth.

No. 38,474. Window Screen. (*Store de fenêtre.*)

Alexander McKerlie, Hamilton, Ontario, Canada, 14th March, 1892; 5 years.

Claim.—In a window screen, the vertical metallic tube B, having vertical side slot C, [1], attachment lugs B^1, and lower interior socket B^2, in combination with the cover E, having interior central tube F, around which is coiled the spiral spring H, and attached to upper part of said cover and to the vertical roller I, provided with a fabric screen C, having strengthening rod D, and fastening C^2, substantially as and for the purpose hereinbefore set forth.

No. 38,475. Comb Cleaner. (*Nettoyeur de peignes.*)

Elihu R. Pettit, Philadelphia, Pennsylvania, U. S. A., 15th March, 1892; 5 years.

Claim.—1st. A comb-cleaner consisting of a frame supporting a series of strands or bands of suitable material, and a fastening device for the ends of said strands or bands, said parts being combined, substantially as described. 2nd. A comb-cleaner having a frame supporting a series of strands made from woven-wire fabric, and removable fastening devices attached to the ends of said strands and adapted to be connected to the frame, substantially as described. 3rd. A comb-cleaner having a frame supporting a series of strands provided with end stiffening plates around which the strands are carried, substantially as described. 4th. A comb-cleaner consisting of a frame having woven wire-cloth attached thereto, said cloth being formed in lengths, having cross wires at intervals to form a secure means of attachment, substantially as described.

No, 38,476. Dress Shield. (*Sous corsages.*)

Isaac Benjamin Klenert, New York, State of New York, U. S. A., 15th March, 1892; 5 years.

Claim.—1st. A dress shield having its edges substantially straight, as and for the purpose specified. 2nd. A dress shield having its edges substantially straight, and the waterproof lining of the ordinary crescent shape, substantially as described. 3rd. As an improved article of manufacture, a dress shield comprising covering of textile fabric having its top edge curved and its side and bottom edges straight, and a waterproof lining of double crescent shape of smaller size than said covering and having its concave curved edges fitting under the curved edges of the covering, and its convex curved edges attached to the inner sides of the same at a distance from the straight edges, all substantially as herein shown and described.

No. 38,477. Sieve. (*Tamis.*)

Otto Sohnelle, Berlin, Prussia, 15th March, 1892; 10 years.

Claim.—Constructing moving sieves of all kinds with sieve surfaces that are attached to the sieve frames, in such manner that instead of being in a stretched condition, they either hang loose upon the frame either in one direction or in all directions, or are formed with one or more folds of any desired form between the sides of the frame, either parallel or at an angle to the frame, substantially as described.

No. 38,478. The Electrolytic Production of Caustic Soda, Caustic Potash, and other Products from their Salts. (*Production électrolytique de soude, caustic à la chaux, potasse à la chaux et autres produits de leurs sels.*)

James Charles Richardson, Clarkenwell, Middlesex, England, 15th March, 1892; 5 years.

Claim.—The method of the electrical decomposition of salts of alkali or alkali earths in solution wherein oxide of copper is employed, substantially as described and for the purpose set forth.

No. 38,479. Household Altar for Sacramental Purposes. (*Autel-meuble pour usage sacramentale.*)

Leo C. Beaudet, New York, State of New York, U. S. A., 15th March, 1892; 5 years.

Claim.—1st. A household altar table, comprising a set of leaves that are hinged together so as to fold into box form, or produce a flat surfaced table when in an extended condition, substantially as described. 2nd. A household altar table, comprising a set of hinged leaves that when extended produce a table, and when folded become a box, a supporting column and a base therefor, substantially as described. 3rd. A household altar table, comprising a set of hinged leaves that when extended provide a flat table, and when folded become a rectangular box, a telescopic column, and a base therefor, substantially as described. 4th. A household altar table, comprising three main leaves hinged together at their side edges, four supplementary leaves hinged to the ends of the main leaves, and four other supplementary leaves hinged to opposite edges of the first set of supplementary leaves, so as to fold toward each other in pairs, and form a continuous level table surface when extended, substantially as described. 5th. A household altar table, having a set of three main leaves hinged together along adjacent edges, the outer two main leaves entering their edges within grooves in the engaged edges of the centre leaf when extended flatwise, the outer main leaves supporting supplementary leaves that are hinged to their ends, and other supplementary leaves having hinged connection with the supplementary leaves that engage the main leaves, substantially as described. 6th. A household altar table, having the three main leaves hinged together edgewise, and supplementary leaves hinged to and supported by the main leaves, a main wall piece secured at a right angle to one main leaf, and a wing piece hinged to each end of the wall piece, substantially as described. 7th. In a household altar table, comprising hinged leaves that may be extended to form a flat table or be folded to produce a rectangular box, a crucifix having a swivel and sliding connection with one wall or leaf of the structure, substantially as described.

No. 38,480. Clothes Drier. (*Séchoir à linge.*)

Arrestide Caron, Minneapolis, Minnesota, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. The combination, with the endless cables and transverse holders of clamps for adjustably and removably securing the holders to the cables. 2nd. A device for securing slats to cables, consisting of a ring, a lug and a clamp screw, the ring fitting over the cable, the lug being attachable to the slat, and the screw working through threaded holes in the ring and the lug against the cable, substantially as described. 3rd. The combination, with the brackets and the outer end support, of the sheave shaft mounted in the brackets, provided with cable supporting sheaves, the crank shaft mounted in the brackets, driving connections from the crank shaft to the sheave shaft, sheaves on the outer end support, endless cables working over said sheaves and transverse holders secured to the cables, substantially as described. 4th. The clothes drier comprising the support B, provided with the sheaves E, the brackets H, the sheave shaft G, provided with the sheaves D, the pair of cables C, working over the sheaves D, and provided with the transverse holders N, the crank shaft S, a relatively large driving wheel on the sheave shaft and a relatively small driving wheel on the crank shaft for imparting motion to the large wheel and sheave shaft, substantially as described. 5th. In a clothes drier, comprising cables and transverse holders secured thereto, a cable tightener consisting of headblocks secured, one to each end of the cable, and a draw bolt working through one of the headblocks as a swivel and the other as a nut, substantially as described.

No. 38,481. Vestibule Hood for Cars.

(*Capuchon pour vestibules de chars.*)

Thomas Ashley Bissell, Buffalo, New York, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. The combination, with a railway car, its vestibule, and movable buffer plate, of a flexible hood attached to the vestibule, a face plate attached to the hood, and a laterally movable connection attaching the face plate to the buffer plate, whereby the face plate can shift its position laterally on the buffer plate while remaining parallel with the buffer plate, substantially as set forth. 2nd. The combination, with a vestibule car and its buffer plate, of a face plate arranged above the buffer plate, and links connecting the lower ends of the face plate with the buffer plate by pivots arranged lengthwise of the car, whereby the face plate is enabled to move with its lower ends transversely on the buffer plate, substantially as set forth. 3rd. The combination, with a railway car provided with a vestibule, of a hood attached to the vestibule, a face plate attached to the hood, and swiveling suspension rods, whereby the face plate is suspended on the car and enabled to move lengthwise and transversely of the car, substantially as set forth. 4th. The combination, with a railway car, provided with a vestibule, and a yielding buffer plate, of a hood attached to the vestibule, a face plate attached to the hood, swiveling suspension rods supporting the face plate on the vestibule, and transversely oscillating links connecting the lower ends of the face plate with the buffer plate, substantially as set forth. 5th. The combination, with a railway car provided on its platform with a vestibule, of a hood attached to the vestibule, a face plate attached to the hood, a suspension rod attached with its lower end to the face plate, and a supporting arm pivoted to the vestibule and connected with the upper end of the suspension rod, substantially as set forth. 6th. The combination, with a railway car provided on its platform with a vestibule, of a hood attached to the vestibule, a face plate attached to the hood, a supporting arm pivoted with its lower end to the vestibule and provided at its upper end with an eye, and a suspension rod attached with its lower end to the face plate and provided at its upper end with a semi-spherical knuckle resting upon said eye, substantially as set forth. 7th. The combination, with a railway car provided on its platform with a vestibule, of a face plate, a hood connecting the face plate with the vestibule, a suspension rod attached with its lower end to the face plate, a supporting arm pivoted with its lower end to the vestibule and supporting the suspension rod at its upper end, and a roller mounted on the upper end of the suspension rod and bearing against the rear side of the face plate, substantially as set forth. 8th. The combination, with a railway car provided on its platform with a vestibule, of a face plate, a hood connecting the face plate with the vestibule, a suspension rod pivoted with its lower end to the face plate, a supporting arm pivoted with its lower end to the vestibule and having a swiveling connection at its upper end with the upper end of the suspension rod, and a stop chain connecting the vestibule with the face plate, substantially as set forth. 9th. The combination, with the railway car provided on its platform with a vestibule and a movable buffer plate, of a face plate, a hood connecting said face plate with the vestibule, swiveling supports connecting the upper portion of the face plate with the vestibule, links pivoted with their lower ends to the buffer plate and provided with slots, and pins or bolts secured to the lower portion of the face plate and engaging in said slots, substantially as set forth. 10th. The combination, with a vestibule car, of a movable face plate and an automatic locking bolt projecting from the face plate and adapted to engage in a recess in the face plate of the adjoining car, whereby the bolt is pressed back when the face plates are out of line and is automatically projected and interlocked with

the opposing face plate when the face plates register with each other, substantially as set forth. 11th. The combination, with a railway car provided on its platform with a vestibule, of a face plate capable of transverse movement and provided with a recess on one side, a rearwardly ascending pocket formed in the opposite side of the face plate, and a retractible bolt arranged in said pocket, whereby the bolt is projected by gravity, substantially as set forth. 12th. The combination, with a railway car, its vestibule, and the face plate, of a flexible hood connecting the vestibule with the face plate, and a bow pivoted with its lower ends to the vestibule, and supporting the hood between the vestibule and the face plate, substantially as set forth. 13th. The combination, with a railway car, its vestibule, and the face plate, of a flexible hood connecting the vestibule with the face plate, and a bow pivoted with its lower ends to the face plate and supporting the hood between the vestibule and the face plate, substantially as set forth.

No. 38,482. Oven Door and Oven.

(Porte de fourneau et fourneau.)

John A. Armstrong, Ottawa, Ontario, Canada, 15th March, 1892; 5 years.

Claim.—1st. An oven door constructed substantially as described, having an aperture in the material of which the door is composed, and a sheet or sheets of a transparent material, to let light into the interior of the oven, and through which transparent material the food may be seen and the stages of its cooking ascertained without opening the door, whereby an ingress of cold air would be allowed, said sheets of transparent material secured to the door by means of lugs and keys, and protected and caused to serve the function of reflectors to return the heat which is thrown against them back into the interior space of the oven, by means of the supplementary sliding doors herein set forth. 2nd. An oven illuminated in its interior space by the light admitted through the plate C, attached to the oven door B, by means of the lugs E, and the keys F, substantially as described. 3rd. In an oven door, the combination, with the door B, having the lugs E, and the ways G, of the transparent medium C, and the supplementary sliding door D, substantially as set forth.

No. 38,483. Thill Coupler. (*Armon de limonière.*)

Dillon Sidney Brown, Genoa, Illinois, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. In a thill coupling, the combination, with a clip, of a pole eye having an internal rib, a washer formed of a rectangular piece of leather, or similar material, placed in the thill eye, so that one of its ends may abut against the rib, and a bolt adapted to enter said washer and push itself through the same by turning therein, substantially as described. 2nd. The combination, with a suitable clip, of an eye having an internal rib, a washer constructed of a rectangular piece of leather, or similar material, inserted within the eye, so that one of its ends may abut against said rib, and a pointed bolt adapted to enter said washer, substantially as described.

No. 38,484. The Electrical decomposition of Solutions of Chloride of Sodium and Potassium. (*Décomposition électrique de solutions de chlorure de sodium et potassium.*)

James Charles Richardson, 23 Claremont, Clerkenwell, Middlesex, England, 15th March, 1892; 5 years.

Claim.—The method of producing caustic soda or caustic potash and chlorine from solutions of chloride of sodium or chloride of potassium by electrolysis in a vessel in which the electrodes are separated from each other by solid partitions, such partitions extending into the solution a depth below the electrodes sufficient to prevent the liberated chlorine and caustic soda or potash from recombining as they are formed at the electrodes, but not so deep as to cause an obstruction to the current passing between the electrodes through the solution to be decomposed.

No. 38,485. Fountain Flower Holder.

(Porte-bouquet fontaine.)

Ewing Buchan, Toronto, Ontario, Canada, 15th March, 1892; 5 years.

Claim.—As an improved flower holder, a water cylinder having an open ended tube inserted into it, the open end of the water cylinder being closed by a cap fixed to one end of the said tube, substantially as and for the purpose specified.

No. 38,486. Carpet Stretcher. (*Tendeur de tapis.*)

John Vandyke, sr., Grimsby, Quebec, Canada, 15th March, 1892; 5 years.

Claim.—1st. In a carpet stretcher, a perforated bar, to which is bolted clamps, and a lever pivoted to the clamps, and a second pair of clamps adjustably pivoted to the lever, made to impinge against a clutch board provided with wire nail points projecting from its under surface to engage with a carpet to stretch it, substantially as specified. 2nd. In a carpet stretcher, the combination of the perforated bar C, the clamps B, B, attached thereto, the lever A, pivoted to the ends of the said clamps, the clamps G, G, pivoted to the lever A, the horizontal bar E, and the clutch board E, provided with nail points e, on the under side, all constructed and combined, substantially as and for the purpose specified.

No. 38,487. Bottle for Mucilage, etc.

(Bouteille à mucilage, etc.)

Wilbur F. Litch, Philadelphia, Pennsylvania, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. A bottle or holder for mucilage, ink or the like, having a body with two compartments therein, a single cover for both compartments, and a brush secured to said cover and adapted to enter one of said compartments when the cover is closed, said parts being combined, substantially as described. 2nd. A bottle or holder for mucilage, ink or the like, having two compartments therein, a scraper secured to the divisional wall of said compartments, and extending into one end thereof, a single cover for both compartments, and a brush secured to said cover, and adapted when the cover is closed to depend in the compartment not having the scraper, said parts being combined substantially as described. 3rd. A bottle or holder for mucilage, ink or the like, having two compartments therein, a single cover for said compartments, with a brush, the latter adapted to enter one of said compartments when the cover is closed, and a swinging arm having an elastic head bearing against said cover when the same is closed, said parts being combined substantially as described. 4th. A bottle or holder for mucilage, ink or the like, having a cover, and a swinging arm adapted to raise when adjusted to one side, and having an elastic head to engage said cover, substantially as described. 5th. A mucilage bottle or holder having a cover, a threaded boss, and a swinging arm having a threaded supporting cap fitted on said boss, and carrying a head H, at its free end, substantially as described. 6th. A bottle, substantially as described, an upright wall in said bottle, and a scraper I, formed with a depending form M, which is removably fitted over said wall for the purpose set forth. 7th. A bottle for mucilage, ink or the like, having different compartments, and a removable cup, occupying one of the same, the inner wall of said cup forming the divisional wall of the compartments, said parts being combined substantially as described. 8th. A bottle for mucilage ink or the like, having different compartments, and a removable cup in one of the same, the wall of the bottle having necks, and that of the cup having grooves which receive said necks, the parts named being combined, substantially as described. 9th. A bottle for mucilage, ink or the like, having different compartments, and a removable cup occupying one of the same, the inner wall of said cup supporting a scraper, which projects over the other compartment, and forming the divisional wall of the compartments, substantially as described.

No. 38,488. Corset. (*Corset.*)

De Ver H. Warner, Bridgeport, Connecticut, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. A corset having inside the body an inner section B, below the breast portion, leaving an opening extending to the upper edge, and a breast section extending the length of the corset overlapping the inner section, and having one loose edge and provided with fasteners for securing said loose edge, substantially as set forth. 2nd. A corset having a body, the breast portion of which extends the length of the corset, and is loose at one edge and provided with stiffeners extending its entire length, and an inner section B, arranged below an opening extended to the upper edge of the breast portion of the corset and overlapped by the breast section, substantially as described. 3rd. A corset having inside the body a section B, cut away at the top to form a breast opening extending to the upper edge of the corset, and with a breast section overlapping the waist section, having one edge loose and provided with fastenings for securing said edge, substantially as described. 4th. A corset provided with a breast section permanently connected near the lower end and at both edges with the adjacent portions of the corset, and an underlying waist section extending from the lower edge to a breast opening between the clasp sections and the body below the breast portion, substantially as described. 5th. The combination in a corset of a body section, the breast portion of which is separable from the adjacent section at one edge, and an underlying waist section, extending below the breast portion between the clasp section and the body, and having a fullness at the upper edge with a breast opening above said edge, substantially as described. 6th. The combination of the body of a corset having a breast section loose at one edge, and an underlying waist section having a breast opening 7, and flap 10, substantially as described.

No. 38,489. Tramway. (*Tramway.*)

Levi Meredith Brock, Mackinaw, Illinois, U.S.A., 15th March, 1892; 5 years.

Claim.—The herein described tramways, with vertical sides B, B^1, C and C^1, with openings E, and with the vertical sides B and C^1, extending downwardly, all substantially as set forth.

No. 38,490. Guard Ring. (*Garde-anneau.*)

Josephine H. Bullard, Boston, Massachusetts, U.S.A., 15th March, 1892; 5 years.

Claim. 1st. A guard ring for wear with an ornamental ring of somewhat larger size, provided with a projecting lug or terret constructed to fit within and under part of the ornamental ring within a recess therein, substantially as set forth. 2nd. A guard ring provided with an offset and a projecting lug or terret, substantially as and for the purposes set forth. 3rd. In combination, a finger ring

provided with a recess in its surface, and a guard ring therefor, of somewhat smaller internal diameter than the said finger ring provided with an offset and projecting lug or terret, the said lug or terret being adapted to fit within said recess, substantially as set forth.

No. 38,491. Steam Generator. (*Générateur de vapeur.*)

Charles William Foster, New Haven, Connecticut, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. In a steam generator, the combination of a furnace casing, a stand pipe extending through the latter, pipes extending radially from said stand pipe and having headers at their outer ends, the manifold pipes connected at their lower ends by said headers, and connections between the upper ends of said manifold pipes and the stand pipe, substantially as set forth. 2nd. In a steam generator, the combination of the furnace casing, the stand pipe extending through the same, the pipes extending radially from said stand pipe and having headers at their outer ends, the manifold pipes connected at their lower ends by said headers, and pipes connecting the upper ends of said manifold pipes independently with the stand pipe, above the water line of the latter, substantially as set forth. 3rd. In a steam generator, the combination of the furnace casing, the stand pipe extending through the same, pipes extending radially from the said stand pipe near its lower end and having headers at their outer ends, the manifold pipes connected at their lower ends by said headers, and independent couplings connecting the upper ends of said manifold pipes with the said stand pipe at different elevations, as and for the purpose set forth. 4th. In a steam generator, the combination of the furnace casing, the stand pipe extending through the same, pipes extending radially from said stand pipe near its lower end and provided with headers at their outer ends, the manifold pipes having their lower ends connected with the stand pipe, and the grate bars supported upon the pipes extending radially near the lower end of the stand pipes, substantially as set forth. 5th. In a steam generator, the combination of the furnace casing, the stand pipe extending through the same, the manifold pipes arranged within the furnace casing and having their upper and lower ends connected with the stand pipe above and below the water line, and the serpentine pipes arranged within the furnace casing and having their upper and lower ends connected with the stand pipe, substantially as and for the purpose set forth. 6th. In a steam generator, the combination of the furnace casing, the base supporting the same and having the ash-pit, the stand pipe extending through the base and furnace casing and through the cap or bonnet of the latter, the manifold pipes and the serpentine pipes arranged within the furnace casing, and having their upper and lower ends connected with a stand pipe above and below the water line, the feed pipe connected with the lower end of the stand pipe, and the exterior pipe connected with the stand pipe above and below the water line and having a chamber or enlargement, the water-gauge and the try-cocks connected with said chamber, and the steam or pressure gauge arranged at the upper end of the exterior pipe, substantially as and for the purpose set forth. 7th. In a steam generator, the combination of the base having the ash pit, the furnace casing supported upon said base, the sleeve or collar mounted upon the bottom of the base, and having an interiorly threaded opening registering with an opening in the bottom of the base, and an interiorly threaded flange, and the stand pipe mounted in said flange and extending upwardly through the base and the furnace casing, substantially as and for the purpose set forth. 8th. In a steam generator, the combination of the base, the central stand pipe having radiating pipes near its lower end, the carriage mounted revolubly upon the gradial pipes supporting the grate bars and having teeth or cogs on its under side, and the shaft journaled in the base and having a spur wheel engaging said teeth or cogs, all combined and operating substantially as and for the purpose set forth.

No. 38,492. Wrench. (*Clé à écrou.*)

Silvanus Hussey, Brant, New York, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. The combination, with the handle and the shank provided with a fixed jaw, of a movable jaw sliding toward and from the fixed jaw, and an adjusting screw terminating at the outer portion of the handle, whereby the movable jaw is operated, substantially as set forth. 2nd. The combination, with the handle and the shank provided with a fixed jaw, and an adjusting screw extending through the handle and the movable jaw, and whereby the latter is operated, substantially as set forth. 3rd. The combination, with the handle and the shank provided with a fixed jaw, of a movable jaw sliding toward and from the fixed jaw, and a rotary adjusting screw extending to the outer portion of the handle, held against lengthwise movement and provided at its outer portion with a knob or thumb piece, substantially as set forth. 4th. The combination, with the handle and the shank having a fixed jaw, of a rotary adjusting screw extending from the stationary jaw to the outer portion of the handle and held against lengthwise movement, and a movable jaw operated by said screw, substantially as set forth. 5th. The combination, with the handle and the shank having a fixed jaw of a movable jaw guided on said shank, auxiliary jaws arranged respectively on said fixed and movable jaws and projecting laterally therefrom, and an adjusting screw whereby the movable jaw is operated, substantially as set forth. 6th. The combination, with the handle and the shank having a fixed jaw, of a movable jaw guided on said shank, auxiliary jaws arranged respectively on said fixed and movable jaws and projecting laterally therefrom, and an adjusting screw held against lengthwise movement and extending through said auxiliary jaws and the handle, substantially as set forth. 7th. The combination, with the handle having a socket arranged in a plane parallel with the handle, of a shank carrying a jaw and secured in the socket of the handle, substantially as set forth. 8th. In a wrench, the combination with the fixed jaw, of the movable jaw having a chamber or recess provided with spherical socket, and a movable gripping bar arranged in said recess and having a spherical knuckle seated in said socket, substantially as set forth. 9th. The combination, with the shank of the wrench having a fixed jaw, of a movable jaw having an aperture whereby it slides upon the shank, and a chamber or recess opening into said aperture and provided with a spherical cavity, and a gripping bar arranged in said chamber, and having a spherical head seated in said cavity, substantially as set forth.

No. 38,493. Saw. (*Scie.*)

William Dunbar, Sweeden Valley, Pennsylvania, U.S.A., 15th March, 1892; 5 years.

Claim.—1st. An insertible saw tooth having its contacting edge formed of the arcs of two differently centered circles, with an intermediate semi-circle joining their adjacent ends, the base portion of the tooth being wider at the intersection of its outer edge with the semi-circle than the point portion at the intersection of its outer edge with the semi-circle, substantially as described. 2nd. A saw provided with a series of recesses upon its operating edge, the edges of said recesses each being formed in the arcs of two differently centered circles, the adjacent ends of which are joined by a small semi-circle, the point formed by the intersection of the first or outer circle and the semi-circle overhanging the second or inner circle, an insertible tooth in each recess, the contacting edge of which is formed of the arcs of two differently centered circles, with an intermediate small semi-circle joining their adjacent ends, the base portion of the tooth being wider at the intersection of its outer edge with the semi-circle than the point portion at the intersection of its outer edge with the semi-circle, and a rivet between the portions of the tooth and the saw formed by the small semi-circle, substantially as described.

No. 38,494. Ore Concentrator. (*Concentrateur de minerai.*)

Calvin M. Fitch, Chicago, Illinois, U. S. A., 16th March, 1892; 5 years.

Claim.—1st. In ore-concentrating apparatus, a suitably sustained tray having a downwardly inclined bottom; a concentrate-receiving receptacle depending from said bottom, provided with an outlet for the discharge of the concentrates; a screen or perforated diaphragm separating the receptacle from the area of the tray through which the concentrates pass to said receptacle; and means for oscillating or reciprocating the apparatus, substantially as described. 2nd. In ore-concentrating apparatus, a suitably sustained tray having a downwardly inclined bottom; a concentrate-receiving receptacle depending from said bottom, provided with an outlet for the discharge of the concentrates; a screen or perforated diaphragm separating the receptacle from the area of the tray through which the concentrates pass to the said receptacle; a valve for controlling the discharge from the outlet; and means for oscillating or reciprocating the tray; substantially as described. 3rd. In ore-concentrating apparatus, a suitably sustained tray having a grating or series of plates projected across its working area, extending downwardly in the direction of, but separated from its bottom, arranged and adapted to allow the gravitating concentrates to pass intermediate of their lower edges and the bottom of the tray toward a common discharging point, and the gangue to pass over their upper portions to discharge; an outlet connected with said bottom for discharging the concentrates; and means for oscillating or reciprocating the apparatus, substantially as described. 4th. In ore-concentrating apparatus, a suitably sustained tray having within its working area a series of plates projected in the direction of its line of motion, and extended downwardly in the direction of, but separated from its bottom, arranged and adapted to allow the concentrates to pass beneath their lower margins toward a common discharging point, and the gangue to pass over their upper portions to discharge; pulp-guides at or about the extremities of said plates, an outlet for the discharge of the concentrates; and means for oscillating or reciprocating the tray, substantially as described. 5th. A suitably sustained ore-concentrating tray having a downwardly inclined bottom, and slop-boards extended upwardly therefrom; a discharge for the concentrates connected with the bottom thereof; a series of plates projected across its working area in the direction of its line of motion, and extended downwardly in the direction of, but separated from said bottom; arranged and adapted to allow the concentrates to pass beneath their lower margins toward a common discharging point and the gangue to pass over their upper portions to discharge; pulp guides at the extremities of said plates, operatively connected with the slop-boards; and means for oscillating or reciprocating the tray; substantially as described. 6th. A suitably sustained concentrating-tray having a downwardly inclined bottom; an outlet connected with said bottom for discharging the concen-

trates; a series of plates projected across the working area of the tray in the direction of its line of motion extended downwardly in the direction of, but separated from its bottom, arranged and adapted to allow the concentrates to pass beneath their lower margins toward a common discharging point, and the gangue to pass over their upper portions to discharge; means for feeding pulp to the tray from one end thereof; a gangue outlet; and means for oscillating or reciprocating the tray; substantially as described. 7th. In ore-concentrating apparatus, a series of suitably sustained laterally connected trays having downwardly inclined bottoms and arranged to admit of the lateral overflow or passage of the pulp from tray to tray; a discharge for the concentrates connected with the bottom of each tray; a series of plates projecting across the entire area of said trays in the direction of the line of motion of the apparatus and extending downwardly in the direction of, but separated from the bottom thereof; slop-boards forming the outer sides of said combined trays; pulp-guides at the extremities of said plates connected with said slop-boards; and means for imparting oscillating or reciprocating motion to the apparatus; substantially as described. 8th. In ore-concentrating apparatus, a series of longitudinally connected trays having downwardly inclined bottoms; an outlet for the concentrates connected with the bottom of each tray a series of plates projected across the area of each tray; in the direction of the line of motion of the apparatus, extended downwardly in the direction of, but separated from the bottom thereof; an outlet for permitting the overflow of pulp from tray to tray for re-treatment; means for feeding pulp to the apparatus at one end thereof; a waste outlet; suitable devices for sustaining the apparatus; and means for oscillating or reciprocating the apparatus; substantially as described. 9th. In ore-concentrating apparatus, a series of suitably sustained longitudinally connected trays provided with inclined bottom and slop-boards extending upwardly therefrom; a receptacle connected with the bottom of each tray provided with an outlet for the discharge of the concentrates; a screen or perforated diaphragm separating the receptacle from the working area of the tray; a valve connected with each of the said outlets operative to control the discharge therefrom of the concentrates; a series of plates projected across the working area of each tray in the direction of its line of motion, extended downwardly in the direction of, but separated from the bottom thereof; pulp-guides provided at the extremities of the plates; an outlet for the overflow of pulp from tray to tray for re-treatment; means at one end of the series for feeding pulp thereto; a waste outlet; and means for oscillating or reciprocating the apparatus; substantially as described. 10th. The combination with the concentrates-outlet, the outlet controlling-valve, its screw-threaded rod or stem, the hand-wheel attached to the outer-end thereof, the screw-bearing and the stationary disc provided with digits, lines, or the like; of the cylindrical stem projecting from the hand-wheel, and the loose indicator-wheel carried thereby, adapted to traverse the perimeter of the disc, substantially in the manner and for the purpose set forth.

No. 38,495. Joint Fastener. (*Serre-joints.*)

Pierre Etienne Bourassa, Montreal, Quebec, Canada, 16th March, 1892: 5 years.

Résumé.—1°. La combinaison des platines D, *Do* et P, *Po*, et le crampon Bo, tel que décrit. 2°. La combinaison, avec les platines D, *Do* et P, *Po* du bloc K, tel que ci-dessus décrit et pour les fins indiquées.

No. 38,496. Washing Machine. (*Machine à blanchir.*)

L. Emilien Biscornet, Laprairie, Quebec, Canada, 16th March, 1892; 5 years.

Résumé.—Le pignon A, tel que ci-dessus décrit et pour les fins indiquées.

No. 38,497. Springing Fastener. (*Ajustage à ressort.*)

Olinthus G. Alderman, Grinnell, Iowa, U.S.A., 16th March, 1892; 5 years.

Claim.—1st. A springing fastener comprising a resilient member, arms pivoted to the sides or ends of the resilient member near their inner ends, and at their extremities hinged or pivoted together, the distance from one pivot point of one arm on the resilient member to the pivot point of the other arm on the resilient member being less than the sum of the length of the two arms from the pivoted points of said arms on the resilient member to the point of joinder of the same. 2nd. A fastener comprising a springing member, approximately rectangular in form, curved arms pivoted to the sides or ends of the springing member near their inner ends, and at their inner extremities pivoted or hinged together, and a central vertical bar at said point of joinder of the inner ends of the arms carried by said arms, the distance from one pivot point of one arm on the springing member to the pivot point of the other arm on the springing member being less than the sum of the length of the two arms from the pivotal points of said arms on the springing member to the point of joinder of the same.

No. 38,498. Machine for Grinding Tools.

(*Appareil pour aiguiser les outils.*)

Chauncy Wing, Greenfield, Massachusetts, and Henry Clay Ayer, Philadelphia, Pennsylvania, U.S.A., 16th March, 1892; 5 years.

Claim.—1st. In a grinding machine, the combination of a tank, a grinding wheel mounted on a rotary shaft and provided with an outwardly beveled working face, a hollow cap partially enclosing said wheel and connected by ducts with said tank, and a pipe connecting the tank and cap, substantially as described. 2nd. In a device of the character described, a rotary grinding wheel mounted to work in a trough connected by a pipe with a water supply, said wheel being provided with a beveled edge, a cap or guard partially encircling said wheel, whereby moisture centrifugally discharged therefrom may be directed into ducts leading to said supply, substantially as and for the purpose specified. 3rd. In a device of the character described, a rotary grinding wheel mounted to work in a trough, and provided with a beveled edge, in combination with a supply tank connected with the trough by pipes and supply ducts, and a force wheel mounted on the journal of said grinding wheel, substantially as described. 4th. In a device of the character described, the combination of a supply tank, a shaft journaled therein and bearing a beveled grinding wheel, a cap connected by ducts with the tank and partially enclosing said wheel, a pipe connecting a trough on the tank with the supply, and a beveled disk or force-wheel mounted on the shaft between the grinder and the tank, substantially as described. 5th. In a device of the character described, the combination of a supply tank, a shaft journaled therein and bearing a beveled grinding wheel without the tank, a cap encircling said wheel and provided with a trough, a pipe connecting the trough and tank, ducts connecting the cap and tank, an annular fin in said cap, and a beveled disk or force-wheel mounted on the shaft between said fin and the tank ducts, substantially as described. 6th. The tank shaft and beveled grinder, in combination with the cap H, provided with a trough, as *r*, and secured to the tank-head, a pipe connecting the trough and tank, a duct *m*, connecting the upper portion of the cap and tank, and a beveled force wheel, as *x*, mounted between the grinder and tank-head, substantially as described. 7th. In a grinding machine, a rotary grinding wheel having a beveled working face, a cap or casing therefor connected by supply and discharge ducts with a water supply, a force wheel so arranged that moisture centrifugally discharged from the grinding wheel will be conducted to the supply by said discharge ducts, and a continuous circulation set up between said supply and casing, substantially as described.

No. 38,499. Sharpener for Lawn Mowers.

(*Appareil pour aiguiser les faucheuses à bras.*)

Alfred M. Bachelder, Lincoln B. Garrett and John G. Beath, all of Rockford, Illinois, U.S.A., 16th March, 1892; 5 years.

Claim.—1st. In a lawn mower sharpener, in combination, the foundation piece, the file clamp, the file, and the lugs or projections for turning the lawn mower knives backward and forward while they are being sharpened, substantially as and for the purpose specified. 2nd. In a lawn mower sharpener, in combination, the foundation piece, the file clamp, the file, the lugs, located on each side of said file, for turning the lawn mower knives backward and forward while they are undergoing the operation of being sharpened, and the adjusting guide, substantially as and for the purpose specified.

No. 38,500. Runner for Vehicles. (*Patin pour voitures.*)

Charles Leonard Peirce, Milwaukee, Wisconsin, U.S.A., 16th March, 1892; 5 years.

Claim.—The combination of a central stationary bearing, a moving track or runner consisting of a series of sliding blocks surrounding said bearing, and a series of loose independent balls or rolls confined between the central-bearing and the moving track.

No. 38,501. Horse Poke. (*Râteau à cheval.*)

John J. Magee, London, Ontario, Canada, 16th March, 1892; 5 years.

Claim.—1st. A wire G, formed with the angular ends *g*, *g*, in combination with the cross bar D, and standards S, S, substantially as shown and described and for the purpose specified. 2nd. A wire G, formed with the angular ends *g*, *g*, in combination with the cross bar D, formed with the tenons *d*, *d*, and the standards S, S, formed with the morteses *m*, *m*, substantially as shown and described and for the purpose specified. 3rd. A wire G, formed with the angular ends *g*, *g*, in combination with the cross bar D, formed with the tenons *d*, *d*, and groove or recess R, the standards S, S, formed with the morteses *m*, *m*, and the staple T, substantially as shown and described and for the purpose specified. 4th. A wire G, formed with the angular ends *g*, *g*, in combination with the cross bar D, formed with the groove or recess R, the standards S, S, and the steeple T, substantially as shown and described and for the purpose specified.

No. 38,502. Smoothing Iron. (*Fer à repasser.*)

Leander Detwiler Good, Toronto, Ontario, Canada, 16th March, 1892; 5 years.

Claim.—1st. In a smoothing iron, the combination, with the elongated opening situated at the bottom portion of the back of the iron and the flue at the top front end of the iron, of the grate D, comprised of the bars *d*, corresponding in shape and size to the interior of the base or bottom of the iron, as and for the purpose specified. 2nd. In a smoothing iron, the combination, with the elongated opening situated at the bottom portion of the back of the iron and the flue at the top front end of the iron, of the grate D, comprised of the bars *d*, corresponding in shape and size to the interior of the base or bottom of the iron, and the rear portion extending upwardly to a point above the opening F, as and for the purpose specified. 3rd. In a smoothing iron, the combination, with the elongated opening situated at the bottom portion of the back of the iron, and the flue at the top front end of the iron, of the grate D, comprised of the bars *d*, corresponding in shape and size to the interior of the base or bottom of the iron, the rear portion extending upwardly to a point above the opening F, and the reversible damper G, comprised of the elongated plate *f*, and elongated ring f^1, pivoted at *g*, as and for the purpose specified.

No. 38,503. Washing Machine. (*Machine à blanchir.*)

John Vandyke, sen., Grimsby, Ontario, Canada, 16th March, 1892; 5 years.

Claim.—1st. In a washing machine, the combination of the frame A, box C, the same provided with the slats *e*, the shafts B B, handle E, constructed to produce in the said box a rotary and oscillating movement, substantially as and for the purpose specified. 2nd. In a washing machine, the combination of a frame A, a washer or box C, having slats *e* on the inside cover, a cover D also having slats on the inside, shafts B, B set off the centre on the box C, to give an oscillating movement as well as a rotary one, legs *b*, cross pieces *d*, d^1, clasps *f*, cross bars *g*, thumb screws *h*, crank handle E, all constructed substantially as and for the purpose specified.

No. 38,504. Cleaner for Boiler Flues.

(*Nettoyeur des tubes de chaudières.*)

Ronald McDonald, Pictou, Nova Scotia, Canada, 16th March, 1892; 5 years.

Claim.—1st. In a boiler cleaner, the combination of a casing having a longitudinal arm and oppositely located cross arms extending integrally therefrom, the interior bore of the longitudinal arm communicating with the axial bore of said cross arms, reciprocating and sliding cutters located within said cross arms, and provided with elongated recesses in one side thereof and with oppositely beveled ends, set screws secured in said cross arms and projecting within said elongated recesses of the cutters, to limit the movement of the same, and a rammer having a wedge-shaped head adapted to pass between the beveled ends of said cutters and operate the same, substantially as set forth. 2nd. In a boiler cleaner, the combination, with a casing B^1 having cross arms b^3 provided with the cutters, of an extension piece C, adapted to be secured to the said cross arms, as and for the purpose set forth.

No. 38,505. Garment Protector.

(*Protecteur de vêtement.*)

Otto F. Ostergren and Alexander K. Shaap, both of Richmond, Virginia, U.S.A., 16th March, 1892; 5 years.

Claim.—As an improved article of manufacture, the herein described device for riders' use consisting of the curved contractile clasp of flat spring metal protected at the ends, as shown, for clasping and holding garments in place around the limbs of the wearer, substantially as set forth.

No. 38,506. Telephone. (*Téléphone.*)

William Clancy Lockwood, New York, State of New York, U.S.A., 16th March, 1892; 5 years.

Claim.—1st. In a telephonic system, a local circuit embracing a transmitter, a battery, and an electro magnet, in combination with a circuit arranged within said local circuit and embracing an electro magnet, and conductors connecting with said local circuit and the line and ground conductors, whereby the circuits are grounded, substantially as specified. 2nd. In a telephonic system, a local circuit embracing a transmitter, and an electro magnet, in combination with a secondary circuit embracing an electro magnet, and a conductor connecting said local and secondary circuit with the line conductor and ground, whereby a secondary or induced current is impelled or forced over the line by the primary current, as specified. 3rd. In a telephone system, the combination of the horseshoe magnets with opposing poles, the coils of one being in a local circuit, embracing a battery and transmitter and the coils of both being in a circuit with the main line and ground, whereby an enforced secondary current is driven over the main line, substantially as specified.

No. 38,507. Safe. (*Coffre-fort.*)

Henry J. Moyer, Frackiville, Pennsylvania, U.S.A., 16th March, 1892; 5 years.

Claim.—1st. A knock-down safe comprising two pairs of end standards, each pair being connected, as shown, the upper cross strips of the standards having sockets in their upper face, and the standards having inwardly projecting ledges with perforations therein, the sectional and folding bottom having depending tenons to fit the perforations of the ledges, a central folding shelf having depending tenons to fit the perforations of the ledges, a sectional and folding top having depending tenons to fit the sockets of the cross strips, a back formed of two vertically swinging doors, and a front formed of two horizontally swinging doors, the four sides of the safe having openings therein covered by screen cloth, substantially as described. 2nd. A knock-down safe comprising two pairs of end standards, each pair being connected by cross strips, the upper cross strip having sockets therein, as shown, and the standards having inwardly extending ledges with vertical perforations therein, a bottom consisting of two hinged pieces having depending tenons to fit she perforations of the ledges, a central shelf formed of hinged sections and having depending tenons to fit the perforations of the ledges, a top formed of hinged sections and having depending tenons to fit the sockets of the cross strips, a back formed of vertical folding doors, and a front formed of horizontally swinging doors, the sides of the safe having screen covered openings therein, and the separable parts being connected by hooks and eyes, substantially as described.

No. 38,508. Sleeping Cap. (*Bonnet de nuit.*)

Adelaide Sophia Turner, Chiswick, London, England, 16th March, 1892; 5 years.

Claim.—A sleeping cap composed of a network of tapes which may be made elastic by insertion of India rubber webbing, substantially as set forth.

No. 38,509. Hand Rake. (*Rateau à bras.*)

Peter McMichael, Toronto, Ontario, Canada, 16th March, 1892; 5 years.

Claim.—1st. In a hand rake, the head formed from one piece of metal, to form essentially a bar having a series of incremental scollops, and right-angled tapering projections or teeth alternating one another at regular intervals along the lower edge of said bar, said projections or teeth being chisel-edged, substantially as shown and described. 2nd. In a hand rake, the combination of the head formed of one piece of metal to form essentially a bar having a series of incremental scollops, and right-angled tapering projections alternating one another at regular intervals along the lower edge of said bar, said projections being chisel-edged teeth, and the bifurcated tang secured by its single end to the handle of the rake, and at its bifurcated ends secured to the head of the rake, substantially as shown and described.

No. 38,510. Grate. (*Grille.*)

Thomas Ruddell, Eramosa, Ontario, Canada, 17th March, 1892; 5 years.

Claim.—1st. In combination with the ashpit and grate of a furnace, range or stove, the runners B^{11} at the sides of the ashpit and under and parallel to the grate bars, dogs B^{111} pivoted at one end between the grate and runners, and having their free ends beveled and resting upon the runners, a rake consisting of cross bars provided with teeth D, engaging the spaces between grate bars and secured to side pieces provided with pintles d^{11}, adapted to slide upon the runners B^{11}, and to a bar or handle D^{111}, extending through the front, and the ashpan E, having partition *e*, substantially as set forth. 2nd. The combination of the grate B, rim b^1, runners B^{11}, under and parallel to said grate, dogs B^{111}, pivoted at their forward end between the grate and runners and having their rear ends pointed and resting on said runners, and the rake consisting of teeth D, engaging the spaces between the bars and secured to a frame adapted to slide upon the runners B^{11}, and dogs B^{111}, and provided with handle extending through the furnace front, substantially as set forth. 3rd. The combination of a grate B, having frame sides B^1, runners B^{11} formed on said sides under and parallel to said grate, and the dogs B^{111} having their forward end pivoted to said sides over said runners, and having their rear end beveled and resting upon said runners, substantially as set forth. 4th. The combination of a boxing A, enclosing an ashpit, grate B placed therein, runners B^{11} under and parallel to said grate, dogs B^{111} pivoted between the grate and runners, the rake consisting of cross bars D^1, with teeth D, and secured to sides D^{11}, having pintles d^{11}, and to a bar or handle D^{111}, and a sliding plate A^1, inside the furnace front through which said handle passes, substantially as set forth. 5th. In combination with the ashpit of a furnace, range or stove, the ashpan E, having near its front a partition across from side forming the small separate compartment at the front part of the pan, substantially as set forth.

No. 38,511. Separator and Cleaner for Grain.

(Nettoyeur et séparateur des grains.)

Charles Closz, Saint Ausgar, Iowa, U.S.A., 17th March, 1892; 5 years.

Claim.—1st. In a milling separator, a hopper supplying device consisting of a hopper having an adjustable slide, a bottom inclined tray having an overflow ridge, an under inclined board extending beyond the tray overflow ridge and terminating in an overflow ridge, and a gate depending between the said overflow ridges and co-acting with the under inclined board, in the way and for the purpose stated. 2nd. In a milling separator, a hopper supplying device consisting of a hopper having an adjustable slide, a bottom inclined tray having an overflow ridge, an under inclined board extending beyond the tray overflow ridge and terminating in an overflow ridge, and a gate depending between the said overflow ridges, and co-acting with the under inclining board, in combination with an air suction passage or leg under and crossing the vertical flow of the grain from the bottom hopper opening, in the way and for the purpose stated. 3rd. The combination of a suction fan, suitable screens, and a hopper, with a grain regulating, distributing, and feeding passage consisting of an upper and under tray c^2 and c^4, each having an overflow ridge, the under tray extending in front of the upper one, the automatic gate c^6, the oppositely inclined bottom boards d and c^1, and the air suction passage e, and the automatic gate g, arranged to close with the board c^1, in the direction of the inflow of the suction draft through said passage, as described. 4th. In a milling separator, the combination with a reciprocating box forming a closed chamber, of a nest of screens and inclosed within, and reciprocating with said box arranged to form shallow spaces between them, and supplemented by an imperforate cover of less length than the top screens, and a valved grain supplying passage at the end of said imperforate cover and screens, substantially as described. 5th. In a milling separator, the combination of a reciprocating box forming a closed chamber, with a platform screen fixed therein, composed of a multiple of screens arranged to form shallow spaces between them, the under screens being of unequal length and shorter than the upper one, an imperforate cover of less length at its outer end than the top screen, and forming a shallow space above the latter, and a valved grain supplying passage at the short end of said imperforate cover, substantially as described. 6th. In a milling separator, a longitudinal shaking screen composed of a series of parallel screens open at both ends, and supplemented by an imperforate cover having a less length than said screens, in combination with a gate arranged to operate in relation to the open delivery ends of the screens to direct the air currents through said screens, in the way and for the purpose stated. 7th. In a milling separator, the combination of a box forming a closed chamber, with a platform screen fixed therein, composed of a multiple of screens arranged to form shallow spaces between them, the upper screen extending outside of said chamber, the under screens being of unequal lengths, shorter than the upper ones and terminating at their front ends within said chamber, an imperforate cover of less length at its front end than the top screen, and forming a shallow space above the latter, and a gate at the inner ends of the cover and screens, for operation, substantially as described. 8th. The combination in a milling separator, a hopper supplying device, a longitudinally shaking screen composed of a series of parallel screens open at each end, an imperforate cover for said screens, having a less length than the latter, a primary suction leg for said hopper feed, a valve arranged at the bottom opening of said suction leg, a gate arranged to operate in relation to the open delivery ends of said screens, a reciprocating chamber forming box and means for producing air currents through the primary suction leg and through the screens, substantially as described. 9th. In a milling separator, the combination, with a reciprocating chamber forming box, a hopper supplying device, a separating screen, and a stepped separating tray having a side discharge of an exterior suction leg having a suction controlling valve, and a covered passage extending from the stepped tray into said suction leg, and having an automatically closing valve and means for producing air suction through said leg, substantially as described for the purpose specified. 10th. In a milling separator, the construction of the reciprocating chamber forming box, as described, the upper part containing a valved feed device below the hopper, and a suction leg forming the bottom and the back of said hopper feed device, terminating in a diving chamber having a suction regulating gate and opening into the top of said chamber, the lower part of the said reciprocating chamber containing the separating screens, the stepped tray, and the covered valved discharge passage at the bottom, in combination with the fixed frame having the hopper, the bottom suction leg and the suction fan, substantially as described. 11th. In a milling separator, the combination, with the reciprocating box c, forming a closed chamber, the nest of screens having an imperforate cover 7, the latter and the screens arranged to form shallow spaces between them, and a series of separating trays 1 under said screens, of the suction passage e, opening into said top screen and into said box chamber above screen cover 7, and the fixed secondary suction leg q, having a covered valved passage p joining said closed chamber with a free sliding connection, said fixed suction leg having communication with the said trays and the suction fan independent of the top suction leg e, substantially as described. 12th. In a milling separator, the combination of the reciprocating box forming a closed chamber, the hopper and the suction current having a fixed relation to said reciprocating box, the nest of screens having an imperforate cover 7, and the suction leg e crossing the grain supplying passage and opening into said screens and into said closed chamber above said imperforate cover, as described. 13th. In a grain cleaning machine, the combination of the box forming a closed chamber, the hopper, and the suction fan, with the multiple screens having an imperforate cover arranged to form shallow spaces between them, and a gate k at the inner ends of said cover and screens, for operation as described. 14th. In a grain cleaning machine, the combination of the box forming a closed chamber, the hopper, and the suction fan, with a multiple screen having an imperforate cover arranged to form shallow spaces between them, the gate k at the inner ends of said cover and screens, and the dead air chamber inclosing said gate, substantially as described. 15th. In a milling separator, the nest of screens having the imperforate cover arranged in parallel relation with shallow spaces between them, the cover at its front end being shorter than the top screen, and the under screens being successively shorter at their front ends than said top screen and cover, the lowest screen being the shortest, in combination with a hopper, a suction fan, and a chamber inclosing said screens, substantially as described. 16th. In a milling separator, the nest of screens herein described, adapted for descending or for upward draft currents, or for both, consisting of a multiple of screens and an imperforate cover therefor arranged in parallel relation, with shallow spaces between them, the cover at its front end being shorter than the top screens and the under screens being successively shorter at their front ends than said top screen and cover, the lowest screen being the shortest, substantially as described. 17th. In a milling separator, the nest of screens having the imperforate cover and arranged in parallel relation with shallow spaces between them, the cover at its front end being shorter than the top screen and the under screens being successively shorter at their front ends than said top screen and cover, the lowest screen being the shortest, in combination with a hopper, a suction fan, a chamber inclosing said screens, air inlets at the front ends of said screens and side air inlets in said chamber beneath said screens, substantially as described. 18th. In a grain cleaning and separating machine, the combination, with a suction fan, of a screen having an imperforate cover, a gate adapted for adjustment at the delivery end thereof, and the dead air chamber i, substantially as described. 19th. In a grain cleaning and separating machine, the combination, with a multiple screen having an imperforate cover, of a case forming closure therefor having a dead air chamber, and side air inlet openings in said closure beneath said screen, and a suction fan, for operation as described. 20th. In a grain cleaning and separating machine, the combination, with a suction fan, of a multiple screen having an imperforate cover, a gate k, adapted for adjustment at the delivering end thereof, and a case forming a closure for said screen and having a dead air chamber at the delivering end of the latter, and side air inlet openings in said closure beneath the screen, for operation substantially as described. 21st. In a grain cleaning and separating machine, the combination, of a multiple screen, open at both ends and having an imperforate cover 7, a box or closure having the air inlet e above the screen, intercepted by a diving chamber f opening into said closure above said cover, side air inlet openings x in said closure beneath the screen, and the dead air chamber i, for operation substantially as described. 22nd. In a milling separator, a hopper supplying device consisting of a hopper having a slide a^1 for regulating the outflow therefrom, a horizontal tray c^2 having an overflow ridge c^3 extending in advance of said hopper outflow, a tray c^4 extending with a downward incline in advance of the upper tray and terminating in an overflow ridge c^5, a gate c^6, arranged to close upon said tray c^4 against the flow of grain between said ridges, and a covered passage for said gate and lower tray ridge, within which the grain is evenly delivered from the latter, substantially as described.

No. 38,512. Railway Frog. (*Rail de croisement.*)

Perry P. Merriman, Hardeville, South Carolina, U. S. A., 17th March, 1892; 5 years.

Claim.—1st. The combination, with the turn shaft bearings G, G, of the plate g, arranged to turn in a base plate g^1, as and for the purpose described. 2nd. The switch rail I, and branch rail B, surface-jointed at the meeting ends k, k^1, to enable the end k, to sweep all obstructions from its path and in front of the end k^1, thus leaving the ends k, k^1, evenly alligned and with nothing jammed between them.

No. 38,513. Roll for Reducing Railway Rails to Nail Plates, etc. (*Machine à réduire les rails de chemins de fer en plaques à clous, etc.*)

John H. Poole, Saint John, New Brunswick, Canada, 17th March, 1892; 5 years.

Claim—1st. In a machine for reducing railroad rails, rolls having grooves 1 and 2, respectively for effecting the first pass, of the form shown, whereby a portion of the flange is transferred by compression to thicken the web, and the head of the rail flattened and elongated at an outward angle, as described. 2nd. In a machine for reducing railroad rails, rolls having grooves 3 and 4, respectively of the form shown, for effecting the second pass, whereby the head of the rail is flattened to be uniform with the portion a^1, of the flange, and both head and flange spread outwardly at an angle in opposite directions, as described. 3rd. In a machine for reducing railroad

rails, rolls having grooves 5 and 6, respectively of the form shown, for effecting the third pass, whereby the metal is thinned and spread, and the rail thereby flattened and widened, as described. 4th. In a machine for reducing railroad rails, rolls having grooves 7 and 8, respectively of the form shown, for effecting the fourth pass, whereby the rail is thinned and spread and thereby flattened, and widened prior to the final pass through a plain portion of the rolls to make a flat bar or plate or sheet, as described.

No. 38,514. Alloy. (*Alliage.*)

William J. Miles, Jr., Terre Haute, Indiana, U.S.A., 17th March, 1892; 5 years.

Claim.—The herein described non-oxidizing alloy, composed of osmium, iron or steel, tungsten, manganese, nickel, and aluminium, combined in suitable proportions.

No. 38,515. Devices for Preparing Maple Sugar.

(*Appareil pour préparer le sirop d'érable.*)

John Winick Currier, North Troy, Vermont, U.S.A., 17th March, 1892; 5 years.

Claim.—1st. In a device of the character described, a rotary agitator, in combination with mechanism for actuating the same, said agitator being provided with tubular openings through which the liquid sugar may pass, substantially as described. 2nd. In a device of the character described, a rotary agitator provided with openings, in combination with air-tubes leading into said opening and mechanism for actuating said agitator, substantially as described. 3rd. In a mixer for aerating or graining maple sugar, the agitator bar *r*, provided with the tubes *z*, arranged therein, substantially as described. 4th. The agitator bar *r*, provided with the horizontally arranged tube *z*, and inclined air-tubes 15, substantially as and for the purpose set forth. 5th. In a device of the character described, an adjustable supporting mechanism attachable to the sugaring-off pan, in combination with a rotary shaft thereon, an agitator on said shaft provided with openings and mechanism for rotating said shaft, substantially as described. 6th. In a device of the character described, a supporting mechanism attachable to a sugaring-off pan, in combination with a rotary agitator pendent therefrom, and mechanism for actuating said agitator, substantially as described. 7th. In a device of the character described, a supporting bar provided with a rotary-shaft and actuating mechanism therefor, in combination with the adjustable clamps for securing said bar to a sugaring-off pan, and an agitator adjustable vertically on said shaft, substantially as and for the purpose set forth. 8th. The supporting-bar and adjustable clamps, in combination with the rotary stub-shaft, and actuating mechanism, an agitator adjustable vertically on said shaft; horizontally arranged tubes in said agitator and vertically inclined air-tubes opening into said horizontal tubes, substantially as set forth.

No. 38,516. Meat Cutter. (*Hache-viande.*)

Tillmon Perry Ricks, San Marcos, Texas, U. S. A., 17th March, 1892; 5 years.

Claim.—The combination of the frame having the inner tracks *b*, *b*, and the bumpers b^1, b^1, the meat board *l*, having the side flanges l^1, cog-bars 12, wheels 13, and stops 14, cleaners *g*, adapted to closely embrace the knives *f*, and having one end secured to the beam i^1, and the other to the beam h^1, curved hooks h^3, secured to the lower face of said beam h^1, and adapted to enter perforations in the beam h^2, axle *d*, working in the bearings *e*, cog-wheels *e*, rigidly secured to said axle, circular knives *f*, adapted to fit in the openings between the cleaners *g*, cover *k*, hinged to the beam h^1, and crank *m*, on one end of the axle *d*, substantially as shown and described, and for the purposes set forth.

No. 38,517. Process of Annealing Metals.

(*Procédé pour adoucir les métaux.*)

Samuel H. Brown and Michael McBarron, both of Boston, Massachusetts, U.S.A., 17th March, 1892; 5 years.

Claim.—1st. The process of annealing metals, which consists in fusing nitrate of potassium, raising the temperature of the fused bath to about 1000 degrees Fahrenheit, maintaining the bath at this temperature a suitable period to drive off a portion of the contained oxygen, placing the metal in the resulting bath until it becomes sufficiently heated, and finally cooling the metal as specified. 2nd. The process of producing and maintaining an annealing bath of nitrate of potassium, consisting of raising nitrate of potassium to a temperature of about 1000 degrees Fahrenheit, maintaining the same at this temperature a suitable period to drive off a portion of the contained oxygen and adding nitrate of potassium at suitable intervals to the fused nitrate, so as to supply the oxygen necessary to prevent the nitrate from being reduced to an oxide, substantially as described.

No. 38,518. Turner for Music Leaves.

(*Tourne-feuille de musique.*)

James R Givern, Ratson, New Mexico, Jacob Sanders and Abe Mansbach, both of Trinidad, Colorada, assignees of Martin Alexander McMartin, of Ratson, aforesaid, all in U.S.A., 17th March, 1892; 5 years.

Claim.—1st. A music leaf turner comprising a spring body having fastening devices at the ends to secure it to an instrument, swinging arms pivoted beneath the body and having leaf-turning loops at their free ends, and a depending handle geared to the arms and adapted to swing beneath the body, substantially as described. 2nd. A music leaf turner comprising a body having fastening devices to secure it to an instrument, a case mounted on the under side of the body, outwardly swinging arms pivoted in the case and having wire loops at their outer ends to hold the music leaves and gears at their inner ends, diverging gear arms mounted within the case and geared to the music-turning arms, and a depending lever pivoted on the case and having a gear connection with the arms, substantially as described. 3rd. The combination, with the turning arms, of the spring catches comprising oppositely swinging spring-pressed plates pivoted together near the centre, and one of them having a slot near one end, a swivel block mounted between the plates and adapted to enter or overlap the slot, and music holding loops secured to the opposite plates, substantially as described. 4th. A music leaf turner comprising a spring body having end fastening devices to secure it to an instrument, music holding loops mounted on the ends of the body and provided with adjusting catches, a case mounted on the under side of the body, outwardly swinging arms pivoted in the case and carrying music holding loops at their free ends, diverging gear arms held to oscillate in the case and having their free ends geared to the music turning arms, and swinging handle mounted on the under side of the case and adapted to operate the gear arms, substantially as described.

No. 38,519. Nut for Screwed Bolts.

(*Ecrou pour boulons à vis.*)

John Read Peacock, Henry Walker Hill and John Parker, all of Nottingham, Nottinghamshire, England, 17th March, 1892; 5 years.

Claim.—1st. Lock nuts formed with the division E, in combination with the spring parts C, which is so twisted that the tapped hole in part A becomes slightly out of center with the tapped hole in part B, substantially as and for the purpose hereinbefore set forth. 2nd. Forming lock nuts with the spring part C, in combination with the division E, and parts A and B, substantially as and for the purpose hereinbefore set forth. 3rd. The combination in a lock nut of part A bearing in one direction, with the part B bearing in the opposite direction against the bolt D, by reason of the twist put in part C, and by which they are connected together, substantially as and for the purpose hereinbefore set forth. 4th. In lock nuts, the arrangement and combination of parts A, B, C and E, substantially as herein described and for the purpose hereinbefore set forth.

No. 38,520. Extension Step Ladder.

(*Echelle de vitrier à rallonge.*)

Andrew Jackson Myers, Bellaire, Ohio, U.S.A., 18th March, 1892; 15 years.

Claim.—1st. As a new article of manufacture, a step-ladder composed of two separate parts and having extension legs, one of said parts being provided with an iron extension, substantially as set forth. 2nd. As a new article of manufacture, a step-ladder having extension legs and an auxiliary step adapted to be attached to one of said extension legs, 3rd. The combination, with a step-ladder made of sectional parts, of a separate telescopic scaffold attachment, substantially as set forth.

No. 38,221. Mechanism for Stringing Piano Fortes.

(*Appareil pour poser les cordes de pianos.*)

William Henry Ivers, Dedham, Massachusetts, U.S.A., 18th March, 1892; 15 years.

Claim.—1st. A pin-block having a series of downwardly tapering recesses arranged as shown, in combination with a series of tuning-pins set into said recesses, and capable of rocking forward and backward, but not revoluble upon their axis therein, and means for moving the upper ends of said pins, backward in planes aligned with the wires in order to tighten the latter, substantially as set forth. 2nd. A tuning-pin rounded at its lower end, in combination with a pin-block having a recess formed in it to receive the lower end of said pin, but not permit the latter to turn upon its axis, the said recess being long enough at the top to allow forward and backward motion of said pin, and tapering to the bottom to afford a single pivotal point only, the said pin being also removable to permit the axial motion of it for winding up slack, substantially as set forth. 3rd. A pin-block having a series of elongated holes therein, a series of blocks or plates of the same or different material from the pin-block at the bottom of said holes, combined with a series of tuning-pins in said holes, and means for actuating said pins in a plane coincident or parallel with the longitudinal axis of the wire, substantially as and for the purposes specified. 4th. The combination, with a piano-

forte frame, a flange thereupon, a pin-block, and a series of rocking tuning-pins, of a series of wires, one end of which is secured to a tuning-pin, and a series of connecting rods, which unite the latter adjustably with respect to the flange, substantially as specified. 5th. A flanged piano-forte frame, a pin-block having a series of tuning-pins adapted to rock therein, combined with a series of wires, one end of each of which is secured to a tuning-pin, and a series of connecting rods removably attached to the tuning-pin heads at one end, but screw-threaded at the other to engage a series of adjusting nuts, substantially as set forth. 6th. A removable tuning-pin to which the wire is attached, and adapted to turn axially to wind up the slack, combined with actuating mechanism by which said pin is caused to rock instead of turning, and thus regulate the tension of the string, and a pin-block having a recess receiving the lower end of said pin, there being no connection between said pin and the instrument except the wires and tightening devices, substantially as stated.

No. 38,522. Method of Ventilating Railway Carriages. (*Mode de ventiler et chauffer les voitures de chemins de fer.*

Samuel Hughes, Lindsay, Ontario, Canada, 18th March, 1892; 5 years.

Claim.—1st. In a ventilating system for railway carriages, the combination of a tank A having a water space, cooling space and air space, and provided with water gauge and draw-off cock, the cooling chamber B placed above the water space, the air tube C having a flexible joint c^1 and c^{11}, and perforated plate c^{111}, and terminating at the top and above the roof of the car in a trumpet mouthed twin funnel *c c*, with flap valve C^1 and regulating valve C^{11}, the float D supporting a false bottom, the perforated false bottom E supported by the float above the water level and carrying the lower end c^{11}, and the material C^1, coils for warming the water supporting the float, coils for warming the air space above the cooling chamber, and perforated distributing tubes G, G connected with the air space, substantially as set forth. 2nd. In a ventilating system for railway carriages, the combination of a tank partly filled with water, a float upon the water supporting a false perforated floor above the water level and the lower end of an air tube, an air tube terminating above the roof in a trumpet mouthed twin funnel, a flexible joint in said tube between its upper part and float, a cooling chamber above the false floor through which the air tube passes, coils for warming the water and air, perforated distributing pipes in the upper part of the carriage for distributing the air from the tank in the body of the carriage, tubes at the bottom of the carriage having open branches serving as air inlets and downwardly directed ends forming parts of ejectors, air pipes terminating in the downward ends of said pipes and forming ejectors therein, and terminating above the roof in trumpet mouthed twin funnels, substantially as set forth. 3rd. In a ventilating system for railway carriages, the combination of the pipes H near the floor of the carriage, and having open branch pipes *h* communicating with the air of the carriage, and downward projecting ends h^1 communicating with the open air, vertical air tubes C^4, terminating above the roof in the trumpet mouthed twin funnels having flap valves, and below in nozzles c^4, inserted in the ends h^1 to form ejectors, substantially as set forth. 4th. In a ventilating system for railway carriages, the combination of tubes H placed near the floor of the carriage, having open branches *h* communicating with the air in the carriage, and having downwardly directed ends h^1 communicating with the open air vertical air tubes C^4, terminating at their lower ends in nozzles c^4, inserted in the ends h^1 to form ejectors, and having their upper ends above the roof terminating in trumpet shaped twin funnels, vertical air tubes C^5 terminating above the car roof in trumpet mouthed twin funnels *c*, *c*, and having their lower ends inserted in larger tubes open at the top, and their lower ends passing through the car floor, substantially as set forth.

No. 38,523. Method of Heating and Ventilating Railway Carriages. (*Mode de ventiler et chauffer les voitures de chemin de fer.*)

Samuel Hughes, Lindsay, Ontario, Canada, 18th March, 1892; 5 years.

Claim.—1st. In a ventilating system for railway carriages, the combination of the tank A, having an inlet at or near the bottom, and containing partitions A^1, and A^{11}, dividing the tank into an air space and water space, said partitions causing a current to be first drawn upward and then downward and to be deflected upon a surface of water, said air space containing a heating apparatus, and said water space a float carrying straining material and an ice box above said strainer and provided with a compound overflow and draw-off pipe and having an outlet over the water space, the conducting pipe G, leading the air from said tank, a perforated distributing pipe G^1, and a double mouthed injector funnel B, having its delivery shank connected with the inlet of the tank, substantially as set forth. 2nd. In a ventilating system for railway carriages, the combination of a longitudinal trunk pipe H, at or near the car floor having a downward branch *h*, a double mouthed ejector funnel I, having nozzles i^1, entering into and parallel to the branch *h*, and having outlet of said branch partly covered by a shield I^1, and a series of upright branch pipes J, and J^1, on said trunk pipe having inverted flaring mouths, substantially as set forth. 3rd. In a ventilating system for railway carriages, the combination, with a tank having an inlet at or near the bottom at one end and an outlet at or near the top at the other, a low partition A^1, across the bottom near the inlet, the partition A^{11}, across the top extending with its lower edge a little below the upper edge of the partition A^1, said partition forming a circuitous course for the incoming current deflecting the same downwards, a heating apparatus above the inlet, the float E, carrying loose material, the ice box F, above said float and the combined overflow and draw-off D, *d*, D^1, substantially as set forth. 4th. In a ventilating system for railway carriages, a double mouthed injector funnel B, placed under the floor of the car and having the delivery end of its shank connected with the inlet to a tank, in combination with a tank containing an air space and water space, said air space divided by deflecting partitions into a circuitous passage deflecting the current upon a surface of water and under a strainer, substantially as set forth. 5th. In a ventilating system for railway carriages, the combination, with a downwardly directed end or branch *h*, of a trunk pipe H, of a double mouthed ejector funnel I, having the mouths *i*, and the nozzles i^1, and the deflecting shield I^1, partially covering the mouth of the branch *h*, substantially as set forth. 6th. In a ventilating system for railway carriages, the combination, with a trunk pipe H, of a series of branch pipes J, and J^1, of triangular cross section and having inverted flaring mouths *j*, substantially as set forth.

No. 38,524. Handle for Caskets.

(*Poignée de cercueil.*)

John McCarthy, Syracuse, New York, U.S.A., 18th March, 1892; 5 years.

Claim.—1st. The combination with a casket handle, of a re-inforcement adapted to take up part of the vertical strain upon it. 2nd. The combination, with a casket handle, of a re-inforcement loosely connected to the handle, and to the body of a casket. 3rd. The combination, with a casket, of a casket handle secured thereto, and a re-inforcement to said handle connected to it or the casket, or both, and engaging with the handle when it is raised.

No. 38,525. Earth Auger. (*Sonde à trépan.*)

Nicholas Schellenberger, Stratford, Ontario, Canada, 18th March, 1892; 5 years.

Claim.—A series of knives and earth holders, each one independently bolted in a slot upon the adjustable head of the auger. The said knives and earth holders may form a greater or smaller circumference than the head, but as and for the purpose specified.

No. 38,526. Button Hole Attachment for Sewing Machines. (*Appareil à faire les boutonnières pour machines à coudre.*)

Washington Wallick, Philadelphia, Pennsylvania, U.S.A., 18th March, 1892; 5 years.

Claim.—1st. The combination of the cam sleeve and its disc, a clutch lever for acting on said disc, a carrier for said lever, swinging about the axis of the disc, and a reciprocated slide having projections for acting respectively on the clutch lever and on the swinging carrier, substantially as specified. 2nd. The combination of the cam sleeve and its disc, the clutch lever acting on said disc, a carrier for said clutch lever, swinging around the axis of the disc, a reciprocated slide having two projections, one for acting upon the clutch lever, and the other for acting upon the carrier, one of said projections being adjustable so as to vary the distance between them, substantially as specified. 3rd. The combination of the clamp lever 38, a shifter lever 29 on which said clamp lever is fulcrumed, so as to be free to slide, a cam 28 for operating said shifter lever, a stationary or movable fulcrum 32 for said lever, a vibrator cam 42 for the clamp lever, and means for operating said cams, substantially as specified. 4th. The combination of the clamp lever 38, a slide plate 41 adapted to a slot in said lever, and having lugs 40 acting upon the opposite arms of the lever, a vibrator cam 42 acting upon said lugs, and means for moving said cam, substantially as specified. 5th. The combination of the clamp lever 38, the transverse shifter lever 29, a vibrator cam 42 acting on the clamp lever, a shifter cam 28 for the shifter lever, means for operating said cams, fulcrum lugs 36 for the clamp lever carried by the shifter lever, a movable fulcrum pin 32 for said shifter lever, and a lever 33 carrying said pin, substantially as specified. 6th. The combination of the clamp lever 38 and transverse shifter lever 29, vibrator and shifter cams 42 and 28, means for operating the same, a movable fulcrum 32 for the shifter lever, and a slide 35 carrying the fulcrums of the clamp lever, and adjustable on the shifter lever from and towards the vibrator cam, substantially as specified. 7th. The combination of the clamp lever 38, a longitudinal shifter slide 48 connected thereto, a cam 45 for acting upon said slide, said cam having a lug or projection 51, whereby the movement of the slide is accelerated as it approaches each end of its traverse, and means for operating said cam, substantially as specified. 8th. The combination of the clamp lever 38, the longitudinal traverse slide 48 connected thereto, the slotted cam 45 for acting on said slide, and an operating arm adapted to said slot, but less in length than the same, whereby the cam can be adjusted so as to vary its throw, substantially as specified. 9th. The combination of the upper clamp plate

lever 50 having upper and lower projecting wings 54 and 55 in the rear of its fulcrum, and a crank shaft 56 embraced by said wings, whereby positive lift or depression of the upper clamp plate may be effected, substantially as specified.

No. 38,527. Recording Liquid Measure.

(Mesureur pour liquides.)

William Miles Fowler, Milford, Connecticut, U.S.A., 18th March, 1892; 5 years.

Claim.—1st. In a liquid measuring apparatus, the combination, with a reservoir, of a measure adapted to be brought into communication with said reservoir, or with an eduction port, feeding mechanism for a strip of a material operated during the movement of said measure, to feed said strip of material along, and a stamp also operated during the movement of the measure, to delineate upon said strip the value or quantity of liquid drawn from the measure, substantially as specified. 2nd. In a liquid measuring apparatus, the combination, with a reservoir, of a measure adapted to be brought into communication with said reservoir, or with an eduction port, feeding mechanism for two strips of material operated during the movement of said measure to feed said strips of material along, a stamp also operated during the movement of said measure, to delineate upon both said strips of material the value or quantity of liquid drawn from the measure, and a cutter for severing portions from one of said strips of material, substantially as specified. 3rd. In a liquid measuring apparatus, the combination, with a reservoir, of a rotary measure adapted to be brought into communication with said reservoir, or with an eduction port, feeding mechanism for a strip of material operated during the rotation of said measure, to feed said strip of material along, and a stamp also operated during the rotation of the measure, to delineate upon said strip the value or quantity of liquid drawn from the measure, substantially as specified.

No. 38,528. Hot Water Boiler.

(Chaudière de calorifère à eau.)

Enoch Bruce Butterworth, Ottawa, Ontario, Canada, 18th March, 1892; 5 years.

Claim.—1st. In a hot water boiler, the combination of the fire pot A consisting of an annular cylinder having an inner shell corrugated with angular corrugations, chamfered off at one end, and provided with excrescences, one containing a hot water outlet at the top and one a return water inlet with diaphragm a^5, sections C, C^1, C^{11} and C^{111}, having angularly corrugated bottoms, excrescences containing hot water orifices and a return water tube, and provided with flue perforations, dome D, the return flue attachment consisting of the down-flue E with branches E^1 and E^{11}, containing respectively dampers e^1 and e^{11}, and chimney pipe E^{111} connecting to said branches, and the regulator consisting of the pipes F, f, f^1, the rod F^1, lever F^{11}, bracket f^{11} and chain F^{111}, substantially as set forth. 2nd. In a fire pot comprised in a hot water boiler, the combination of a plain cylindrical shell having excrescences a^{111}, an inner cylindrical shell consisting of angular corrugations a, chamfered off at one end, fire and draft door openings, and the diaphragm a^5, substantially as set forth. 3rd. In a section comprised in the superstructure of a hot water boiler, a plain disk forming the top, the angularly corrugated disk c forming the bottom, the two connected by a projecting flange or rim having excrescences containing rimmed orifices, to form headers c^1 and c^{11}, and tubular perforation c^{111}, tubular perforations c^4 connecting top and bottom, and an opening in the rim for a flue door, substantially as set forth. 4th. In a hot water boiler, the combination of the fire pot A having draft door A^{11}, superimposed sections C, C^1, C^{11}, C^{111}, containing hot water headers, and return water tube, dome D, return flue E, E^1, E^{11}, with check damper e^{11}, pipe F connected by branches f, f^1 to the fire pot and return water pipe, the rod F^1 secured in the lower end of said pipe and projecting through a gland at the top, the lever F^{11} pivoted to said rod and fulcrumed on the bracket f^{11}, chain F^{111} controlled by said lever and connected to the doors A^{11} and e^{11}, substantially as set forth. 5th. In a hot water boiler, the combination of the fire pot A having a hot water outlet, superimposed sections C, C^1, C^{11} and C^{111} containing hot water headers c^1 and c^{11}, one of which is connected with the fire pot, and a connecting pipe A^4 between the fire pot and the header c^{11}, substantially as set forth.

No. 38,529. Washing Machine. *(Machine à blanchir.)*

Calvin Flanders, Brantford, Ontario, Canada, 18th March, 1892; 5 years.

Claim.—The combination in an adjustable double action washing machine, of the arms D^1, having slits in them, the latch E, attached to the said arms D^1, by the rivet F, for the purpose of holding the arms D^1, in any set position, the brackets I, I, attached to said arms D^1, acting as a stop for the latch E, substantially as shown and for the purpose hereinbefore set forth.

No. 38,530. Dust Guard for Car Axle Journals. *(Garde-poussière pour les boîtes à graisse des chars.)*

Frank Benjamin Harrison, Toledo, Ohio, U.S.A., 18th March, 1892; 5 years.

Claim.—1st. In a dust guard, the combination, with the spring actuated sections, having essentially semi-circular cut out portions, the said sections being arranged with said portions opposing to produce an approximately circular opening, each section being provided with a groove extending from end to end of its curved side or edge, the said grooves being of the same width throughout and arranged in vertical alignment, to produce a continuous circular groove of uniform width, of the sectional packing strips arranged in the said grooves, said packing strips being of a uniform width, to fully occupy the said grooves, one of said strips being long enough to fully occupy the groove of its own section and extend past the point of division and occupy a portion of the other section, the strip of said section being shortened to permit the same, substantially as applied for. 2nd. A dust guard comprising sections for embracing the journal, springs for holding the sections assembled, and a closure for the opening through which the sections are introduced into the car axle box, the closure being formed with an opening through which the section of the dust guard passes, the sections, springs and closures being held in place by rods passing through the section. 3rd. A dust guard composed of two sections lying in parallel horizontal relation within the box and held yieldingly to embrace the journal, the sections being formed with a groove circumferentially of the portion which embraces the journal, and provided with a packing held within by contact with the journal, the packing of one section having a V-shaped projection to bear upon the journal and return the escaping lubricant to the box. 4th. A sectional dust guard provided with a closure for the opening in the car axle box, through which the section is introduced, said closure being formed with an opening through which the dust guard may have vertical play, and provided with arms which contact with springs which bear at one end upon the arms, and at the opposite end upon the dust guard.

No. 38,531. Car Coupler. *(Attelage de chars.)*

Russell M. Woodard, Township of Norton, Vermont, U.S.A., 18th March, 1892; 5 years.

Claim.—1st. The combination in a car coupler of a coupling link, a draw bar provided with an internally projecting tooth to fit loosely into the link, and a latch to slide over the end of the link, to prevent the link from slipping off over the said tooth, substantially as described and for the purpose set forth. 2nd. The combination, in a car coupler, of a link, a draw bar provided with an internally projecting tooth, to fit into the link, a latch to slide over the link and a spring to hold the said latch in position over the link, substantially as described and for the purpose set forth. 3rd. A link, a draw bar provided with an internally projecting tooth to fit into the link and a latch to slide over the link, combined with a key having a sloping shoulder upon one side to act as a wedge to move the latch, and a square shoulder upon the opposite side to strike and raise the link, so that it may slip over the said tooth, and with means for raising the said key, substantially as described and for the purpose set forth.

No. 38,532. Device for Instructing in Reading and Calculating. *(Appareil pour enseigner à lire et calculer.)*

William Wesley Hallett, Lee, Illinois, U.S.A., 18th March, 1892; 5 years.

Claim.—A device for instruction in reading and calculating, comprising a frame, shafts journaled in said frame, said shafts having a belt connection, discs removably fastened on said shafts, a screen to cover portions of the faces of the discs, a ratchet on one shaft to limit its movement in one direction, a crank rigidly attached to one of said shafts, and a belt tightener secured to said frame.

No. 38,533. Vehicle Wheel. *(Roue de voiture.)*

Herbert Horton, Sand Bay, Ontario, Canada, 18th March, 1892; 5 years.

Claim.—1st. The combination, with the rim A, and spokes C, of the pipe box B, screw threaded of the outside from the outer end for a portion of its length and having a fixed flanged collar D, and a movable flanged collar D^2, and jam nuts E, E^1, screwing on said pipe box to adjust and hold said movable flanged collar removably, whereby slack in any part of the wheel may be taken up and the wheel tightened, as set forth. 2nd. A vehicle wheel having spokes composed of a number of rods trussed by a disc at the middle and the ends bundled together and welded, or provided with a screw nut, as set forth. 3rd. The pipe box B, having a portion of its length screw threaded from one end and having a fixed flanged collar D, near the opposite end, a movable flanged collar D^2, sleeved, on the threaded portion, and jam nuts E, E^1, screwing on said threaded portion, to adjust the movable collar D^2 and hold the same fixedly, and spokes C, connecting said flanged collars and the rim of the wheel, as set forth. 4th. The combination of the rim A, the pipe box B having a fixed flange collar D, the movable flanged collar D^2, and the spokes C, provided with nuts screwing against the inside of said collars D, D^2, as set forth.

No. 38,534. Game. *(Jeu.)*

Frank C. Hamilton, Chicago, Illinois, U.S.A., 18th March, 1892; 5 years.

Claim.—1st. A game apparatus consisting of a board and pieces for manipulation thereon, the board being provided with two sets of intersecting lines, one set being wider than the other, and certain of the line intersections marked to indicate the location of the pieces,

substantially as described. 2nd. A game apparatus consisting of a square board divided into smaller squares and parts of squares by intersecting diagonal lines, pieces placed at certain of the line intersections which are marked to indicate their location, a line at the extreme rear of two opposite sides of the board passing through the terminal intersections of the other lines, and a direct line passing through the centre of the board and between the centres of the last named lines, a piece being located in the centre of two terminal squares through which this line passes, and a space marked off in the centre of the board, said space interrupting the lines leading thereto, substantially as described. 3rd. A game apparatus consisting of a square board divided into smaller squares by intersecting diagonal lines, one line on each of two opposite sides of the board, said last named lines passing through the terminal intersections of the diagonal lines, another line drawn across and through the centre of the board at right angles to the two lines before named, another shorter line drawn through the center of the board at right angles to the last named single line, and a space marked off in the center of the board, said space interrupting the lines leading thereto, the board being provided with appropriate marks to indicate the location of pieces used in the game, substantially as described. 4th. A game apparatus consisting of a board and two sets of pieces for manipulation thereon, each sort consisting of twenty different pieces of five different patterns or kinds, the number of pieces of each sort being eleven, four, three, one and one respectively, substantially as described. 5th. A game apparatus consisting of a board having a square figure marked thereon, said figure being divided into smaller squares by intersecting diagonal lines, two parallel marginal lines, one on each of two opposite sides of the board, two lines of unequal length passing through the centre of the board and at right angles to each other, a space marked off in the centre of the board, said space interrupting the lines leading thereto, in combination with two sets of pieces for manipulation thereon, each set consisting of twenty pieces of five different patterns, the number of pieces of each pattern being eleven, four, three, one and one respectively, the board being appropriately marked to indicate the location of the pieces, substantially as described.

No. 38,535. Roaster, Smelter and Separator.

(Appareil pour griller, fondre et séparer.)

John L. Hopper, Sarcoxie, Missouri, U.S.A., 18th March, 1892; 5 years.

Claim.—1st. A roasting and smelting furnace having two fire chambers, in combination with a hot air chamber connecting said fire chamber at one end, ovens arranged above said fire chambers and smoke chambers separated from each other and communicating with the ovens and hot air chamber beneath, and dampers for closing communication between the hot air chambers and the ovens, the stack and flues leading thereto, substantially as specified. 2nd. A roasting and smelting furnace, having two fire chambers, in combination with two roasting ovens arranged above said fire chambers, a hot air chamber connecting the fire chambers at one end, dampers for opening and closing communication between the fire chambers and ovens at one end and a breeching arranged at the opposite ends of the ovens, a stack on the breeching, flues connecting the stack to the ovens, and a damper in the stack for closing from one of the ovens, substantially as specified. 3rd. A roasting and smelting furnace having two fire chambers, in combination with a hot air chamber arranged in the rear thereof and in communication therewith, a smoke chamber arranged above the hot air chamber and divided into two compartments, roasting ovens arranged above the fire chambers and communicating respectively with the compartments of the smoke chambers, dampers arranged in the top of the hot air chambers, so as to open or close communication between one or both of the ovens and one or both of the fire chambers, fall-doors arranged in the tops of the respective smoke chambers for closing the same, and a breeching arranged upon the projected ends of the smelting plates, and carrying a damper to open or close communication with one or both of the ovens, substantially as specified. 4th. A roasting and smelting furnace having a smelting plate projected at one end beyond the furnace so as to receive beneath said plate a suitable receptacle, the roasting plate having a flume arranged transversely, as shown, on the projected parts of the plates, for conducting the melted metal and arranged on a pitch or incline, substantially as specified. 5th. The combination, with the furnace having the two fire chambers, of the hot air chamber arranged at one end thereof and in communication with the fire chambers, the smoke chambers divided into two compartments by the double walled partition and the double wall surrounding said smoke chambers, the dampers arranged on the top of the hot air chambers, the fall-doors arranged on the top of the smoke chambers, the roasting ovens communicating with the smoke chambers and having smelting plates arranged on a pitch or incline and projected beyond one end of the furnace and also having flumes, and the breeching arranged on the projected portion of the roasting plates with its side walls standing on the lateral edges on said plates, and a damper arranged in the breeching, substantially as specified. 6th. A roasting and smelting furnace having its roasting plates projected beyond the furnace and arranged on a pitch and also having a flume in their upper sides, in combination with a breeching arranged on the projected portions of said plates, and having its lateral walls standing on the side edges of said roasting plates, substantially as specified.

No. 38,536. Electric Alarm.

(Appareil avertisseur électrique.)

Stephen Martin Mathews, Rat Portage, Ontario, Canada, 18th March, 1892; 5 years.

Claim.—1st. An electric alarm comprising a float controlled by the water in the boiler, a spring adapted to be engaged and pressed on by the said float, and an electric circuit adapted to be closed by the said spring, substantially as shown and described. 2nd. An electric alarm for boilers, comprising a casing connected with the interior of the boiler, a float held in the said casing and rising and falling with the water therein, a spring held in the said casing and adapted to be engaged and pressed on by the said float, a contact plate adapted to be engaged by the said spring, and an electric circuit connecting with the said spring and said contact plate, and containing an alarm, substantially as shown and described. 3rd. In an electric alarm, the combination with the casing in communication with the water compartment of the boiler, of a ball float arranged in the said casing and controlled by the water therein, an insulated plate held in the bottom of the said casing, a spring attached to the said insulated plate and adapted to be pressed on by the said float, a contact plate held on top of the insulated plate and adapted to be engaged by a contact point on the said spring, and electric wires passing through the said insulated plate and connecting with the said spring in the said contact plate, substantially as shown and described. 4th. In an electric alarm, the combination, with the casing in communication with the water compartment of the boiler, of a ball float arranged in the said casing and controlled by the water therein, an insulated plate held in the bottom of the said casing, a spring attached to the said insulated plate and adapted to be pressed on by the said float, a contact plate held on top of the insulated plate, and adapted to be engaged by a contact point on the said spring, and electric wires passing through the said insulated plate and connecting with the said spring in the said contact plate, and an alarm arranged in the circuit of said wires, substantially as shown and described.

No. 38,537. Method and Apparatus for Producing Motive Power. (*Mode et appare l pour la production de la force motrice.*)

Charles Tellier, Paris, France, 18th March, 1892; 15 years.

Claim.—1st. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the combination of a gas-producing apparatus K, a reheater B^1, suction and force pumps a, and m, and a motor-piston e, the whole being arranged and operated as hereinbefore described. 2nd. In a motor apparatus in which combustible gases, water steam under pressure and ammoniacal gas are simultaneously employed, the combination, with the apparatus K, for producing combustible gases, of an exterior boiler A, B, the motor-piston e, and the superheater B^{111}, C^{111}, A^{111}, the whole being arranged and operating as hereinbefore described. 3rd. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the combination of an ammonia vaporizer i^{11}, j^{11}, a motor-piston u^{111}, connected with the piston e, the coil W, placed in the apparatus for producing combustible gases, and reheaters and condensers e^{111111}, k^4, m^4, o^4, the whole being arranged and operating as hereinbefore described. 4th. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the exterior boiler A, B, in combination with the heating apparatus K, as hereinbefore described, and illustrated in the accompanying drawings. 5th. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the water heater B^1, having the enclosed series of tubes A^1, therein, as hereinbefore described. 6th, In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the combination of the apparatus K, for producing combustible gases, with the lateral water-circulating tubes R, as hereinbefore described, 7th. In a motor apparatus in which combustible gases water steam under pressure, and ammoniacal gas are simultaneously employed, the combination of the apparatus K, for producing combustible gases, with its draft-flue U^1, and the valve V^1, as hereinbefore described, and illustrated in the accompanying drawings. 8th. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the injectors Q, and their reheating-coil O^1, in combination with the gas-producing apparatus K, as hereinbefore described. 9th. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the reheater B^{111}, the boiler C^{111}, and the superheater A^{111}, in combination with the motor-cylinder A^3, furnishing the hot gases, as and for the purpose hereinbefore described. 10th. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the combination of the superheating-vaporizer i^{11}, j^{11}, and the coil W, of the apparatus K, the whole being constructed and operating as hereinbefore described. 11th. In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the combination of the motor-cylinder A^3, and the pneumatic pump b^{1111}, b^{1111}, as

and for the purpose hereinbefore described. 12th In a motor apparatus in which combustible gases, water steam under pressure, and ammoniacal gas are simultaneously employed, the apparatus i^{11}, δ^{11}, q^{11}, for regulating the water-feed, substantially as set forth.

No. 38,538. Combined Boiler and Baker. (*Chaudière et appareil à cuire combinés.*)

George Milner and George H. Wood, both of Philadelphia, Pennsylvania, U.S.A., 19th March, 1892; 5 years.

Claim.—1st. The pan having an annular flange provided at its edge with a groove or recess, in combination with the circular dome or cover, the lower edge of which takes in the groove, and having its top perforated, a rotatable handle mounted in the top, and a plate secured to the handle and provided with openings adapted to be thrown into register with those in the top, the handle serving to rotate the plate and also as a handle for the cover, substantially as specified. 2nd. The pan having the raised central bottom slightly convexed, the surrounding groove and the openings 12, surrounded by the flanges 22, combined with the spider frame consisting of a central hub having radial arms connected by a rim and having its hub centrally perforated to agree with the perforations in the bottom, and the binding screw mounted in the perforations and having its rim recessed to receive the flanges 22, substantially as specified. 3rd. The combination, with the pan provided at its center with the opening, and an upwardly disposed encircling flange, of the spider having the central hub provided with a central perforation surrounded by a recess adapted to receive the flange of the pan, and a set screw threaded in the openings, substantially as specified. 4th. The combination, with the convexed pan, surrounded by an annular channel or groove and centrally perforated, of a plain or flat spider mounted upon and having contact with the pan at its central portion, and having its edges disposed above the pan, and a set screw inserted through the perforations in the pan and through a similar perforation in the spider, substantially as specified. 5th. The pan 1, having the openings 12, and the depending peripheral grooved flange 3, combined with the removable spider or broiler frame applied to the upper face of the pan within the openings 12, and the flange, and centrally secured in place by a screw, as set forth.

No. 38,539. Socket for Incandescent Lamps. (*Douille pour lampes incandescentes.*)

The Bryant Electric Company, assignees of Waldo C. Bryant, all of Bridgeport, Connecticut, U.S.A., 19th March, 1892; 5 years.

Claim.—1st. In combination, an incandescent lamp, having a rib 13, and a socket provided with clamping arms having inwardly turned ends, and lugs 12, formed by striking in the metal of the arms between which and the inwardly turned ends said rib is engaged in use. 2nd. In a lamp socket, a series of clamping arms having inwardly turned ends 11, and above said inwardly turned ends, lugs 12, formed by striking in the metal of the arms. 3rd. The combination, with a lamp having a pin 17, of a socket having an insulating plate 5, said insulating plate having an elongated opening 20, rounded at one side, and lying in said opening a contact spring 22, between which and the rounded side of the opening the pin is clamped. 4th. In a lamp, an insulating plate 5, having an elongated opening rounded at one side and having a rib 21, on the rounded side serving as a guide, and a contact spring 22, lying in said opening, in combination with a lamp having a pin 17, adapted to enter the opening in plate 5, and engage the contact spring. 5th. The shell, insulating plate 5, having an opening 20, and a contact spring 22, in said opening, and sleeve 7, secured to the insulating plate and provided with clamping arms, in combination with a lamp having a rib 13, engaged by the clamping arms, and a pin 17, which is engaged by the contact spring. 6th. The shaft, and the contact bar and insulating blocks 32, rigidly secured thereto, in combination with contact spring 27, having independent arms which bear respectively upon the insulating blocks, and the contact bar lying between said arms. 7th. The shaft, and the contact bar and insulating blocks 32, rigidly secured thereto, in combination with contact spring 27, having independent arms, each of which is provided with a lip 33, the arms of the spring bearing upon the insulating blocks, and the contact bar lying between said arms. 8th. The shaft, having a contact bar made T-shaped at its ends and having on opposite sides insulating blocks 32, in combination with a contact spring having independent arms, each of which is provided with an outwardly turned lip, said contact bar lying between said arms which engage the insulating blocks respectively and said T-shaped ends of the contact bar engaging the lips when in the closed position.

No. 38,540. Press. (*Presse.*)

The Pneumatic Press Company, assignees of Wolcott A. Hull, all of New York, State of New York, U.S.A., 19th March, 1892; 5 years.

Claim.—1st. The combination, of a gas container, a former or shaping device communicating with the gas container, a cock or valve intermediate of the gas container and former or shaping device, and means for supplying the container with gas under pressure, substantially as specified. 2nd. The combination of end sections or formers, a gas chamber communicating with said end sections or formers, valves or ejectors located in the shaping surfaces of the formers and means for supplying gas under pressure for the gas chamber, substantially as specified. 3rd. The combination of end sections or formers, a gas chamber communicating with said end sections or formers, a container for gas and a cock or valve intermediate of the gas chamber and container for gas, substantially as specified. 4th. The combination of a gas chamber, end sections or formers having passages leading from the shaping surfaces of the end sections or formers to the gas chamber, and valves isolated from the said shaping surfaces and serving to cut off a supply of gas to said end sections or formers as the contents thereof are ejected, substantially as specified. 5th. The combination of a body section having a cavity, and two opposite end sections constructed to move within the cavity to shape material therein and to carry the shaped material away from the opening at which the material entered and out of another opening, substantially as specified. 6th. In a press, the combination of a fixed body section or mould plate, two series of end mould sections or plungers having passages through them, gas chambers with which said end mould sections or plungers communicate and valves at the operative extremities of said end mould sections or plungers, substantially as specified. 7th. In a press, the combination of a fixed mould plate, two series of end mould sections or plungers having passages through them, gas chambers with which said end mould sections or plungers communicate, valves at the operative extremities of said end mould sections or plungers and valves at the inner extremities of said end mould sections or plungers, the two sets of valves belonging to each series of end mould sections or plungers being connected together, substantially as specified. 8th. The combination of an end section or former, a gas chamber communicating therewith, and a valve or ejector located in the shaping surface of said end section or former.

No. 38,541. Multiplex Stamping Machine.

(*Machine à étamper multiplex.*)

Henry Howard, Brockville, Maryland, and Thomson H. Alexander, Washington, District of Columbia, both of the U.S.A., 19th March, 1892; 5 years.

Claim.—1st. In a stamping machine, the combination of a rotary shaft, a stamp carrier suspended thereon, and a guide for said stamp carrier, all constructed and arranged, so that when the shaft is operated, a stamp on the carrier will be reciprocated between an ink pad and a platen, substantially as described. 2nd. In a stamping machine, the combination of a rotary shaft and an ink pad, with an adjustable stamp carrier mounted on said shaft and operated by the rotation thereof, so as to cause one of the stamps thereon to alternately contact with the pad and make an impression, and a guide rod for said carrier, all constructed and arranged to operate, substantially as and for the purpose described. 3rd. In a stamping machine, the combination of a rotary shaft and an ink pad, with an adjustable stamp carrier mounted on said shaft and operated by the rotations thereof, so as to cause one of the stamps thereon to alternately contact with the pad and make an impression, removable and interchangeable stamp blocks attached to said carrier, and a guide rod for said carrier, all constructed and arranged to operate, substantially as described. 4th. The combination of the rotary shaft, a disk eccentrically mounted thereon, and an annulus surrounding said disk having stamp holders on its perimeter; with a guide rod engaging said annulus, and an ink pad, substantially as and for the purpose described. 5th. The combination of the spring controlled rotary shaft, a disk eccentrically mounted thereon, and an annulus surrounding said disk having radial stamp holders and sockets on its perimeter; with a guide rod adapted to engage one of said sockets, and the ink pad, all arranged to operate, substantially as described. 6th. The combination of the spring controlled rotary shaft, a disk eccentrically mounted thereon, and an annulus surrounding said disk having radial stamp holders and sockets on its perimeter, and a guide rod adapted to engage one of said sockets, and the ink pad and devices for revolving the same from and by the action of the shaft, all arranged to operate substantially as described.

No. 38,542. Bag Holder. (*Accroche-sac.*)

Edward Stinson and Alexander Abraham Stinson, assignees of Frederick Sayers Henning and William Pigott, all of Toronto, Ontario, Canada, 19th March, 1892; 5 years.

Claim.—1st. A divided ring or hoop connected to the ends of a curved spring suitably suspended, in combination with a pivoted notched bar designed to hold the ends of the said spring when contracted, substantially as and for the purpose specified. 2nd. A divided ring or hoop suitably suspended, and having an outwardly projecting flange on its bottom edge, in combination with a pivoted notched bar designed to hold the ends of the said spring when contracted, substantially as and for the purpose specified. 3rd. A divided ring or hoop suitably suspended, and having an outwardly projecting flange on its bottom edge, and an upwardly projecting shield formed on one side of it, in combination with a pivoted notched bar designed to hold the ends of the said spring when contracted, substantially as and for the purpose specified. 4th. A divided ring or hoop connected to the ends of a curved spring suitably suspended from a link carried on the end of a pivoted lever provided with means for holding it at different angles, substantially as and for the purpose specified. 5th. A divided ring or hoop connected to the ends of a curved spring suitably suspended from a link carried on the end of a lever, pivoted on an arm adjustably fitted upon a vertical post, substantially as and for the purpose specified.

6th. A vertical post supported on the platform of a weighing scale and having a vertically adjustable arm fitted upon it, on which arm a lever is pivoted, a link suspended from the said lever and a notched projection on the said arm to hold the said lever at different angles, in combination with a curved spring supported by the said link, and having a divided ring or hoop connected to its end which ring or hoop has an outwardly projecting flange formed on its bottom edge, substantially as and for the purpose specified.

No. 38,543. Means for Operating Lock Hinges.

(Moyens de fonctionnement pour pentures-arrêt.)

Levi Abbott, Arlington, and George J. Cross, Boston, both of Massachusetts, U. S. A., 19th March, 1892; 5 years.

Claim.—1st. As a means for operating the pivoted member of a lock-hinge, the combination, with the blind-frame, of a crank-lever *g*, formed of a single piece of wire fulcrumed on the blind-frame, the axis of said fulcrum passing through the blind-frame, the end of its outer angular part *h*, being bent upward and around the said movable member, and its inner part *i*, being bent perpendicular to its axis to provide operating means, as set forth. 2nd. In a lock-hinge for blinds, the movable member *c*, provided with the curved arm c^1, as and for the purposes hereinbefore described.

No. 38,544. Washing Machine. (*Machine à blanchir.*)

François Xavier Thérien, Louiseville, Quebec, Canada, assignee of Joseph Hilaire Thérien, San Francisco, California, U.S.A., 19th March, 1892; 5 years.

Claim.—1st. A washing machine comprising a rotatable drum composed of perforated triangular bars, the perforations whereof run from the outer face to one side of said bars and parallel with the other side thereof, substantially as forth. 2nd. A washing machine comprising a cylindrical series of triangular bars provided with perforations and divisional pins thereacross, substantially as set forth. 3rd. A washing machine comprising an outer shell, a drum rotatable therein, and a divisional perforated board adapted to be inserted through said drum, substantially as set forth. 4th. A washing machine comprising an outside shell composed of staves, the said staves laid over the heads of the shell, so as to form a double series of downwardly faced steps, and an inside drum made of triangular bars, cut to overlap one another on one side and provided with perforations running from the face to the cut side of said bars and parallel with the other side of the same, substantially as set forth. 5th. A washing machine comprising a perforated rotatable drum and spreaders in opposite corners therein, the said spreaders having channels and perforations of variable width made through them, substantially as and for the purposes set forth. 6th. In a washing machine, the combination of a drum composed of perforated triangular bars hooped to suitable heads, a door therefor made of part of said bars connected by segmental strips resting squarely upon cut-away portions of the said heads, slides T-shaped in cross-section laid in said door, and spring-actuated latches, partly of similar shape, adapted to be shot through said slides into mortises under the hoops surrounding the heads, substantially as set forth. 7th. The combination, in a washing machine, of the gate-valve K, with the lever L and link L^1 operating the same, substantially as shown, for the purpose specified.

No. 38,545. Refrigerator. (*Glacière.*)

Dennis P. Edgar and Joseph Butler, both of Manchester, Michigan, U.S.A., 19th March, 1892; 5 years.

Claim.—In a refrigerator, the combination, with the inclosing box or casing, of an ice-compartment located in the top of said casing, and comprising a rearwardly and downwardly inclined supporting frame, supported upon side cleats similarly inclined, a sheet-metal bottom plate supported upon said frame and having drip-catching flanges at its front side and ends and terminating short of the back wall of the casing, a closely laid lining completely covering said bottom plate, the opposite sheet-metal side plates supported upon cleats at a distance from the sides of the casing, and over-lapping the sides of the bottom plate and outwardly inclined therefrom, a sheet-metal back plate supported at an incline from the back of the casing between the same and the rear end of the bottom plate and extending below said bottom, terminating in an integral drip-trough projecting forward of said end of the bottom plate and resting upon the side cleats, the said drip-trough being inclined from the ends toward the centre and having a discharge-opening, a supplemental drip-trough secured to the lower end of the back plate and reversely disposed to the main drip-trough, the same being similarly inclined and provided with a central discharge-opening, linings partially facing said end and back plates, and a suitable drip-collector, substantially as set forth.

No. 38,546. Device for Securing tools to their Handles. (*Appareil pour assujetir des outils à leurs manches.*

Julius Mark Reiser and Elias Einstein, both of New York, state of New York, assignees of Frank H. Thompson and George P. Tormey, both of Philadelphia, Pennsylvania, all of the U.S.A., 19th March, 1892; 5 years.

Claim.—1st. A device for securing a tool to a handle, consisting of a wedge, a stem connected with the head of said wedge adapted to be anchored in the handle, and means for attaching said stem to the handle, substantially as described. 2nd. A device for securing a tool to a handle, consisting of a wedge and auxiliary wedges thereon at or about a right angle thereto, substantially as described. 3rd. A device for securing a tool to a handle, consisting of a wedge, a stem connected with the head of the wedge, adapted to be anchored in the handle, and means for attaching said stem to the handle, said wedge being provided with auxiliary wedges, which extend at or about a right angle thereto, substantially as described.

No. 38,547. Steam Road Roller. (*Rouleau à vapeur.*)

The O. S. Kelly Company, assignees of Edward Thomas Wright, all of Springfield, Ohio, U.S.A., 19th March, 1892; 5 years.

Claim.—1st. The combination in a steam road roller, with the steering wheels, of a fork supporting said steering wheels, a pocket in said fork open at the top, having a convex bearing seat at the bottom, an oscillating block having straight sides at the front and rear adapted to fit into said pocket, with a concave bearing seat to rest on the bottom of said pocket, said block being adapted to move laterally in said pocket, a saddle connected to the main frame or boiler, and a swivel connection between said saddle and block, substantially as specified. 2nd. The combination, with a steering fork and a front supporting saddle, said steering fork being provided with a saddle having a curved bearing seat at right angles to the axis of the steering wheels, a movable block fitting at the front and rear in said pocket, and adapted to oscillate laterally therein on the curved bearing seat at the bottom of said pocket and a swivel connection between the saddle and block, substantially as specified. 3rd. The combination, with a saddle having a downwardly projecting king post rigidly connected thereto, a movable block provided with a central opening to receive said king post, so as to swivel therein, a steering fork having a pocket with straight walls at the front and rear to receive said block, which is formed with corresponding front and rear walls to fit in said pocket, a curved bearing seat at the bottom of said pocket, on which the block is adapted to oscillate laterally, said block being elongated in line with the axis of said fork to permit a lateral motion of said block in the bearing seat, substantially as specified.

No. 38,548. Automatic Car Coupler. (*Attelage de chars.*)

Herman Bunker, Robert Story and Archibald McAllister, all of Barrie, John Charles McKeggie, Toronto, James Herbert McKeggie, Barrie, George Tait Blackstock, Toronto, all of Ontario, Canada, and Milo J. Althouse, Waupun, Wisconsin, U.S.A., 19th March, 1892; 5 years.

Claim.—1st. An arrow shaped link D, journaled on the end of a draw head and having upwardly and downwardly curved edges *a* and *b*, designed to revolve the link D, upon coming in contact with the edges of a narrow opening, substantially as and for the purpose specified. 2nd. As an improved automatic car coupler, an arrow shaped link D, journaled on a horizontal axis in the turret C, which turret is journaled on a vertical axis in the drawhead A, and has a vertical opening E, formed in it, substantially as and for the purpose specified. 3rd. An arrow shaped link suitably journaled in a turret pivoted on the end of a drawhead fixed to a car, the said arrow shaped link being designed to enter a passageway formed in a similar turret pivoted on the end of a drawhead, connected to another car, substantially as and for the purpose specified.

No. 38,549. Mold for Metallic Wheels.

(Moule pour roues métalliques.)

Coroden S. Cannon, assignee of Clinton D. Cannon, both of Battle Creek, Michigan, U.S.A., and Alexander Cannon and Florence E. Cannon, both of Pennfield, Michigan, U.S.A., 19th March, 1892; 5 years.

Claim.—In a molding apparatus for casting the hub on the spokes of metallic vehicle wheels, a suitable base or support, a sectional asbestos mold having an outer shell provided with a series of circular perforations for the reception of the spokes, detachable top and bottom caps inclosing said shell, a core covered with the same material as the shell passing through said caps and holding the parts of the mold together, and an exterior packing of sand completely encircling said mold, substantially as set forth.

No. 38,550. Clothes Line and Suspension Device.

(Ligne d'étendage et appareil de suspension.)

Alisa Ann Cox, Mt. Olive, Illinois, U.S.A., 21st March, 1892; 5 years.

Claim.—A clothes line consisting of the main rod or wire, the bent wires having their ends loosely secured thereto, disks rigid on said main rod, and catches carried by each bent wire, to engage said disks and to hold said bent wires in the desired position, substantially as set forth and shown.

No. 38,551. Coal Screen. (*Tamis à charbon.*)

Hiram Barton Sackett, Council Bluffs, Iowa, U.S.A., 21st March, 1892; 5 years.

Claim.—1st. The combination, with a frame, of a screen and a rod extending from one upright to the other and adapted to adjustably support the screen, substantially as set forth. 2nd. The combina-

tion, with a frame, of a rod adjustably supported by the uprights of said frame, and a screen located adjustably on said rod, substantially as set forth. 3rd. The combination, with uprights, of a sieve or screen and rods adapted to have connection with the sieve above and below, and to be supported at their ends by devices arranged for them on the uprights, substantially as set forth. 4th. The combination, with a pair of uprights and devices for supporting the uprights in vertical position, of a sieve having a V-shaped hopper at the upper end, a slide in the hopper, devices on the front and rear edges of the uprights, and rods which pass through said devices and are connected with the sieve for supporting the sieve and regulating its inclination, substantially as forth.

No. 38,552. Heating and Ventilating Apparatus.

(Appareil de chauffage et de ventilation.)

Charles DeZang Howard, Syracuse, New York, U.S.A., 21st March, 1892; 5 years.

Claim.—1st. In a heating apparatus, the combination, with the heating pipes, connected to a heater, of the hot air pipes opening upward into the rooms of a building out of the top of the air chamber in said heating pipes, and cold-air conduits opening downward from said rooms and entering the air-heating chamber below the plane of the lower ends of said hot-air pipes. 2nd. The combination, with the air-heating pipes, as shown, of hot-air pipes opening outward from the chamber between said pipes, and the cold-air conduits of greater vertical length than said hot-air pipes, also opening into said chamber. 3rd. The combination with a cold-air conduit, of the downward pipe extension thereof, opening into the base of the heater, and the dampers in said conduit and pipe extension. 4th. In a double pipe-heating apparatus, the combination, with the pipes, of hot-air pipes opening upward therefrom, and the cold air conduits opening into the outer pipe below the plane of the exit opening of the hot-air pipes.

No. 38,553. Evaporator for Liquors Containing Salts.

(Evaporateur pour les Liqueurs contenant des sels.)

Sigismund Pick, Szczakowa, Galicia, Austria, 21st March, 1892; 5 years.

Claim.—1st. In apparatus for evaporating liquors containing salts and for separating such salts when rendered insoluble by evaporation of the liquor, the combination of a boiler provided with a heating chamber, a vacuum filter, and a valve for controlling the communication between the lower part of said boiler and the upper part of said filter, said filter consisting of an upper fixed part and a lower movable part carrying the filtering medium, said lower movable part being so arranged in relation to said upper fixed part that it can be quickly moved from below the same, for the purpose set forth. 2nd. In apparatus, for the purpose above specified, the combination of a boiler provided with a heating chamber, a vacuum filter consisting of a fixed top part having an inlet for air, a movable bottom part hinged or pointed to said top part and having an outlet pipe for connection with a vessel in which a vacuum is produced and means for quickly engaging and disengaging said top and bottom parts, and a valve to control the communication between the lower part of said boiler and the upper part of said filter, substantially as herein described for the purpose set forth. 3rd. In apparatus, for the purpose above specified, the combination of a boiler provided with a heating chamber, a vacuum filter consisting of a top part 5 with inlets for air and water, a bottom part 6 hinged or jointed to said top part 5, and provided with an outlet pipe 6^1, for liquor, filtering medium carried by said bottom part 6, and means substantially as described for engaging and disengaging said top and bottom parts, a pipe 27, in communication at its upper end with the upper part of the boiler and a flexible pipe 27, connecting the lower part of said pipe 27, with the outlet pipe 6^1, substantially as herein described for the purposes set forth. 4th. In apparatus, for the purpose above specified, the combination of a boiler, a vacuum filter connected to its lower part, a valve to control the communication between said boiler and filter, and a heating chamber located between the upper and lower parts of said boiler and constructed with tubes, the cross sectional area of which gradually increases as they proceed downward, substantially as herein described for the purpose set forth. 5th. In apparatus, for the purpose above specified, the combination of a boiler, a vacuum filter arranged below said boiler and a valve for controlling the communication between said boiler and filter, and a heating chamber for said boiler, said heating chamber being constructed with tubes 11, each of truncated conical form, and arranged to place the upper and lower parts of the boiler in communication with each other, substantially as herein described for the purpose set forth. 6th. In apparatus, for the purpose above described, consisting of a boiler having an upper part with outlet pipe 7, and a lower part 2, of inverted truncated conical form, a heating chamber 3, with vertical tubes for placing the parts 1 and 2, in communication, said upper part 1, being of greater diameter than said heating chamber, and said heating chamber being external to said upper and lower parts of the boiler, but connected to both of them, a vacuum filter arranged below said boiler and having a top fixed part 5, and a movable bottom part 6, a valve casing 4, with valve arranged between the lower part 1 of the boiler and the top part of said filter and connected to both, a pipe 27^a, connected at its upper end to the upper end of said boiler, and a flexible pipe 27, connecting the lower end of said pipe 27^a, with the bottom part of said filter, substantially as described for the purposes set forth.

No. 38,554. Electrical Alarm for Boilers.

(Alarme électrique pour chaudières.)

Thomas Gawthrop Lovegrove, Philadelphia, Pennsylvania, U.S.A., 21st March, 1892; 5 years.

Claim.—A device for the purpose named consisting of a casing with contact points, a float within said casing, an index outside of said casing carried by said float and movable to and from said points, a binding post on the casing, an electric circuit, and an alarm, said points being connected with one pole of a battery, and said post being connected with the other pole thereof, the parts being combined and operating substantially as described.

No. 38,555. Induction Motor. (*Moteur d'induction.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 21st March, 1892; 5 years.

Claim.—1st. The combination, with the field magnets of an electric motor, of an armature having its armature coils permanently included in a closed circuit, a commutator having its plates connected with different points in the length of the armature coils, and a closed circuit electrically uniting the brushes applied to said plates. 2nd. The combination, with the field magnets of an electric motor, of an armature having its armature coils permanently included in a closed circuit, a commutator having its plates connected with different points in the length of the armature coils, a closed circuit electrically uniting the brushes applied to said plates, and means for adjusting the position of the brushes. 3rd. The combination, with the field magnets of an electric motor, of an armature having its armature coils permanently included in a continuously closed circuit, a commutator having its plates connected with different points in the length of the armature coils, a closed circuit electrically uniting the brushes applied to said plates, and an adjustable resistance included in the circuit uniting said brushes.

No. 38,556. Alternate Current Induction Motor.

(Moteur d'induction à courant alternatif.)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 21st March, 1892; 5 years.

Claim.—1st. An electro-dynamic motor for use with alternating or intermittent currents, comprising an armature wound with closed circuit conductors, an exterior field magnet system acting to polarize said armature core, and a stationary secondary field magnet system within the armature for re-acting upon the poles induced by the exterior field magnet and then in turn creating other poles to be re-acted upon by the exterior field magnet, and vice versa. 2nd. An electro-dynamic motor comprising a rotating armature provided with one or more closed circuits upon its armature core, an interior stationary field magnet system arranged to polarize the armature core by induction, and an exterior field magnet system re-acting upon the poles produced by the interior magnet, and itself in turn establishing other poles in the armature to be re-acted upon by the interior magnet. 3rd. An electro-dynamic motor comprising an armature having an iron core and a closed circuit or circuits thereon, an exterior inducing system comprising field magnet poles in inductive relation to the armature conductor, an interior secondary field magnet, the polar extensions of which are between the poles of the main field magnet, magnetizing coils upon said secondary field magnet, and a secondary winding in closed circuit with the said secondary field magnet coils and in inductive relation to the coils of the primary field magnet. 4th. An electro-dynamic motor comprising an armature wound with closed circuit conductors, an exterior field magnet system acting to polarize said armature core, a secondary field magnet within the armature for re-acting upon the poles induced by the exterior field magnet and then in turn creating other poles to be re-acted upon by the exterior field magnet, and vice versa, a single external source of current energizing one of the field magnets, and coils in secondary relation to said field magnet and connected to magnetizing coils upon the other field magnet.

No. 38,557. Reciprocating Electric Engine System.

(Système alternatif de machine électrique.)

Charles Joseph VanDepoele, Lynn, Massachusetts, U.S.A., 21st March, 1892; 5 years.

Claim.—1st. The herein described method of operating reciprocating electric engines having a plurality of motor-coils and a magnetic piston adapted to be reciprocated therethrough, which consists in supplying a continuous electric current to the terminals of said motor-coils and causing the said current to rise in one coil while falling in the other, thereby transferring the magnetic field from one set of coils to the other and vice versa, without interruption. 2nd. The herein described method of operating reciprocating electric engines having a plurality of motor-coils included in two working-circuits, and a magnetic piston adapted to be reciprocated through the motor-coils, which consists in causing a supply current to rise in the coil or coils included in one working-circuit while falling in the other, thereby transferring the magnetic field from one set of coils to the other, while maintaining constant magnetization of the piston, said piston following the movements of the field of force.

No. 38,558. Alternate Current Electric Railway Train System. (*Système alternatif de courant électrique pour chemins de fer.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 21st March, 1892; 5 years.

Claim.—1st An electric railway system comprising a circuit of working conductors along the line of travel, a source of alternating or discontinuous currents connected to said conductors, a travelling vehicle provided with current collecting devices engaging the said working conductors, and with a system of inductional transformers, and means for controlling the current therein, suitable electric motors arranged to propel the vehicle, and connected in the secondary circuit of the tranformer system. 2nd. An electric railway system comprising a circuit of working conductors along the line of travel, a source of alternating or discontinuous currents connected to said conductors, a motor car provided with current collecting devices engaging the said working conductors and with a system of inductional transformers, one or more vehicles attached to the motor car, a local circuit extending through the vehicles and constituting the secondary circuit of the transformer system on the motor car, and suitable electric motors arranged to propel the vehicles and all connected in the said local circuit. 3rd. An electric railway system comprising a source of alternating or intermittent currents, working conductors connected thereto and extending along the line of travel, a motor car provided with current collecting devices engaging said conductors, and an inductional transformer system for modifying the supply current, vehicles moving with the motor car and carrying conductors in circuit with the transformer system, electric motors for propelling the vehicles and in circuit with the modified current of the said transformer or transformers, and means for controlling the speed, power, and direction of rotation of all the motors simultaneously. 4th. An electric railway system comprising a source of alternating or intermittent currents of relatively high potential, exposed working conductors extending along the line of travel and connected to said source of current, a motor car or train of cars, an inductional transformer carried by one of said cars, current collecting devices extending from the primary circuit of the transformer circuit to the supply conductors, commutatorless motors upon one or more of the cars, a train circuit receiving alternating current from the secondary circuit of the transformer, and means for controlling the speed, power, and direction of rotation of all the motors simultaneously. 5th. An electric railway system comprising a circuit of main supply conductors extending along the line of travel and connected to a source of alternating, intermittent, or pulsating electric current, a moving vehicle carrying inductional transformers, a traveling connection between the transformers and the supply circuit, and one or more local circuits moving with the vehicle and supplied with current of suitable tension from the said transformers, and one or more commutatorless motors for propelling the vehicle, said motors being all supplied with alternating, intermittent, or pulsating currents from the local circuits. 6th. An electric railway system comprising a circuit of exposed working conductors along the line of travel, a source of alternating or discontinuous currents connected to said conductors, a traveling vehicle provided with current collecting devices engaging the said working conductors and with a duplex system of inductional transformers, suitable electric motors arranged to propel the vehicle, and connected in the secondary circuits of the transformer system. 7th. An electric railway system comprising a circuit of exposed working conductors along the line of travel, a source of alternating or discontinuous currents connected to said conductors, the motor car provided with current collecting devices engaging the said working conductors, and with a system of inductional transformers, one or more vehicles attached to the motor car, a duplex local circuit extending through the vehicles and constituting the secondary circuit of the transformer system, the several parts of the local circuit being supplied with currents differing in phase, and suitable electric motors arranged to propel the vehicles and all connected in the said moving circuit. 8th. An electric railway system comprising a circuit of exposed working conductors connected to a source of alternating or discontinuous currents, and extending along the line of travel, a motor car provided with contact devices for maintaining a moving contact with said conductors one or more cars moving with the motor car, two separate circuits extending between the connected cars, and inductional transformers supplied with current through the said traveling contact devices, and arranged to supply currents of the desired tension to the said separate train circuits in alternation, and electric motors arranged to propel said cars, and to be operated by the currents in the respective circuits. 9th. An electric railway system, comprising a circuit of exposed working conductors connected to a source of alternating or discontinuous currents and extending along the line of travel, a motor car provided with contact devices for maintaining a moving contact with said conductors, one or more cars moving with the motor car, two separate circuits extending between the connected cars, an inductional transformer having its primary circuit connected to the traveling contact devices, and connections between its secondary circuit and one of the train circuits, a second transformer having its primary in circuit with the secondary of the first transformer and its secondary supplying current to the second train circuit, and means for reversing the current in one of the train circuits. 10th. An electric railway system, comprising a circuit of exposed working conductors connected to a source of alternating or discontinuous currents, and extending along the line of travel, a motor car provided with contact devices for maintaining a moving contact with said conductors, one or more cars moving with the motor car, two separate circuits extending between the connected car, an inductional transformer having its primary circuit connected to the traveling contact devices, and connections between the secondary circuit and one of the train circuits. a second transformer having its primary in circuit with the secondary of the first transformer and its secondary supplying current to the second train circuit, means for reversing the current in one of the train circuits, and means for controlling the flow of current from the traveling contact to the primary of the first converter, and thereby controlling the current in both the train circuits.

No. 38,559. Electric Railway System.

(*Système de chemin de fer électrique.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A. 21st March, 1892; 5 years.

Claim.—1st. An electric railway train system comprising a plurality of vehicles, a plurality of electric motors arranged to propel said vehicles, a local circuit carried by the moving vehicles and including all the said motors, and reversing switches connected with the circuit of each of the said propelling motors, and means for operating all of the circuit controlling switches from any desired point. 2nd. An electric railway train system comprising a plurality of vehicles, a plurality of electric motors arranged to propel said vehicles, a duplex local or train circuit carried by the moving vehicles and including the motors, duplex motor circuits, switches for changing the relative arrangement of one of said circuits for reversing the motors, and means connected with the duplex train circuit for operating all the said switches from any desired point. 3rd. An electric railway train system comprising suitable supply conductors along the line of way, a plurality of vehicles, a plurality of motors arranged to propel said vehicles, a local or train circuit carried by the moving vehicles, travelling current collecting devices moving with the vehicles and supplying the train circuit, a primary circuit upon each of the said motors, a secondary circuit also upon each motor and in inductive relation to its primary, and means for regulating the current supplied to the primary circuits and thereby modifying the inductive effect between the said primary and secondary currents and controlling the speed and power of the motors. 4th. An electric railway train system comprising suitable supply conductors along the line of way, a plurality of vehicles, a plurality of motors arranged to propel said vehicles, a local or train circuit carried by the moving vehicles, travelling current collecting devices moving with the vehicles and supplying the train circuit upon each of said motors, a secondary circuit also upon each motor in inductive relation to its primary circuit, and means for regulating the current collected by the contact devices and supplied through the train circuit to the primary circuits of all the motors, and thereby modifying the inductive effect between the said primary and secondary circuits and controlling the speed and power of all the motors. 5th. An electric railway train system comprising suitable supply conductors along the line of way, a plurality of vehicles, a plurality of electric motors arranged to propel said vehicles, a local circuit carried by the moving vehicles and including all the said motors, and circuit reversing switches in circuit with each of the said propelling motors, and means for operating all of said switches from any one point. 6th. An electric railway train system comprising suitable supply conductors along the line of way, a plurality of vehicles, a plurality of electric motors arranged to propel said vehicles, a local circuit carried by the moving vehicles and including all the said motors, travelling current collecting devices moving with the vehicles and supplying the motor circuit, electrically operated circuit changing switches in circuit with each motor and manual switches also in circuit with each motor whereby all the circuit reversing mechanism may be operated from a single point. 7th. An electric railway train system comprising a plurality of vehicles and motors arranged to propel said vehicles, a local circuit carried by the moving vehicles and including all the motors, and means for supplying current to the said circuit and circuit reversing switches to each motor, electro-magnetic devices for throwing said switches into either of their two operative positions, circuits connected with the local circuit for actuating the switch mechanism, and manual switches adjacent to each motor for directing the current through one or the other part of the circuit changing mechanism to throw the said switches as desired, and from any part of the train. 8th. An electric railway train system comprising supply conductors connected to a source of alternating or discontinuous currents and extending along the line of way, a plurality of vehicles, a plurality of motors arranged to propel said vehicles, said motors having primary and secondary circuits, conductors carried by the train supplying current to all of the primary circuits of the motors, circuits also carried by the train and including the secondary circuits of the said motors, and circuit changing switches in the said secondary circuits, electro-magnetic devices in the primary circuit for actuating the circuit changing mechanism, and switches adjacent to the motors whereby the circuits of the electro-magnetic devices can be closed from any one point on the train to throw the circuit changing switches as desired. 9th. An electric railway train system comprising suitable supply conductors along the line of way, a plurality of vehicles, a plurality of motors

arranged to propel said vehicles, a duplex local circuit carried by the moving vehicles and including the motors, travelling current collecting devices moving with said vehicles and supplying current to either part of the duplex travelling motor circuit, and means connected with the current collecting devices for controlling the flow of current therethrough to the train circuit. 10th. An electric railway train system comprising suitable supply conductors along the line of way, a plurality of vehicles, a plurality of electric motors arranged to propel said vehicles, a local circuit carried by the moving vehicles and comprising a main supply conductor, and connections between said conductor and the local circuits of each motor for actuating the same, a duplex circuit including part of the circuit of each motor, a two-way switch controlling said circuits, a double solenoid or its equivalent and a separate circuit for each portion thereof, connections between the switch and the core or cores of the solenoids, and a manual switch connected with the main circuit arranged to close the circuit of either of the solenoids, and thereby to throw the switch in the desired direction and thereby to control the direction of rotation of the armatures of the motors.

No. 38,560. Multiplex Circuit Electric Motor.

(*Moteur électrique à circuits multiplex.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 21st March, 1892; 5 years.

Claim.—1st. An electric motor having multiple field-magnet poles and multiple circuits therefor energized successively, and an armature energized by the common return of all the independent circuits. 2nd. An electric motor system comprising a multiple-current generator and corresponding circuits between the motor and generator, a single return for all the independent currents, the field-magnet poles of the motors being energized in succession, and their currents returned successively through the armature-circuit. 3rd. An electric motor system comprising a source of successive independent currents energizing successive and independent field-magnet poles of the motor or motors, and a common return for the independent field-circuits, said return circuit including the armature-conductor. 4th. An electric motor having a plurality of field-magnet poles energized in succession by independent currents, and a common return for the independent currents through the armature conductor and back to the generator. 5th. An electric motor system comprising a current generator giving successive impulses in successive circuits around the motor field-magnets, and a single return from the successive circuits through the armature-conductor and back to the generator in closed circuit. 6th. An electro-dynamic motor comprising a plurality of oppositely placed field-magnets, a wire-wound armature mounted rotatively between all of the field-magnets, a separate supply circuit for each set of field-magnets, and a return conductor common to all of the field-magnets, and connections between the said return-conductor and the armature-circuit, whereby currents passing successively through the field-magnets will all be conveyed through the armature-conductor for magnetizing the core thereof. 7th. An electro-dynamic motor comprising a plurality of sets of field-magnets, a wire-wound armature rotatively mounted within the field of force of all of said magnets and provided with connections for establishing the line of polarization therein, circuits supplying currents successively to the field-magnets, a common return for all of said magnets and connections between said return and one side of the armature-circuit connections, between the other side of said armature-circuit and the continuation of the return-conductor.

No. 38,561. Lifting Jack. (*Machine à soulever.*)

Melchoir Chumard, Brooklyn, Pennsylvania, U.S.A., 22nd March, 1892; 5 years.

Claim.—1st. A lifting jack, comprising as its essential features a standard, provided with a keeper or guideway for the extension slide, the said slide mounted in said standard, an operating lever pivotally mounted on said slide and held up to the face of the standard by a spring, the said spring and fulcrum studs or projections on said standard upon which the operating lever bears in raising and supporting the load. 2nd. In a lifter jack, the combination, with the standard and the extension slide mounted therein, of the yoke *g*, mounted on said slide, the operating lever pivotally mounted in said yoke, the spring which holds the operating lever up elastically to the face of the standard, and the two rows of studs on the standard forming fulcrums for said lever, as set forth. 3rd. In a lifting jack, the combination, with the standard, the extension slide therein and the fulcrum projections on said standard, of the yoke *g*, on said slide, the operating lever *e*, mounted in said yoke and provided with flares or bevels to enable it to pass over said projections in lifting, and the spring which holds said operating lever up elastically to the face of the standard, as set forth. 4th. In a lifting jack, the combination, with the standard, the headed fulcrum studs arranged in two rows thereon, as described, the extension slide mounted in said standard, and the yoke *g*, on said slide, of the operating lever pivotally mounted in said yoke at a point between the rows of fulcrum studs, said lever being notched and flared, as described, at the two points where it engages said studs and the spring which holds said lever up to said standard, as set forth.

No. 38,562. Paint. (*Peinture.*)

Edwin W. Grafton, Washington, District of Columbia, U.S.A., 22nd March, 1892; 5 years.

Claim.—The herein described paint compound, consisting of asphaltum, milk of lime, crude petroleum, turpentine, benzine, black varnish, dead oil, rubber, burnt umber and bone black, compounded in about the proportions and in the manner, substantially as specified.

No. 38,563. Shoe. (*Chaussure.*)

Henry Newcomb, Corinth, Mississippi, U.S.A., 22nd March, 1892; 5 years.

Claim.—1st. In a shoe, an elastic goring attached at its edges to the leather portions of the upper, and having fastenings *b*, securing the elastic threads to the woven web of the goring itself, said fastenings being removed from and within the edges of the leather portions of the upper, substantially as described. 2nd. In a shoe, the combination of the leather portions of the upper, the elastic goring secured at its edges to the leather, a lining extending beyond the edges of the leather and overlapping the inside of the goring, and the fastenings *b*, securing the elastic threads to the web of the goring, and to the lining, said fastenings being removed from and independent of the leather parts of the shoe, substantially as described.

No. 38,564. Pocket Calendar and Stamp Holder.

(*Calendrier de poche et porte-estampilles.*)

George Henry McKee, George B. Howle and Albert S. Harrell, all of Darlington, South Carolina, U. S. A., 22nd March, 1892; 5 years.

Claim.—1st. An improved calendar comprising the face plate, the month plate rigidly connected with the face plate, the main dial and the lock dial connected with and rigid as to rotary movement with the main dial, all substantially as and for the purposes set forth. 2nd. An improved calendar comprising the casing made in sections and adapted to be opened, provided with a stamp box or compartment and having a face plate and a main dial, all substantially as set forth. 3rd. An improved calendar comprising the casing formed with two sections hinged together, the stamp box or compartment in one of such sections, the other section being provided with the main dial, the month plate and the lock dial and detent, substantially as and for the purposes set forth. 4th. An improved calendar comprising the face plate, having an opening and provided adjacent thereto with characters indicating the days of the week, the main dial journaled in the case and having its front side arranged to show through such opening provided with the numbers representing the days of the month, and provided on its rear side with divisions or sections, numbered and provided with designating letters, the month plate having an opening with which such sections register and provided along the edge of such opening with the names of the months, and the tables containing the years of the period comprehended in the calendar and provided adjacent the years with the designating figures therefor, substantially as set forth. 5th. An improved calendar consisting of the casing, the month plate, the lock dial and the main plate having its edge milled and projecting at its milled edge beyond the casing, all substantially as and for the purposes set forth. 6th. The improved calendar herein described consisting of the casing having sections jointed to open and provided in one of such sections with a stamp box or compartment provided with an oiled or waxed bottom piece, substantially as set forth. 7th. An improved calendar compaising a table of years with a designating character for each year, a month plate or portion with the months a dial having a series of divisions arranged to register with the month plate and having designating characters corresponding to those of the year table, and also having a series of characters registering with the months on the month plate and the lock dial having characters corresponding with those in register with the names of the month, all substantially as and for the purposes set forth. 8th. An improved calendar provided with a table and movable parts thereby to determine the days of the week of past or future dates, and having a memoranda or return check indicator whereby the current month position of the parts may be indicated to facilitate the return of the calendar to normal or current position, substantially as set forth. 9th. An improved calendar comprising a casing provided with a face plate and having a month plate rigid with said face plate, a main dial arranged and operating between said face plate and month plate, a notched lock dial and a detent for engaging such lock dial, substantially as set forth. 10th. In a calendar a main dial provided on one side with the number of days in a month arranged in weeks and provided on its opposite sides with divisions or sections numbered and provided each with characters corresponding in number to the months of a year the same characters being used in designating the months in which the same day of the months fall on the same day of the week, all substantially as and for the purposes set forth.

No. 38,565. Evaporating Apparatus.

(*Appareil évaporatoire.*)

Thomas Craney, Bay City, Michigan, U.S.A., 24th March, 1892; 5 years.

Claim.—1st. In an evaporating apparatus, the combination of a furnace, an angular evaporating tank, a combustion chamber within

and a smoke chamber outside thereof, a series of flues connecting the combustion and smoke chambers through the tank, a downward extension of such annular tank forming a sediment leg or chamber, and a conduit connecting the base of the tank with an elevator, substantially as described. 2nd. In an evaporating apparatus, the combination of an evaporating tank, a combustion chamber within and a smoke chamber outside thereof, a series of flues connecting the combustion and smoke chambers through the tank, means for removing the accumulated sediment from the bottom of the tank, an evaporating chamber above the combustion chamber, a conduit for the vapors above the combustion chamber, a conduit for the vapors from the evaporating chamber and a condenser, substantially as described. 3rd. In an evaporating apparatus, the combination of a furnace, two leading chambers, an interposed tank extending above the heating chambers, an evaporating chamber to one side of and connected with the upper end of the tank, tubes connecting the heating chambers arranged in vertical series, and passageways formed between such vertical series, substantially as described. 4th. In an evaporating apparatus, the combination, with the combustion chamber, furnace and tank above and around the combustion chamber, of a vertical feed duct passing through the tank into the combustion chamber, and a rotating spreader in the combustion chamber at the base of said duct, substantially as described. 5th. In an evaporating apparatus, the combination, with the combustion chamber, of the feed duct O, carrier O^1, casing *a*, and dampers *c*, substantially as described.

No. 38,566. Bin for Street Sweepings. (*Soute pour le balayage des rues.*)

Percival Walter St. George, Montreal, Quebec, Canada, 24th March, 1892; 5 years.

Claim.—1st. A street sweepings bin sunk in the ground, having its top or cover flush with the sidewalk. 2nd. A street sweepings bin composed of a sunk cylinder, a removable receptacle set in same, and a cover, all as herein set forth. 3rd. In a street sweepings bin, the combination of a sunk cylinder with stopped end, a casting having seat formed therein, a bucket or receptacle carries in such seat, and a lid or cover hinged to said casting.

No. 38,567. Machine for Sterilizing and Draining off Liquids. (*Machine pour stériliser et tirer les liquides.*)

Gustav Hermann Newhauss, Johann Hugo Gronwald and Emil Heinrich Conrad Ochlmann, all of Berlin, Prussia, 24th March, 1892; 5 years.

Claim.—1st. A draw-off sterilizer, comprising one or more connected chambers B, B^1, B^{11}, of any desired shape for the liquid, which are connected with one or more shipping cans E, and which are so formed, that the liquid to be sterilized is divided into thin layers; for the purpose of bringing large quantities of liquid quickly and surely to the desired temperature, and of drawing the liquid so treated into the shipping cans under exclusion of all atmospheric air. 2nd. A sterilizing apparatus consisting of an outer steam-tight casing having a steam inlet, two or more closed chambers arranged within the casing and connected to each other by ducts, an air-tight shipping or storing vessel provided with a cock or cocks, and connected with one of the chambers by a pipe fitted with a three-way cock, and a steam-pipe leading to said three-way cock, all substantially as described; whereby the shipping vessel may be sterilized by live steam, and the milk be afterwards drawn thereto owing to the forming of a vacuum by the condensation of the steam. 3rd. The combination, substantially as described, of the casing, the connected sterilizing chambers, one of which is connected with shipping can E, by a pipe *e*, the three-way cock in said pipe, the steam-pipe *f*, leading to said cock, the cocks *g*, and *k*, and an air filter F, connected with can E, by a pipe having a cock *h*.

No. 38,568. Sterilizing Apparatus.
(*Appareil de stérilisation.*)

Johann Franz Hugo Gronwald and Emil Heinrich Conrad Ochlmann, both of Berlin, Prussia, German Empire, 24th March, 1892; 5 years.

Claim.—1st. A sterilization apparatus having for its essential feature the combination of a sterilization receptacle A, with an expansion-chamber B, closed at the top and connected air-tight with the receptacle, so that the treated matter will enter during the process partly into the expansion chamber and flow back into the receptacle when cooled, whereupon the closing arrangement which is located entirely within the expansion chamber, is brought in position during the exclusion of the atmospheric air, substantially as hereinbefore described and set forth.

NO. 38,569. Machine for Sterilizing Milk.
(*Machine pour stériliser le lait.*)

Johann Franz Hugo Gronwald and Emile Heinrich Conrad Ochlmann, both of Berlin, Prusssia, German Empire, 24th March, 1892; 5 years.

Claim.—1st. In a sterilizing apparatus, the arrangement of a device operated from the outside for the purpose of closing the bottles, having for its essential features the arrangement of one or more pushing pieces within the apparatus, so that either the pushing piece is moved towards the bottles, or the bottles are moved towards the pushing piece, or that both are moved, substantially as and for the purpose hereinbefore described and set forth. 2nd. The combination of a closed boiler of a fluid sterilizing apparatus and a vessel for containing the fluid to be sterilized, a support for said vessel, a stopper for sealing said vessel and a pushing piece, all contained within said boiler, with a push-rod, and a stuffing box in the shell of said boiler through which the push-rod enters; the whole so constructed and arranged that an endlong movement of the push-rod will cause the vessel support and pushing piece to approach each other and thereby cause the stopper to seal the vessel, all substantially as described and set forth.

No. 38,570. Elevator. (*Elévateur.*)

Harriet Ruth Tracy, New Brighton, New York, U.S.A., 24th March, 1892; 5 years.

Claim.—1st. An elevator car provided at one side with a supplemental weight adapted to tilt the car should the same descend too rapidly. 2nd. An elevator car having its hoisting rope connected thereto at a point removed from the centre of the car, the car being capable of side movement, substantially as described. 3rd. An elevator car having its hoisting rope connected to it at a point removed from the centre, the car being provided at one side with a weight and being capable of side movement, substantially as described.

No. 38,571. Telescope. (*Télescope.*)

Alfred Rudall, St. Agnes Vicarage, Scorrier, Cornwall, England, 26th March, 1892; 5 years.

Claim.—1st. The employment and manufacture of reflectors of which the curve is formed of a part of a parabola other than at or near the apex thereof. 2nd. The method of building up reflectors by mounting parts or sections thereof on a suitable framing. 3rd. The manufacture of reflectors or sections thereof in superposed layers by coating or covering a matrix or form with a thin layer of silver or other suitable material, depositing a backing of copper or the like thereon and successively covering this with an adhesive material, such as glue and plaster of Paris of various degrees of fineness, or other substance, for giving the desired solidity to the reflector, removing the latter from the matrix and finally polishing the silver surface, substantially as described. 4th. A telescope consisting of a fixed eye piece *z*, a box or frame-work *n* mounted on a trunnion or pivot A, and containing a paraboloidal reflector *y* and another box or frame-work *o*, having a plane reflector *x*, and suitable means for allowing the upper box *o* to revolve on the lower box *n*, substantially as described and shown. 5th. A transit instrument consisting of a movable eye piece and a paraboloidal reflector, substantially as described and shown. 6th. A look-out telescope consisting of an eye piece, a paraboloidal reflector *y*, of ordinary form and a plane reflector *x*, substantially as described and shown. 7th. The herein construction of reflectors or sections thereof, as shown and described. 8th. The herein constructions of telescopes, as shown and described.

No. 38,572. Centrifugal Filter. (*Filtre centrifuge.*)

David Williamson, New York, State of New York, U.S.A., 26th March, 1892; 5 years.

Claim.—1st. The hereinbefore described method of filtering all kinds of liquids, consisting in placing the same in a vessel having permanent and porous side walls rotating at a suitable speed, whereby the filtration through the porous vessel is effected by the centrifugal force imparted to the liquid. 2nd. The hereinbefore described method of filtering all kinds of liquids, consisting in placing the same in an open topped vessel having permanent and porous inclined side walls, arranged to be closed by a movable cover, in forcing the liquid through the sides of the vessel by the centrifugal force resultant from its rotation, in permitting the impurities to escape from time to time out of the top of the vessel, by raising the cover while the same is rotating, and in collecting the filtrate in an exterior vessel. 3rd. In a filtering apparatus, the combination substantially as hereinbefore set forth, of a vessel having permanent and porous side walls rotating at a suitable speed, in which the liquid to be filtered is placed, and an exterior vessel for collecting the filtered liquid emerging therefrom. 4th. In a filtering apparatus, the combination substantially as hereinbefore set forth, of a vessel having permanent and porous inclined side walls rotating at a suitable speed, in which the liquid to be filtered is placed, an exterior vessel for collecting the filtered liquid emerging therefrom, and a shelf or trough in the interior of the exterior vessel, for collecting and carrying off the precipitate thrown over the edges of the filtering vessel. 5th. In a filtering apparatus, the combination substantially as hereinbefore set forth, of a tank for holding the filtered liquid, a vessel having permanent and porous inclined side walls rotating in said tank, in which the liquid to be filtered is placed, a shelf or trough on the inner surface of the tank, for collecting and carrying off the overflow from the rotating vessel, and an annular movable cover to the rotating vessel, substantially as described. 6th. In a filtering apparatus, the combination, with the tank C, and the rotating vessel having inclined side walls, of an inclined shelf or trough surrounding the inner surface of the tank, an opening in the wall of the tank at the point of lowest inclination of the shelf, for the automatic discharge of the precipitate, and a protecting edge to the shelf for pre-

venting contact with the filtered liquid within the tank. 7th. In a filtering apparatus, the combination with the rotating vessel having inclined side walls, of an annular cover at its periphery, arranged to be raised and lowered at pleasure, and to thereby control the discharge of the material passing over the rim of the vessel.

No. 38,573. Holder and Cutter for Thread.

(*Porte et coupe-fil.*)

Henry Oakes and Ben Oakes, both of Chicago, Illinois, U.S.A., 26th March, 1892; 5 years.

Claim.—1st. The herein described attachment for spools, the same comprising a body consisting of a circular plate having at its edge an inwardly-bent knife, and a tongue bent inwardly and then outwardly upon itself, and a finger-piece secured to the center of said plate on its outer face and having a spring-holder projecting through the plate, as and for the purpose set forth. 2nd. The herein described attachment for spools, the same comprising a body consisting of a circular plate having therethrough near its center parallel openings, with another opening between and at right angles to the parallel openings, and also having at its edge an inwardly-bent knife and an inwardly-bent clamping tongue, and a socketed finger-piece having three tongues, two of them passing through said parallel openings and being bent against the back of the plate and the third passing through the remaining opening, and a strip of spring metal bent at its center and having one of its ends secured to said tongue, as and for the purpose hereinbefore set forth.

No. 38,574. System of Cutting Clothing.

(*Système de tailler les vêtements*)

Ida Glass, assignee of James Alexander Glass, both of Georgetown, Ontario, Canada, 26th March, 1892; 5 years.

Claim.—1st. The combination, with a tailor's laying-out square, of a tailor's measuring square having a rod A^1, arm B^1, rigidly attached near one end of rod A^1, and at right angles thereto, and the level C^1, on said arm B^1, substantially as specified. 2nd. The combination, with a tailor's laying-out square, of a tailor's measuring square having a measuring tape or tapes attached at the point of junction of and with the rod A^1 and arm B^1, carrying the level C^1, substantially as described and for the purposes specified. 3rd. The combination, with a tailor's laying-out square, of a tailor's measuring square having a graduated rod A^1, arm B^1, and sliding sleeve F^1, substantially as specified. 4th. The combination, with a tailor's laying-out square, of a tailor's measuring square having graduated rod A^1, arm B^1, sliding sleeve F^1, sliding bar G^1, and measuring tape H^1, substantially as specified. 5th. In a laying-out square, the scale C B with units half the size of the units on the contiguous scale B L, and so arranged that any given division of the scale C B is marked with a number twice as great as that of the division with which it is aligned on the scale B L, substantially as specified. 6th. In a laying-out square the contiguous scales C B and B L, arranged substantially as described and for the purpose specified. 7th. In a laying-out square, the scale F R with a short contiguous scale to locate the point from which the strap measure is laid off, substantially as specified. 8th. In a laying-out square, the scale D for laying out the depth of the arm hole, substantially as specified. 9th. In a laying-out square, the scales S T, T B, F R, B L, C B and D, for laying-out a coat, substantially as specified. 10th. In a laying-out square, the scales V S T, T B, F R, B L, C B and D, for laying-out a vest, substantially as specified. 11th. In a laying-out square, the scales B, K, W, T and H T, for laying-out trousers, substantially as specified.

No. 38,575. Burglar Protection Device for Safes.

(*Appareil de protection contre les voleurs, pour coffres-forts.*)

Thomas Mower Martin and William Hendry Law, both of Toronto, Ontario, Canada, 26th March, 1892; 5 years.

Claim.—1st. In combination with the wall or door of a safe, a charge of explosive material carried thereby and located on the outside thereof, and a covering for concealing said charge, substantially as described. 2nd. In combination with the wall or door of a safe, having a recess, a charge of explosive material located therein and outside the said wall, and a covering for said charge, substantially as described. 3rd. In combination with the wall or door of a safe, a charge of explosive material carried thereby, and means for exploding said charge, substantially as described. 4th. In combination with the wall or door of a safe, a recess having a charge of explosive material therein, and a suitable covering for concealing the same, said recess being formed in a projection on the door, substantially as described. 5th. In combination with the door or wall of a safe, a charge of explosive material carried thereby, means for exploding said charge, and connections from said means to the handle of the door, to render said means inoperative by the movement of the handle, substantially as described. 6th. A wall or safe door provided with a projection having a layer of explosive and an outer covering of suitable material forming a shell, an induction coil J, located on said door and connected by wire to the explosive shell and rod G, attached by the crank *e*, to the handle E, and having a spring end *g*, in combination with a contact-plate H, and battery I, connected to the contact-plate and rod G, by the wires *i*, and *j*, as and for the purpose specified.

No. 38,576. Method of Electric Soldering, Cementing, etc. (*Méthode de soudage électrique, cimentation, etc.*)

Thomson International Electric Welding Company, of Boston, assignees of Elihu Thomson, Swampscott, both in Massachusetts, U. S. A., 26th March, 1892; 5 years.

Claim.—1st. The herein-described improvement in uniting metals or other objects by the application of heat, consisting in passing a heating electric current through a conductor in juxtaposition to the work, as and for the purpose described. 2nd. The herein-described improvement in cementing or soldering operations in which heat is employed to heat the cementing or soldering material, consisting in passing a heating electric current through a conductor contiguous to the work, but electrically insulated therefrom, as and for the purpose described. 3rd. The herein-described method of forming circular joints by the aid of solder or cement, consisting in applying a circular conductor to the work with the cementing or soldering material between the objects, and passing an electric current of large volume through such circular conductor in sufficient amount to heat the same to the requisite temperature, as and for the purpose described. 4th. The herein-described improvement in uniting objects of metal or other material by the application of heat, consisting in passing a heating electric current through a contiguous heating-conductor, cutting off such current, and maintaining the pressure upon the pieces while they are cooling. 5th. The herein-described improvement in uniting objects of metal or other material by the application of heat, consisting in heating them by an electric current passed through a conductor in juxtaposition to the objects while they are pressed together and permitting the pieces to cool under pressure.

No. 38,577. Axle Gage. (*Appareil pour donner la forme aux essieux.*)

Hector McQuarry, Barrie, Ontario, Canada, and John C. Hudson, Detroit, Michigan, U.S.A., 26th March, 1892; 5 years.

Claim.—1st. In an axle gage, the combination of the main bar having a supporting head pivoted to one end thereof, the pointer mounted thereon, the support at the opposite end of said bar, the sliding plate traveling longitudinally on said bar behind the pointer, said plate having an index line curving from the centre thereof outward transversely of said plate. 2nd. The combination in an axle gage, of the main bar having the head pivoted to one end, the swinging pointer on said head, the support at the opposite end of said bar, the dish rule on said bar, the plate traveling longitudinally on the main bar, the spoke rule mounted on said plate and traveling therewith behind the pointer, and the curved index line *i*, on said plate. 3rd. In combination with the main bar, the bracket arm or head pivoted to one end thereof, the vibrating pointer on said head, the sliding support on the opposite end of the main bar, the dish rule mounted centrally on the main bar, the plate adapted to travel longitudinally on the main bar, said plate having the spoke rule at one end, and the curved line *i*, at the opposite end, substantially as specified. 4th. In an axle gage, the combination of the main bar having a bracket pivoted to one end, the vibrating pointer having one end attached to said bracket, its free end swinging transversely over the main bar, the support slidingly mounted on the opposite end of said bar, the dish rule on the main bar, the plate slidingly mounted on said bar, said plate having the spoke rule at one end and the lines *e* and *i*, *i*, at the opposite end portion, and means for locking said plate to the main bar.

No. 38,578. Method of and Apparatus for Making Lead Pipe Traps. (*Méthode et appareil pour faire les valves des tuyaux de plomb.*)

William Woodward Rosenfield, New York, state of New York, U.S.A., 28th March, 1892; 5 years.

Claim.—1st. The hereinbefore described method of manufacturing curved hollow or tubular bodies, which consists in first forming a tube of the material, and then forcing such tube under pressure into a curved mold around a correspondingly curved core. 2nd. The combination of a press adapted to form pipe from lead, etc., of a curved mold having a curved core into which mold the pipe is forced by the press, and means for holding the mold in position during this operation, and releasing it, substantially as set forth. 3rd. The combination of the mold blocks having the mold F, formed therein, the curved core arranged in said mold, the lead cylinder and plunger, the hollow mandrel around which the lead pipe is formed, a rod extending through the hollow mandrel and supporting one end of the core F^1, and means for supporting the opposite end of the core, substantially as set forth. 4th. The combination, with the mold blocks having the mold formed therein and made deeper at f^2, of the curved core arranged in the mold, the lead press and means for holding the mold in position, whereby the lead pipe as it emerges from the press is forced into the curved mold around the curved core, substantially as set forth. 5th. The combination of the mold blocks, the curved mold formed therein, the sectional curved core, the lead cylinder, the hollow mandrel, a rod c^2, supporting one end of the core, the block G, a bolt g^1, supporting the opposite end of the core, and means for holding the mold in position to receive the lead issuing from the press, substantially as set forth.

No. 38,579. Truss. (*Bandage herniaire.*)

John H. Brownlow and Joel S. Warner, both of Ogdensburg, New York, U.S.A., 28th March, 1892; 5 years.

Claim.—1st. In a truss, a slide provided with a centre adjustable compression pad and an independent bi-lateral compression pad hinged at each side of the centre pad, substantially as shown and described. 2nd. In a truss, the combination, with a plate adapted for attachment to a belt, of a post secured to the plate, a centre compression pad adjustably secured upon the post, and an independent bi-lateral compression pad hinged to the plate at each side of the centre pad, substantially as described. 3rd. In a truss, the combination, with a slide adapted for attachment to a belt and provided upon one face with a threaded post, of a circular compression pad provided with a threaded opening to receive the said post, and two essentially kidney-shaped compression pads hinged to the slide, one at each side of the centre pad, substantially as and for the purpose specified.

No. 38,580. High and Low Water Alarm.
(*Indicateur à sifflet du niveau d'eau.*)

John M. Williams, Pittsburg, Pennsylvania, U.S.A., 28th March, 1892; 5 years.

Claim.—The combination of a steam operated alarm, a valve case or shell having slots therethrough, a slotted valve, arranged in said case or shell, a lever passing through the slots in the shell and valve, the lower ends of the slot serving as fulcra for the lever, and a float for raising and lowering the lever, substantially as set forth.

No. 38,581. Machine for Threading the Needles of Embroidering Machines. (*Appareil pour enfiler des aiguilles pour machines à broder.*)

Adolph Saurer and Victor Kobler, both of Arbon, Switzerland, 29th March, 1892; 15 years.

Claim.—1st. The combination of the hopper a^8 adapted to contain a plurality of needles, the vertically reciprocating slide a^7 passing through the said hopper and having at the top a groove adapted to receive a needle, the stationary bar a^9 with plate a^{12}, the horizontal reciprocating bar a, plate a^{18} fixed to the bar a and sliding between the bar a^9 and the plate a^{12}, and the needle-propeller a^{11} connected to the bar a and having edges a^{35}, whereby it engages with the needle raised by the slide a^7, substantially as described. 2nd. The combination, with the stationary bar a^9, of a sliding bar a and a needle-propelling plate a^{18}, of means for causing the needle to place itself, so that its middle flat portion lies horizontal and which consist in a ridge a^{38} formed on the slide a, or in an auxiliary slide a^{14} placed between the bars a and a^9 and projecting therefrom at the top, together with an appliance for moving the said slide to and fro, substantially as specified. 3rd. The combination of the stationary bar a^9, the plate a^{12} fixed thereto, the reciprocating bar a, the plate a^{18} fixed to the latter, a needle-propeller having the propelling edges a^{35}, and connected to the bar a, the gripper jaw a^{20} pivoted to the bar a^9, and the cam disk a^{21} operating the said gripper, substantially as specified. 4th. The combination of the reciprocating carrier b^8 having bearings formed thereon, the coiler b composed of the parts b^1 b^4, the part b^1 having the horn b^2, perforated horn b^3 and hollow spindle b^7 mounted in the bearings on the carrier b^8, while the part b^4 has the bifurcated horns b^5, b^6 and the stem b^{12} passing through, and movable lengthwise in the spindle b^7, means for rotating the coiler and for moving the stem b^{12} up and down the gripper formed by the jaw a^{20} and the bar a^9, and adapted to hold a needle in the path of the coiler, the reciprocating hook d arranged to pass through the eye of the needle, the gripper e, e^6, and means for opening and closing the two grippers so that the gripper-jaw a^{20} releases the needle when the gripper e, e^6 clutches it, and means for moving the gripper e, e^6 lengthwise to the needle, the fixed shear-blade f^1, the oscillating sheave-blade f, and mechanism for operating the latter, substantially as specified. 5th. The combination of the reciprocating carrier b^8 having bearings formed thereon, the coiler part b^1 having the spindle b^7 mounted in the said bearings, the pinion b^{10} and plate b^{11} both fixed on the spindle b^7, the stationary rack g^7 with which the pinion is capable of gearing, and guiding edges g^8 with which the plate b^{11} co-operates, substantially as described. 6th. The combination of the reciprocating carrier e^2 having bearings formed thereon, the gripper composed of the jaws e and e^6, the jaw e^6 having the hollow spindle e^1 mounted in the said bearings, while the jaw e is pivoted to the jaw e^6, the pinion e^3 and the plate e^4, both fixed on the spindle e^1, the stationary rack g^5 with which the pinion e^3 is capable of gearing, guiding-edges g^6 with which the plate b^{11} co-operates, the rod e^5 passing through the spindle e^1, means of connection between the rod e^5 and the gripper-jaw e, whereby the gripper is opened when the rod is raised, mechanism whereby the rod e^5 is caused to rise and descend, and needle-cushion k placed in the path of the gripper, substantially as described. 7th. The combination of the reciprocating carriers b^8 and e^2, both having bearings formed thereon, the coiler b mounted in the bearings on the carrier b^8, the gripper e, e^6 mounted in the bearings on the carrier e^2 and adapted to hold a needle, means for imparting rotative motion to the coiler and the gripper, the thread-guiding bar b^{05} fixed to one of the said carriers, the oscillating arm j^1 having the hook j arranged to engage with the thread extending from the needle over the bar b^{15} to the coiler, when during the operation of the gripper the said thread has been brought into the path of the hook j, substantially as specified. 8th. The combination of the bobbin i^6 containing a supply of thread, the standard o, and the oscillating arm o^2, both having holes for the thread to pass through, the thread-clamp composed of the fixed disk h^1, and the movable disk h, the coiler b, the gripper e e^6, reciprocating carriers having bearings in which the coiler and the gripper are mounted, the thread-guiding bar b^{15} fixed to one of the said carriers, the oscillating arm j^1 having the hook j, and mechanisms whereby the arms o^1 and j^1 are oscillated, the movable disk h is shifted towards or away from the disk h^1, the said carriers are moved and the coiler and the gripper rotated, substantially as described. 9th. The combination of the bracket p^7, the plate p^5 pivoted thereto and having the bearings p^3, p^4, the arm p^1 journalled in said bearings and having the finger p and the stud p^{12}, stops p^{13} and p^{14} on the bracket p^7, arranged in the path of the stud p^{12}, an engaging and disengaging device whereby when the arm p^1 is rotated by its stud p^{12} striking against one of the stops p^{13} p^{14}, the said arm is maintained in the position produced by such rotation, means for oscillating the disk p^5, and bar p^2 arranged outside of the path of the finger p, substantially as specified.

No. 38,582. Hay Tedder. (*Faneuse.*)

Edmund D. Reynolds and Oliver B. Reynolds, both of Brocton, Massachusetts, U.S.A., 29th March, 1892; 5 years.

Claim.—1st. A hay tedder having approximately horizontal arms adapted to yield throughout their length in vertical planes when a predetermined strain is brought against the fork. 2nd. In a hay tedder, the tedder arms having long and short members parallel with each other, with a narrow space separating a portion of the one from the other, links connected with the short members of the arms and having a fixed connection at their upper ends, and forks carried by the long member thereof, substantially as herein described. 3rd. In a hay tedder, the fork-carrying arms thereof divided for a portion of their length to form long and short members, links connected directly to the short members, having a fixed connection at the other end, pivoted forks carried by the long members of said arms, and connections from the forks to the links, substantially as herein described. 4th. In a hay tedder, the combination, with the main bearing wheels, the tedder arms and adjunctive parts, and the operating crank shaft, of the main axle formed of two sections, clutch rings or sleeves upon the adjoining ends of said sections, a gear wheel between said sleeves having clutch surfaces engaged thereby, and levers for moving said sleeves into and out of connection with said gear wheel, substantially as herein described. 5th. In a hay tedder, the combination, with the main wheels, the main shaft or axle, the crank shaft, and gearing between the same and the main shaft or axle, of the yielding tedder arms comprising the long and short arms E and E^1, connected with the crank shaft, the forks at the rear of the long arms E, the bars connected with the upper ends of the forks, the links connecting the forward ends of said bars with the short members of the tedder arms, and the operating hand lever and arm for suspending and adjusting the tedder arms, substantially as herein described. 6th. In a hay tedder, the main frame, axle, and bearing wheels, the crank shaft geared to the main axle, the tedder arms operated by the crank axle, the forks at the rear of the arms and having upward extensions, the bars G, in which said extensions are mounted, the connecting link at the front ends of the bars and connecting with the tedder arms at points near the centre thereof, the rod or shaft having the arms connected with the links, and a hand lever on said rod or shaft for adjusting the same, substantially as herein described. 7th. In a hay tedder, the main frame, the tedder arms and adjunctive parts, and the adjusting hand lever, in combination with a pivotally secured notched dog adapted to engage a pin or stud on the lever, and a weighted pawl pivoted to the lever, having an arm provided with a cam surface and lug, substantially as herein described. 8th. In a hay tedder, the main frame, the crank shaft, and the oscillating tedder arms, with their bars G and links H, in combination with means for suspending and adjusting said arms, comprising a shaft having arms connected with the links and a hand lever for moving the arms and elevating and depressing the tedder arms, substantially as herein described.

No. 38,583. Mowing Machine. (*Faucheuse.*)

Edward Bartlett, Bancroft, Ontario, Canada, 29th March, 1892; 5 years.

Claim.—1st. In a machine of the character described, the combination, with a drive shaft having oppositely extending crank arms at its ends and a knife or cutter bar, of an arm having a ball and socket connection with the crank arms of the drive shaft, and with the cutter or knife bar, substantially as shown and described. 2nd. In a machine of the character described, the combination, with a drive shaft having oppositely extending crank arms at its ends and a knife or cutter bar, of an arm having a ball and socket connection with the crank arms of the drive shaft, with the support of the drive shaft, and with the cutter or knife bar, substantially as shown and described. 3rd. The combination, with the main frame, the drive wheels, and the vertically swinging frame carrying the cutting apparatus, of the crank shaft, the cutter operating arm connected to

the main frame and the crank and to the cutter bar by universal or ball and socket connections, and a longitudinally extending spring connecting the said arm and the swinging frame, and acting as a cushion for the crank shaft, substantially as set forth. 4th. The combination, with the main frame, the drive wheels and the vertically swinging frame carrying the cutting apparatus at its lower end, of the crank shaft, the cutter operating arm, universal or ball and socket connections between said arm and the main frame, the crank and the cutter bar, and a spring 40, connected to a part of the lower end of the swinging frame, extending upward and thence downward and connected with the distal end of the said arm, substantially as set forth. 5th. In a machine of the character described, the combination, with the axle thereof, a tubular casing surrounding the axle and provided with a yoke, a drive shaft journaled in the yoke, having oppositely extending crank arms at their extremity, and a gear connecting the axle and drive shaft, of a frame hinged to the journal of the drive shaft and the axle casing a cutter or knife bar, an arm having a ball and socket connection with the cutter or knife bar and the crank arms of the drive shaft, and a spring attached to the frame at one end and secured to the arm at the opposite end, as and for the purpose specified. 6th. In a machine of the character described, the combination, with the axle thereof, a tubular casing surrounding the axle and provided with a yoke, a drive shaft journaled in the yoke, having oppositely extending crank arms at each extremity, and a gear connecting the axle and drive shaft, of a frame hinged to the journal of the drive shaft and the axle casing, a cutter or knife bar, an arm having a ball and socket connection with the yoke at the centre of the drive shaft and having a ball and socket connection with the cutter or knife bar and the crank arms of the drive shaft, a spring attached to the frame at one end, secured to the arm at the opposite end, and a vertically extending spring connecting the outer ends of the said frame and arm, as and for the purpose specified. 7th. The combination, with the main frame, the drive wheels, their connecting axle provided with a pinion, and the drive shaft parallel with said axle, provided at its ends with oppositely projecting cranks and an intermediate gear meshing with said pinion, and stationary studs between the ends of the crank shaft and concentric therewith of an arm having a trifurcated inner end, the central members of which have sockets receiving spherical pivots slipping over said studs, of a centrally situated rod 60, passing through the rearward members 50, 50*a*, forming a hinge connection, the outer members of which have a ball and socket connection with the cranks, and a ball and socket connection between the distal end of the arm and the cutter bar, substantially as set forth. 8th. The combination with the main frame having a yoke 16, provided with extensions 17, in which and the forward end of the yoke are formed half bearings, a shaft therein having oppositely projecting cranks at its ends, a cap 17^a, bolted to the extensions, and having a box 16^a and X^a, made to roll on the rounded part of yoke 16, with the projecting studs and semispherical pivots 52, 52^a, the socket recesses 50, 50^a, formed in the members 50 of arm A^1, making ball and socket joints through the centres of which the crank shaft passes, and the cutter operating arm having a trifurcated inner end, the central members of which have spherical sockets embracing the semispherical pivots 52, 52^a, between the two members of the arm and the said cranks, the frame carrying the cutting mechanism, substantially as set forth. 9th. The combination, with the main frame and its drive wheels, of the vertically swinging frame having a lateral axle at its lower end, a wheel journaled on one end of said axle, a bracket journaled on its opposite end, a vertically swinging shoe mounted on the bracket and carrying the cutting mechanism, a lever for adjusting the bracket on its axle, and a second lever for raising and lowering the shoe, substantially as set forth. 10th. The combination, with the frame, the drive wheels, and the draft bar 13, of the vertically swinging frame 22, provided at its lower end with a lateral axle, and a vertical longitudinal rack 37, provided with a series of apertures 38, a rod 39, connected to the draft bar and any one of said apertures, a wheel 23, on one end of said axle, a bracket 25 on the opposite end of said axle and having an adjusting lever 35, provided with a catch engaging said rack, a shoe 26, pivoted on the bracket and carrying the cutting mechanism and a lever 41, for raising and lowering the shoe, and a lever 63, for raising and lowering the V frame, substantially as set forth. 11th. In a machine of the character described, the combination, with a frame, an axle located in the lower end of the frame, and a wheel loosely mounted upon the axle, of a bracket loosely mounted upon the axle, a vertically swinging shoe pivoted to the bracket, a spring connecting the shoe and frame, a lever attached to the frame, a channel bar secured to the shoe, and a link connection between the lever and shoe, as and for the purpose specified. 12th. In a machine of the character described, the combination, with the main axle having the drive wheels attached, a casing surrounding the axle and provided with an integral yoke, a drive shaft journaled in the yoke, provided with oppositely extending crank arms at its extremities, a gear connection between the axle and drive shaft, and a V frame hinged to the journal of the drive shaft, and the axle casing, and provided with a supporting wheel at its lower end, of a bracket mounted to turn upon the axle of the supporting wheel, a shoe hinged to the bracket and adapted to carry a channel bar, an arm trifurcated at one end and connected at said end by ball and socket joints with the crank arms of the drive shaft and its support, a pitman having a ball and socket connection with the other end of the arm and also with the cutter bar of the machine, a spring attached to the frame and to the arm, a lever secured to the bracket and adapted to engage a rack upon the frame, a lever fulcrumed upon the frame and connected with the shoe, and a spring connection between the frame and the shoe, a lever fulcrumed on the draft beam and connected with the V frame, substantially as and for the purpose specified.

No. 38,584. Knife Cleaning Machine.

(Machine pour nettoyer les couteaux.)

Albert H. Storey, London, England, 29th March, 1892; 5 years.

Claim.—1st. In a knife cleaning apparatus, the combination, with a piece A, of leather or other material, and a piece B, of wood or other material, of the rigid transverse strips C, and the longitudinally arranged springs E, substantially as described. 2nd. In a knife cleaning apparatus, the combination, with a piece A, of leather or other material, and a piece B, of wood or other material, of the transversely arranged springs M, substantially as described. 3rd. In a knife cleaning apparatus, the combination, with the two pieces B, and B^1, of wood or other material, each carrying a piece A, of leather or other material, supported by transverse strips C, and longitudinally arranged springs E, or by transversely arranged springs M, and the end piece F, erected on the piece B, and whereto the piece B^1, is hinged, of the handle H, pivoted on a prolongation of the piece B, and having the horizontal arm J, provided with the screw K, whereby the pressure can be put on the piece B^1, substantially as described. 4th. The combination, with the cleaning apparatus described, of the clamping apparatus, consisting of the block N, which carries the longitudinal bolt O, having an end piece P, and provided with a screw wheel Q, and the transverse strips S, sliding in the longitudinal recess S^1, substantially as and for the purpose described.

No. 38,585. Oiler. (*Graisseur*)

John Thompson Smith, San Francisco, California, U. S. A., 29th March, 1892; 5 years.

Claim.—1st. In an oiler, the combination of an oil-vessel, a siphon within said oil-vessel and passing through the lower end of the same, a metallic core within said siphon, a permeable packing twisted around or intertwined with said core, running the length of the siphon, and contacting with the part to be lubricated, and a wire wound about the surface of said packing, substantially as set forth. 2nd. In an oiler, the combination of an oil-vessel, a siphon within said oil-vessel, and passing through the lower end of the same, separate lengths of a metallic core within said siphon, a permeable packing twisted around or intertwined with said core, running the length of the siphon and contacting with the part to be lubricated, separate lengths of wire wound about the surface of said packing, and a spring interposed between said separate lengths of core and wire, substantialy as set forth. 3rd. In an oiler, the combination of an oil-vessel, a siphon within said oil-vessel and passing through the lower end of the same, a metallic core within said siphon, a permeable packing twisted around or intertwined with said core, running the length of the siphon and contacting with the part to be lubricated, a wire wound about the surface of said packing, and a thumb-screw working through the upper part of the siphon and adapted to compress the packing therein, substantially as set forth. 4th. In an oiler, the combination of a glass oil-vessel A, upper and lower castings A^1, A^2, at each end of said oil-vessel, a yoke or link H, connecting the same, a nut I, adapted in connection with said yoke, to bind the said vessel and castings together, a siphon within the oil-vessel and passing through the lower casting, and an oil-conductor in said siphon, running the length thereof and contacting with the part to be lubricated, substantially as set forth. 5th. In an oiler, the combination of an oil-vessel, a supplementary reservoir secured to the side thereof, a tube leading from said reservoir to the oil-duct below said vessel, and a stop-cock controlling the passage of the oil through said tube, substantially as set forth.

No. 38,586. Duplicating Cheque Book.

(Livre de contrôle double.)

Rosa Jane Oldfield, Toronto, Ontario, and Richard Hocken, Chatham, New Brunswick, both in Canada, 29th March, 1892; 5 years.

Claim.—1st. In a duplicating cheque book, the combination, with the book provided with a stubb B, and stiff back F, of the portion of the cover *e*, provided with a single carbon sheet E, so secured on the inside of the portion *e* as to leave a broad margin e^1 at the top and the narrow margin e^2 and e^3 at the sides and bottom, the portion *e* having its left hand bottom corner cut away, as shown, and being arranged to fold transversely across the leaf *b* at right angles to the lines of printing, and lines for the particulars of the sale on the leaf *a*, as and for the purpose specified. 2nd. The combination with the book provided with a stubb B, and stiff back F, of the portion of the cover *e*, provided with a single carbon sheet E, so secured on the inside of the portion *e* as to leave a broad margin e^1 at the top, and the narrow margins e^2 and e^3 at the sides and bottom, the portion *e* having its left hand bottom corner cut away, as shown, and being arranged to fold transversely across the leaf *b* at right angles to the lines of printing, and lines for the particulars of the sale on the leaf *a*, and the portion *g* containing the tally sheet, which por-

tion is arranged to lie flat when the particulars of the sale are being entered, but is intended when closed to be folded transversely across the sheet *a*, and at right angles to the line of printing and lines for the particulars of the sale, as and for the purpose specified.

No. 38,587. Axle Skein. (*Douille d'essieu.*)

Pierre Dansereau, Montreal, Quebec, Canada, 29th March, 1892; 5 years.

Claim.—1st. A case hardened wrought iron axle skein C, made with steam pipe or wrought iron plate, with or without babbit lining, substantially as described and for the purposes set forth. 2nd. In an axle skein, the combination of the wrought iron skein C, with over box Q, set screw K, oil reservoirs J, R and F, cap D, and washers E, L, O and N, grooves G and H, and collar M, substantially as described and for the purposes set forth.

No. 38,588. Electric Dynamo and Motor.

(*Dynamo-électrique et moteur.*)

William J. McKee and Ralph S. Campbell, both of Detroit, Michigan, U. S. A., 29th March, 1892; 5 years.

Claim.—1st. In an electric dynamo or motor, a series of field magnets, more than two in number, placed at substantially right angles to radii of the armature, and a corresponding number of pole pieces interposed between the adjacent ends of the cores of each pair of field magnets, substantially as and for the purposes described. 2nd. In an electric dynamo or motor, a series of field magnets, more than two in number, placed at right angles to radii of the armature, a corresponding number of pole pieces interposed between the adjacent ends of the cores of each pair of field magnets, and a like number of brushes, substantially as and for the purposes described. 3rd. In an electric dynamo or motor, in connection with the armature sections, a series of safety or fusible connections, said connections forming the conductors between the several armature sections and the corresponding commutator segments, substantially as and for the purposes described. 4th. In an electric dynamo or motor, in connection with the field magnets, and the armature, a switch, substantially of the form shown, whereby the connections of the machine may be readily changed to adapt it for different kinds of work, substantially as described. 5th. In an electric dynamo or motor, a series of fields A, B, C, D, a corresponding number of intermediate pole pieces E, F, G, H, each of said pole pieces connected with the cores of two of said fields, and a like number of brushes, and in connection therewith, a switch, substantially of the form shown and described, whereby the connections of the machine may be readily changed to adapt it for different kinds of work, substantially as described. 6th. In an electric dynamo or motor, the field magnets A, B, C, D, pole pieces E, F, G, H, armature I, brushes L, commutator K, and in connection therewith, fusible connections between the armature sections and the corresponding commutator segments, substantially as described.

No. 38,589. Reed for Weaving Looms.

(*Peigne pour métier à tisser.*)

Clarence S. Strobridge, Hamilton, New York, U.S.A., 29th March, 1892; 5 years.

Claim.—1st. The combination in a reed of dents having concave surfaces on the one side and convex surfaces on the other, the convex surface being presented to the concave surface of the next adjacent dent, substantially as set forth. 2nd. In a reed for a weaving loom, the combination of dents having rounded edges and a convex surface on the one side and a concave surface on the other, substantially as set forth. 3rd. The combination in a reed of dents curved transversely with the front and rear edges of the dents adapted to bear against one side of the warp thread, and the middle portion of the opposite side of the dent, adapted to bear against the adjacent warp thread, substantially as set forth. 4th. The combination in a reed of a dent having a concave surface, and a dent having a convex surface presented to the concave surface of the other dent, whereby the thread passing between the dents is engaged at two points on one side and at one point intermediate the two points on the opposite side, substantially as set forth.

No. 38,590. Spring Clutch for Organ Pipes.

(*Manchon à ressort pour tuyaux d'orgues.*)

Frederick William Hedgeland, Chicago, Illinois, U.S.A., 29th March, 1892; 5 years.

Claim.—1st. In an organ or like musical instrument, the combination, with the pipes thereof, of a spring clutch, having one end rigidly secured to the upper board, and the opposite or loose end adapted to engage with the lower or foot end of said pipes and removably retain the same in place against accidental displacement, substantially as set forth. 2nd. In an organ or like musical instrument, the combination with the pipes, of a locking pin, inserted in and near the lower or foot end thereof, and a spring clutch rigidly fastened at one end and loose at the other, said loose end being adapted to detachably engage with said pin and hold said pipe in position against accidental displacement, substantially as set forth. 3rd. In an organ or like musical instrument, the combination, with the pipes, of a pin, inserted in the lower part thereof, the spring clutch, having one end rigidly secured to the upper board, and the opposite end loosely engaging with said pin, substantially as set forth. 4th. In an organ or like musical instrument, the combination of the pipes, the pin or pins, inserted in the lower part thereof, the spring clutch, the upper board, and the gage or stop screw, substantially as described.

No. 38,591. Folding Key Board for Organs.

(*Clavier pliant pour orgues.*)

Frederick William Hedgeland, Chicago, Illinois, U.S.A., 29th March, 1892; 5 years.

Claim.—1st. An organ or like musical instrument, provided with a folding key board adapted to fold inside of the case proper, substantially as and for the purpose set forth. 2nd. An organ or like musical instrument, provided with a folding stop action, substantially as described. 3rd. In an organ, the combination, with the inclosing case, of the stop action frame, having its respective ends pivoted to the corresponding ends of said case, and the stop action pivoted, as at *b*, whereby said parts are adapted to be raised upwardly out of the way of the folding key board, substantially as described. 4th. In an organ, the combination of the folding key board, the folding stop action, and the locking plate, secured to the stop action frame, substantially as described. 5th. In an organ, the combination, with the inclosing case, of the drop door, hinged thereto, and adapted to close the opening above the key board and stop action when the same are turned downwardly in position for use, substantially as described.

No. 38,592. Picture Holder. (*Porte-image.*)

Maurice Wirths, Jersey City Heights, New Jersey, U.S.A., 29th March, 1892; 5 years.

Claim.—1st. As an article of manufacture, a combined protector plate and frame for a photograph-card or other picture, the said protector plate and frame presenting a transparent border around the picture, and a fastening device for holding the picture to the protector, said fastening device being located within the limits of the transparent border, so as to leave the border substantially open to the passage of light throughout its extent, substantially as set forth. 2nd. The combination, with a combined protector plate and frame for a photograph-card or other picture, which plate has a transparent border, around the picture, of a fastening-strap for holding the picture to the protector-plate, and devices for attaching the ends of said strap to holes of the protector-plate, said fastening devices being located within the limits of the transparent border, substantially as set forth. 3rd. The combination, with a combined protector plate and frame for a photograph-card or other picture, which plate has a transparent border around the picture, of a fastening-strap for holding the picture to the protector-plate, devices for attaching the ends of said straps to holes in said protector-plate, and a stay or hanger connected to said straps, substantially as set forth.

No. 38,593. Process of Manufacturing Lacing Leather.

(*Procédé de fabrication du cuir à lacer.*)

William Thompson Osborne Lewis, Gananoque, Ontario, Canada, 30th March, 1892; 5 years.

Claim.—In the manufacture of lacing leather, the art or process of manufacturing lacing leather by soaking or sprinkling the hide previously unhaired (in the latter case simultaneously milling it), hanging it up and when partially dried, dampening it, rubbing in grease and milling it, the operations of hanging up, partially drying, dampening, greasing and milling being repeated, all as herein set forth.

No. 38,594. Street Sweeping Machine.

(*Appareil pour balayer les rues.*)

Ephraim Choquette, San Francisco, California, U.S.A., 30th March, 1892; 5 years.

Claim.—1st. A street sweeping machine, the same consisting of a vehicle adapted to be propelled by animal power, said vehicle being provided with rotary sweepers and with a motor and suitable connections for operating said sweeper, substantially as specified. 2nd. A street sweeping machine consisting of a vehicle adapted to be propelled by animal power, a series of brushes rotating in a horizontal plane and carried on said vehicle, an engine and suitable connections for the actuation of the brushes, and a boiler borne upon the vehicle and having suitable steam connections with the engine. 3rd. In a street sweeping machine, a vertical main shaft and a series of brooms or brushes secured radially upon said shaft, said brushes being and adapted to rotate in a horizontal plane, substantially as described. 4th. In a street sweeping machine, the vehicle, in combination with the main shaft and means for driving the same, a plurality of brooms or brushes carried by said shaft in a horizontal plane, and means co-operating with the brushes for receiving and disposing of the sweepings, substantially as specified. 5th. In a street sweeping machine, the vehicle, in combination with the main shaft and means for driving the same, a plurality of brooms or brushes radiating from said shaft, and driven in a horizontal plane, a drum or enclosure secured to the machine and containing the sweeping devices, and means co-operating with the brushes for receiving and disposing of the sweepings, substantially as described. 6th. In a street sweeping machine, the combination with the main shaft and means for driving the same, of a

series of brush-bearing arms fulcrumed to said shaft, brushes borne upon the ends of the arms, and a receptacle in the path of the brushes for receiving the sweepings therefrom, substantially as described. 7th. In a street sweeping machine, the main shaft and means for driving the same, in combination with the radial brush-bearing arms fulcrumed to the shaft, an inclined way or chute over which the brushes travel during the part of each revolution, and a receptacle connected with said chute and adapted to receive the sweepings, substantially as described. 8th. In a street sweeping machine, a rotating head and means for driving the same, in combination with a series of fulcrumed brush-carrying arms extending radially from said head, a curved and inclined chute arranged in the path of the brushes and adapted to receive them during a portion of their traverse, and a receptacle opening out of the chute for receiving the sweepings. 9th. The combination, with the hinged brush-carrying arms and their brushes, and means for driving the same, of an enclosing drum, a curved and inclined chute secured to the inner wall of the drum and extending substantially 180 degrees around the same, and a receptacle opening out of the chute for receiving the sweepings from the brushes, substantially as described. 10. The combination, with the brushes, arranged and adapted to operate as described, of the enclosing drum, the chute inclined at both ends and secured to the wall of the drum, and the downwardly and outwardly extended nose connected to one end of the chute in the path of the entering brushes, substantially as and for the purpose specified. 11th. In a street sweeping machine, the rotating head and the brushes carried thereby, in combination with the chute, the receptacle opening out of said chute and adapted to receive the sweepings, and a conveyor connected with said receptacle and adapted to remove the sweepings deposited by the brushes, substantially as described. 12th. In a street sweeping machine, the vehicle provided with a central depending drum open at the bottom, in combination with a sweeping mechanism arranged within said drum, a chute over which the sweepers ride during a part of each rotation, and a receptacle connected with the chute and adapted to receive the sweepings, substantially as described. 13th. In a street sweeping machine, the enclosing drum open at the bottom and provided with curved and inclined chute, in combination with the drum, a receptacle opening out of the chute, and a conveyor connected with and adapted to empty said receptacle, substantially as described. 14th. In a street sweeping machine, the main shaft and means for driving the same, in combination with the hinged radiating brush arms and their brushes, counterbalance springs connected to said arms, and means as described for turning the brushes independently of the arms, substantially as described. 15th. The main shaft 11 having the hinged radiating arms and the brushes carried by said arms, in combination with the counterbalances connected to each of the arms, a rocker link secured to each of the brushes, and means for operating the rocker link, substantially as described. 16th. In a street sweeping machine, the combination with a series of sweepers or brushes adapted to rotate in a horizontal plane, in combination with an open receptacle over which said brushes pass at each revolution for the deposit of their sweepings, substantially as described. 17th. The drum and its contained mechanism, in combination with the flexible skirt secured to the lower end of said drum.

No. 38,595. Derrick. (*Treuil.*)

Augustus Myers, Toronto, Ontario, Canada, 30th March, 1892; 5 years.

Claim.—A derrick having the bottom end of its mast properly carried in a suitable step, and provided with a ring or pulley, in combination with a rope applied to the said ring and operated to revolve the derrick, substantially as and for the purpose specified.

No. 38,596. Method of and Means for Removing and Preventing Scales and Incrustations in Steam Boilers, etc. (*Méthode et moyen d'enlever et empêcher les inscrustations dans les chaudières à vapeur.*)

John Draper, Kelvinside, Glasgow, Scotland, 30th March, 1892; 5 years.

Claim.—1st. The employment of metallic mercury and metallic sodium or potassium, and of alkali or an alkaline salt, to be placed in the water contained in a steam boiler or other closed vessel, so that under the action of pressure and heat in such boiler or vessel a thin film will be deposited upon the inner surface thereof, so as to protect same from pitting, corrosion or oxidization, or prevent the formation of scales or incrustations thereon, or remove scales or incrustations from such surface should they already exist, same being also applicable to the coating of iron or steel articles (placed in the boiler or vessel) with a thin film so as to protect such articles from oxidization, substantially as specified. 2nd. The employment of a sub-oxide of mercury dissolved in a suitable solution, such as ammonium chloride to be placed in the water contained in steam boilers or other closed vessels, so that under the action of pressure and heat in such boilers or vessels, a thin film will be deposited upon the inner surface thereof, so as to protect same from pitting, corrosion, or oxidization, or prevent the formation of scales or incrustations thereon, or remove scales or incrustations from such surface should they already exist, same being also applicable to the coating of iron or steel articles (placed in the boiler or vessel) with a thin film so as to protect such articles from oxidization, substantially as specified.

No. 38,597. Method of Cutting Veneers.

(*Méthode de couper le bois de placage.*)

Gustav Adolph Oncken, Chicago, Illinois, U.S.A., 31st March, 1892; 5 years.

Claim.—1st. The method of cutting from a log or block of wood veneers and other thin boards by actuating a reciprocating knife in such a manner that a concave cutting surface throughout the whole length of the block is obtained, substantially as and for the purpose specified. 2nd. In a machine for cutting from a log or block of wood boards and veneers, the combination of the reciprocating knife frame being guided upon separate agitated carriages with the concave guide-ways and the mechanisms for periodically advancing the log toward the knife, substantially as and for the purpose set forth. 3rd. In a machine for cutting from a log or block of wood boards or veneers, the combination of the reciprocating frame, the carriages travelling upon a concave guide-way, and the rotating eccentric g, the pivot g^2, and the eccentric rod g^1, substantially as and for the purpose described. 4th. In a machine for cutting from a log or block of wood boards or veneers by a reciprocating knife, the combination of the support carrying the block, the screw spindles c, c^1, the bushings s^6, s^8, actuated by a chain gearing, with the friction wheel p, the oscillating lever n, and the friction cam o, substantially as and for the purpose specified. 5th. The combination, in a machine for cutting from a block or log of wood boards or veneers, of the block support, the transporting spindles, the bushings or nuts axially movable in the agitating wheels p^3, p^4, the fork ended rod g^3, the prongs of which having inclined side faces, the checks s^6, s^8, and the rotating cam g, substantially as set forth. 6th. The combination, in a machine for cutting from a block or log of wood boards or veneers, of the mechanism for advancing the block support towards the knife and the cut adjusting mechanism, consisting of the adjusting screw m^5, nut m^4, rod m, projection m^{11}, coiled spring m^7, and the rotating cam l^2, substantially as and for the purpose specified.

No. 38,598. Telephone Receiver.

(*Récepteur téléphonique.*)

S. Lloyd Wiegand, Philadelphia, Pennsylvania, U.S.A., 31st March, 1892; 5 years.

Claim.—1st. In an apparatus for transmitting sounds and signals, the combination, with a diaphragm and a helix located in proximity thereto, of an expansible core attached at one end to the diaphragm, said core being composed of a series of plates arranged in pairs, the ends of each pair of plates being secured together and the several pairs of plates being connected together at their centres, substantially as set forth. 2nd. In an apparatus for transmitting sounds and signals, the combination, with a diaphragm, of a helix located in proximity thereto, an expansible core in said helix connected at one end to the diaphragm, and a band of magnetizable material connected at its ends to the diaphragm at diametrically opposite points, substantially as set forth.

No. 38,599. Method of Constructing Street Railway Tracks. (*Méthode de construire les voies des chars urbains.*)

Catherine Louise Gibbon, New York, State of New York, U.S.A., 31st. March, 1892; 5 years.

Claim.—1st. A railway track composed of two track-rails, one over lapping the edge of the other; one of said track rails consisting of a horizontal seat, having at one edge of its upper face a longitudinal pendent flange, and the other consisting of a longitudinal head, having on its lower face near one of its edges a longitudinal groove, and contiguous to said groove a longitudinal pendent flange; said groove or incline being fitted to interlock with the rib on the other track rail, as and for the purpose herein specified. 2nd. A railway chair, having enlarged base plate, also provided with deep grooves for the reception of web of rails; and mortices for the reception of tie-bars and wedge-keys, the rails when in position in the chairs forming a continuous bearing surface for the track, and a groove for the flange of the car wheels, as and for the purpose specified. 3rd. An automatic key, wedge-shaped, at one end bifurcated, having harpoon shaped points; the other end provided with a shoulder head; the bifurcation in the key when driven through the mortices in the chairs and rails become closed, and when passed through the prongs, spring open, and as for the purpose specified. 4th. In a railway track, the combination of the track rails B, and C, which interlock longitudinally, and each being provided with a longitudinal pendent flange, chairs provided with parallel grooves for receiving the pendent flanges of said track rails, and mortices for the tie-bars and wedge-keys, and as for the purpose specified. 5th. In a railway track, the combination of a chair fitted with grooves and mortices, and so arranged as to form with rails, a lap joint or continuous track, the rails being secured in the chairs, and the latter held in position by the notched tie-rods, as herein specified. 6th. The combination of chairs, rail and tie-rod holding the same in position; an automatic wedge-key for securely locking all parts together, as and for the purpose specified.

No. 38,600. Spring Bed Bottom. (*Sommier élastique.*)

Daniel Edgar, Adrian, Michigan, U.S.A., 31st March, 1892; 10 years.

Claim.—1st. A bed bottom consisting of a slatted frame, upright supporting springs, a head piece, a foot piece, springs connecting them to the supporting springs, and the border springs secured to the head and foot cross pieces and to the supporting springs. 2nd. The combination of a slatted frame, upright supporting springs thereon, horizontal springs connecting the supporting springs at their upper ends, head and foot cross pieces, springs for normally holding them above the upper plane or surface of the springs in the bed bottom, and means for adjusting them without a hinge. 3rd. The combination of a frame, supporting springs mounted thereon, means for flexibly connecting the upper ends of the supporting springs, the head piece, the flat springs secured thereto, and the curved springs secured to the lower ends of the flat springs and at their outer ends to the frame, but free to slide at their inner ends, and means for adjusting the head piece. 4th. The combination of a frame, supporting springs mounted thereon, springs connecting the supporting springs at their upper ends, the head and foot cross pieces, springs connecting them to the supporting springs, the continuous border springs connected to the head and foot pieces, and to the supporting springs, the springs I, secured to the head and foot cross pieces, the springs K, secured to the frame, and to the lower ends of the springs I, and the adjusting chains. 5th. The combination of a frame, upright supporting springs mounted thereon, head and foot pieces, and continuous border springs secured to the head and foot pieces and to the supporting springs.

No. 38,601. Wash Boiler. (*Chaudière de buanderie.*)

Alonzo Fowler Kempton, Hilton, and Robert James Neithercut, Wawanesa, both of Manitoba, Canada, 31st March, 1892; 5 years.

Claim.—1st. A wash boiler having a chamber or chambers formed on its bottom connected by a stand pipe or stand pipes, having nozzles discharging above the surface of the water in the said boiler, substantially as set forth. 2nd. A wash boiler having the chambers C formed in its bottom, having tapering enlargements F connected to the stand pipes D, having nozzles, substantially as set forth. 3rd. In a wash boiler, the combination, with the stand pipes D, having nozzles E, of the chambers C, having entrances*c*, substantially as set forth.

No. 38,602. Heating Chimney. (*Chauffage de cheminée.*)

Samuel T. H. Holt, Philippi, West Virginia, U.S.A., 31st March, 1892; 5 years.

Claim.—1st. In a heating chimney, the combination of the fire place having a metallic back, an air heating chamber in rear thereof, and a central masonry fire flue above the fire place, masonry air flues above the fire place and on each side of the fire flue, communicating at bottom with the said chamber through inlet passages, respectively, and an air inlet flue to said chamber, substantially as described. 2nd. The herein described heating chimney consisting of the front and rear fire places having metallic backs, an air heating chamber between the fire backs, the smoke flues communicating with the fire places, the hot air flues on each side of the smoke flues, the passages directly connecting said flues with the chamber, and the air inlet to said chamber below the passages, substantially as set forth.

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

2501. THE METALLIC ROOFING COMPANY OF CANADA, 2nd five years of No. 26,183, from the 9th day of March, 1892. Improvements in Metal Shingles, 3rd March, 1892.

2502. WILLIAM AUGUSTUS WARNER and MARCUS BORST WARNER, 2nd and 3rd five years of No. 26,360, from the 1st day of April, 1892. Improvements in the manufacture of Plated Ware, 3rd March, 1892.

2503. THE NORTH AMERICAN CHEMICAL COMPANY, 3rd five years of No. 15,470, from the 15th day of September, 1892. Improvements in Salt Driers, 3rd March, 1892.

2504. GOTTLIEB DAIMLER, 2nd five years of No. 26,196, from the 10th day of March, 1892. Improvements in Motor Engines, worked by Combustible Gases or Petroleum Vapor or Spray, 3rd March, 1892.

2505. ALFRED SAVIL TOMKINS, 2nd five years of No. 26,190, from the 10th day of March, 1892. Combined Tent and Waggon, 3rd March, 1892.

2506. RACHEL A. MASON, 3rd five years of No. 26,181, from the 9th day of March, 1892 Improvements in Elevator Draining Plows, 4th March, 1892.

2507. J. B. DIXON, 2nd five years of No. 26,151, from the 7th day of March, 1892. Improvements in Staves for Pails, Barrels, &c., and in the method of fastening the same, 4th March, 1892.

2508. ROYAL EDWARD BALL, 2nd five years of No. 26,147, from the 7th day of March, 1892. Improvements in Dynamo Electric Machines, 5th March, 1892.

2509. ROYAL EDWARD BALL, 2nd five years of No. 26,156, from the 7th day of March, 1892, Improvements in Dynamo Electric Machines, 5th March, 1892.

2510. MICHAEL GARLAND, 2nd five years of No. 26,142, from the 7th day of March, 1892. Improvements in Chain Conveyors, 5th March, 1892.

2511. MICHAEL GARLAND, 2nd five years of No. 26,143, from the 7th day of March, 1892. Improvements in Carrier and Drive Chains, 5th March, 1892.

2512. MICHAEL GARLAND, 2nd five years of No. 26,149 from the 7th day of March, 1892. Improvements in Chain Conveyors, 5th March, 1892.

2513. THE ROYAL ELECTRIC COMPANY, 2nd five years of No. 26,180, from the 9th day of March, 1892. Improved Hanger for Electric Lamps, 5th March, 1892.

2514. ALEXANDER GOKEY HUNTER, 2nd five years of No. 26,184, from the 9th day of March, 1892. Improved mechanism for operating a Roll of Paper Having painted or written on its Surface the Subject of any Lecture, &c., 5th March, 1892.

2515. GEORGE BRANUM DOWSWELL, 3rd five years of No. 14,388, from the 11th day of March, 1892. Improvements on Washing Machines, 7th March, 1892.

2516. SIDNEY FIRTH, 2nd five years of No. 26,406, from the 6th day of April, 1892. Improvements in Apparatus for Checking, Recording and Indicating the amount of Cash received, taken or paid. Such Apparatus being also applicable to other analagous purposes, 7th March, 1892.

2517. JOHN JOSEPH REVELEY HUMES, 2nd five years of No. 30,127, from the 6th day of November, 1893. Improvements in and applicable to Hydrocarburetted Air Engines, 7th March, 1892.

2518. RICHARD DENISON and JOHN BLAKEY, 2nd. five years of No. 26,194, from the 10th day of March, 1892. Improvements in File Cutting Machines, 8th March, 1892.

2519. WILLIAM GUSTAV RUGE and OSCAR HENRY GUETHER, 2nd five years of No. 26,230, from the 14th day of March, 1892. Improvements in Horse Collars, 8th March, 1892.

2520. CUTHBERT GREENWOOD JOHNSON, 2nd five years of No. 26,259, from the 16th day of March, 1892. Improved Contrivance for Communicating pressure to Ensilage and other material, 8th March, 1892.

2521. JAMES KILBOURNE, 3rd five years of No. 14,512, from the 13th day of March, 1892. Improvements in Sinks, 11th March, 1892.

2522. RIES and HENDERSON, 2nd five years of No. 26,198, from the 11th day of March, 1892. Improvements in Circuit Closing apparatus for Electric Brake and other Circuits, 11th March, 1892.

2523. OTTO LELM, 2nd five years of No. 26,255, from the 16th day of March, 1892. Improved Apparatus for Producing Multiple Copies of Writings, Drawings or Similar work, 12th March, 1892.

2524. HENRY RICHARDSON, 2nd five years of No. 26,460, from the 16th day of April, 1892. Improvements in Machinery for Grinding Spherical Balls, 14th March, 1892.

2525. JOHN FENSOM, 2nd five years of No. 26,367, from the 2nd day of April, 1892. Improvements in Hydraulic Valves and Valve Mechanism, 15th day of March, 1892.

2526. MASSEY MANUFACTURING COMPANY, 2nd. five years of No. 26,263, from the 16th day of March, 1892. Improvements in Harvesters and Binders, 15th March, 1892.

2527. MUNN'S BOUDOIR CAR COMPANY, 2nd five years of No. 26,262, from the 16th day of March, 1892. Improvements in Railway Cars, 15th March, 1892.

2528. CHARLES A. PATTERSON and JOHN E. PATTERSON, 2nd five years of No. 26,286, from the 19th day of March, 1892. Improvements in Desks for Telephone use, 17th March, 1892.

2529. FRANK GEORGE HUGHES, 2nd five years of No. 26,325, from the 26th day of March, 1892. Improvements in Fastenings for Dental Flasks, 18th March, 1892.

2530. FREDERICK FAIRMAN, 3rd five years of No. 14,616, from the 19th day of April, 1892. Improvements on Process and Apparatus for Covering Metals with Zinc, 19th March, 1892.

2531. JOSEPH McAFEE, 2nd five years of No. 26,298, from the 21st day of March, 1892. Improvements in Molds for the manufacture of Box Traps for Plumbing Purposes, 19th March, 1892.

2532. JAMES BRADLEY BOWES, 3rd five years of No. 14,455, from the 21st day of March, 1892. Improvements on Artificial Hands, 21st March, 1892.

2533. GREENLEAF JOHNSON, 2nd five years of No. 26,319, from the 24th day of March, 1892. Improvements in Machines for Making Tongue and Groove Flooring, 22nd March, 1892.

2534. GEORGE S. AYER, 2nd five years of No. 26,144, from the 6th day of April, 1892. Improvements in Pumps, 22nd March, 1892.

2535. JAMES HIGGENBOTTOM and ORSINI STUART, 2nd five years of No. 26,428, from the 12th day of April, 1892. Improvements in Purifiers for Grain Middlings, &c., 22nd March, 1892.

2536. LOVASSO FIELD, 2nd five years of No. 26,358, from the 1st day of April, 1892. Improvements in Paper Files, 25th March, 1892.

2537. SAMUEL HUGHES, 2nd and 3rd five years of No. 38,523, from the 18th day of March, 1897. Improvements in Heating and Ventilating Railway

2538. JAMES D'ARCY, 2nd five years of No. 26,411, from the 6th day of April, 1892. Improvements in Railway Flag Signals, 31st March, 1892.

TRADE MARKS

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

Copyright and Trade Mark Branch.

4257. WILLIAM JOHNSON, of Montreal, Que. Paints and Colors, 3rd March, 1892.

4258. ANGUS McGILLVRAY, of Vancouver, B. C. Hair Restorative, 3rd March, 1892.

4259. HARRIS CONLEY WILKINSON, of Chicago, Ill., U.S.A.. Pills, 4th March, 1892.

4260. THE CANADIAN RUBBER CO., of Montreal, Que. Rubber Hose and like Tubular Articles, 5th March, 1892.

4261. CHARLES GURD, of Montreal, Que. Ginger Ale, 10th March, 1892.

4262. CHARLES GURD, of Montreal, Que. Temperance Beverage and Tonic, 10th March, 1892.

4263. CHARLES GURD, of Montreal, Que. Soda Water, 10th March, 1892.

4264. TYRRELL H. DUNCOMBE, of St. Thomas, Ont. Pills., 10th March, 1892.

4265. WILLIAM FERGUSON AND EDWIN HILL, of Toronto, Ont., trading as The Toronto Plate Glass Importing Co.; Mirror Plate, 10th March, 1892.

4266. CANADA PAPER CO., L'D., of Montreal, Que. Paper, 10th March, 1892.

4267. CANADA PAPER CO., L'D, &c., (*at supra.*)

4268. ROBERT PORTER & CO., of Kings Cross, London, England. Malt Liquor, especially Stout and Porter, 10th March, 1892.

4269. WHITALL, TATUM & CO., of New York, N. Y., U. S. A. Glass Bottles, 10th March, 1892.

4270. CHARLES GURD, of Montreal, Que. Temperance Beverages, 11th March, 1892.

4271. GEO. L. WOOD & SON, of New York, N. Y., U. S. A. Varnishes, 11th March, 1892.

4272. D. S. PERRIN & CO., of London, Ont. Biscuits, 21st March, 1892.

4273. AUGUSTE EICHHORN & DEXTER CARPENTER, of Toronto, Ont. Cigars, 22nd March, 1892.

4274. ALBERT EDWARD MORRIS, of Montreal, Que. Cigars, Cigarettes and Tobaccos, 24th March, 1892.

4275. JOSEPH PARADIS LAVOIE, de Québec, Qué. Préparation Médéciuale Tonique, 26 Mars, 1892.

4276. MEAGHER BROS. & CO., of Montreal, Que. Orange Quinine Wine, 30th March, 1892.

4277. ALEXANDER GORDON, of Detroit, Michigan, U. S. A., & HARRIS RAYNOLDS, of Windsor, Ont., trading at said Windsor as GORDON & RAYNOLDS. Cigars, 30th March, 1892.

4278. WM. LOGAN, of St. John, N.B. Laundry Soap, 31st March, 1892.

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6339. CHANSON DE PATINEUR. (Skaters' Song.) Morceau caractéristique par Landon Hall. A. & S. Nordheimer, Toronto, Ont., 1st March, 1892.

6340. FRETHERNE MARCH, by R. S. Ambrose. A. & S. Nordheimer & Co. (*ut supra*).

6341. LES URSULINES DES TROIS RIVIÈRES DEPUIS LEUR ETABLISSEMENT JUSQU'A NOS JOURS. Tome Second. Les Ursulines des Trois Rivières, Qué., 3 mars, 1892.

6342. LESSONS IN LITERATURE for High School Entrance Examinations, 1892-3. Edited by F. H. Sykes, M.A. Thomas Grainger Wilson, Toronto, Ont., 5th March, 1892.

6343. THE VICTORIA. New Dance by Prof. S. M. Early. Music by Chas. Bohner. Whaley, Royce & Co., Toronto, Ont., 5th March, 1892.

6344. BELL TELEPHONE COMPANY OF CANADA, LONDON EXCHANGE, SUBSCRIBERS' DIRECTORY ONTARIO DEPARTMENT, FEBRUARY, 1892. The Bell Telephone Company of Canada, Montreal, Que., 5th March, 1892.

6345. THE CANADIAN NEWSPAPER DIRECTORY, 1892. A. McKim & Co., Montreal, Que., 5th March, 1892.

6346. YORK COUNTY LOAN AND SAVINGS COMPANY. NEW SERIES OF 24 YEAR LOANS. ILLUSTRATION SHOWING PROFITS TO INVESTORS AND BORROWERS, (card). Edward Joseph Lomnitz. Toronto, Ont., 7th March, 1892.

6347. A PETITION AND PRAYER ON BEHALF OF THE LOWER ANIMALS. Revised. Archibald McBean, Winnipeg, Man., 7th March, 1892.

6348. THE CANADIAN LAW TIMES. Edited by E. Douglas Armour, Q.C., Vol. XI. The Carswell Co. (L'd.), Toronto, Ont., 9th March, 1892.

6349. A MANUAL OF COUNTY COURT PRACTICE IN ONTARIO, by M. J. Gorman, LL.B. The Carswell Co. (L'd.), &c. (*ut supra.*)

6350. SUN OF MY SOUL. Sacred Song. Words by J. Kable. Music by Nellie Smith. Whaley, Royce & Co., Toronto, Ont., 9th March, 1892.

6351. THE HISTORY OF CANADA, by Wm. Kingsford, LL.D., F.R.S.C, Vol. V (1763-1775) with maps. Wm. Kingsford, Ottawa, Ont., 9th March, 1892.

6352. WHAT'S DE MATTAH WID DE COON. Words and Music by Edward C. Grant, Ottawa, Ont., 9th March, 1892.

6353. SKATING BY MOONLIGHT. Composed by Joseph Gartside. Arranged by Alfred Fielding. Joseph Gartside and Alfred Fielding, Moncton, N.B., 10th March, 1892.

6354. HYMNS AND CAROLS, OLD AND NEW (annotated), for the Sunday School and Home. Edited by Lorenzo Gorham Stevens, B.D., St. John N.B., 11th March, 1892.

6355. VILLAGE MUSICIANS. (Die Musikanten Kommen.) Op. 12, No. 3, by Nicolai Von Wilm. I. Suckling & Sons, Toronto, Ont., 12th March, 1892.

6356. FROLICS. (Neckereien.) Op. 12, No. 5, by Nicolai Von Wilm, &c. (*ut supra*).

6357. THE NOTTAWASAGA MILITARY SCHOTTISHE. Bon Ton or Jersey, by J. B. Spurr, Creemore, Ont., 12th March, 1892.

6358. APPLICATION FOR PROTECTION IN THE PROVINCIAL MUTUAL HAIL INSURANCE COMPANY OF MANITOBA, (form). Frank de Witt Lord, Winnipeg, Man., 14th March, 1892.

6359. LIST OF BOOKS IN S. S. LIBRARY OF IMMANUEL BAPTIST CHURCH, TORONTO. Thomas Bengough, Toronto, Ont., 14th March, 1892.

6360. DR. HOWARD'S PERFECTED PREPARATIONS FOR MEN, WOMEN AND CHILDREN, (pamphlet). The Dr. Howard Medicine Co., Brockville, Ont., 14th March, 1892.

6361. MONSEIGNEUR LOUIS FRANÇOIS LAFLÈCHE, BISHOP OF THREE RIVERS, (bust). The Sisters of Providence of Three Rivers, Que., 15th March, 1892.

6362. POMPADOUR POLKA, by Will J. Carkeek, Sydney Ashdown, Toronto, Ont,, 16th March, 1892.

6363. SONGS OF THE HUMAN, by Wm. P. McKenzie, of East Avon, New York, U.S.A., 18th March, 1892.

6364. MERCHANTS SALES AND FINANCIAL RECORD FOR FOUR YEARS. Philip de Gruchy, Montreal, Que., 19th March, 1892.

6365. ILLUSTRATED CATALOGUE OF CROCHET SILK WORK AND DIRECTIONS FOR CROCHETING BELTS, &c. Belding, Paul & Co. (L'd.), Montreal, Que., 19th March, 1892.

6366. HUSH! THE BOGIE! Words by Geo. Robins and Henry Pettitt. Music by Meyer Lutz. E. Ascherberg & Co., London, England, 19th March, 1892.

6367. THE TAR AND TARTAR WALTZES. For Piano. Arranged by Edouard Franz. Whaley, Royce & Co., Toronto, Ont., 21st March, 1892.

6368. THE LACROSSE JERSEY. For Piano. By Nellie Smith. Whaley, Royce & Co., Toronto, Ont., 21st March, 1892.

6369. TORONTO WEEKLY RAILWAY AND STEAMBOAT GUIDE. No. 1. March 1, 1892. Alfred Savage Wigmore, Toronto, Ont., 21st March, 1892.

6370, MARGARET (photo). Wm. J. Topley, Ottawa, Ont., 22nd March, 1892.

6371. MEMORIES (photo). Wm. J. Topley, &c. (*ut supra*).

6372. EVERYBODY TAKES OFF THE HAT TO ME. Comic Song. Words by George Cooper. Music by Edward Holst. The Anglo-Canadian Music Publishers' Association (L'd.), London, England, 23rd March, 1892.

6373. ONTARIO'S FIRST LEGISLATURE CONVENED DECEMBER 27TH, 1867, DISSOLVED FEBRUARY 25TH, 1871 (engraving). Thomas N. Scripture, Toronto, Ont., 24th March, 1892.

6374. MEMORY VALSE, by Katharine T. Fuller. I. Suckling & Sons, Toronto, Ont., 26th March, 1892.

6375. AN OPEN LETTER TO THE MEDICAL PROFESSION (pamphlet). The Dr. Howard Medicine Co., Brockville, Ont., 26th March, 1892.

6376. THE NEW EMPIRE, REFLECTIONS UPON ITS ORIGIN AND CONSTITUTION AND ITS RELATION TO THE GREAT REPUBLIC, by O. A. Howland, Barrister. Hart & Co., Toronto, Ont., 26th March, 1892.

6377. CEMENT TEST RECORD (book). McRae & Co., Toronto, Ont., 26th March, 1892.

6378. A NEW PRACTICAL ARITHMETIC. Designed especially for Commercial Schools and Business Men, by Rev. J. L. H. Roy, Sherbrooke, Que., 26th March, 1892

6379. A TREATISE ON CROWN AND BRIDGE WORK, OR THE ADJUSTMENT OF TEETH WITHOUT PLATES. Peter Brown, Montreal, Que., 28th March, 1892.

6380. BIRD'S EYE VIEW OF THE WORLD'S COLUMBIAN EXPOSITION. John Wesley Allison, Montreal, Que., 30th March, 1892.

6381. HINTS AND EXPEDIENTS FOR YOUNG TEACHERS by David Boyle, with Illustrations by J. W. Bengough. Thomas Grainger Wilson, Toronto, Ont., 31st March, 1892.

6382. FOR THE SAKE OF THE PAST. Supplication. Words by Frederic E. Weatherly. Music by Tito Mattei. Chappell & Co., London, England, 31st March, 1892.

6383. I'LL SING THE SONGS OF ARABY, from the Cantata Lalla Rookh. Words by W. G. Wills. Music by Frederic Clay. Chappell & Co. (*ut supra*).

6384. WHY BEATETH SO, OH HEART? Song. Words by Arthur Chapman. Music by F. Paolo Tosti. Chappell & Co. (*ut supra*).

6385. THE COMMERCIAL AGENCY REGISTER FOR THE PROVINCES OF QUEBEC, ONTARIO AND THE MARITIME PROVINCES, JANUARY, 1892. Vol. 4. Chaput Frères, Montreal, Que., 31st March, 1892.

6386. BELL TELEPHONE COMPANY OF CANADA, TORONTO AND TORONTO JUNCTION EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, MARCH, 1892. Bell Telephone Company of Canada, Montreal, Que., 31st March, 1892.

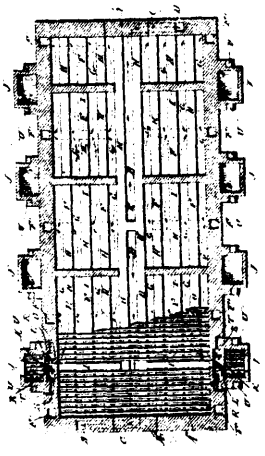
6387. GLIMPSES OF THE PAST IN THE RED RIVER SETTLEMENT, 1805-25, which is now being preliminarily published in separate articles in the "Rupert's Land Gleaner," in Middle Church, Manitoba. W. A. Burman, Middle Church, Man., 31st March, 1892.

THE

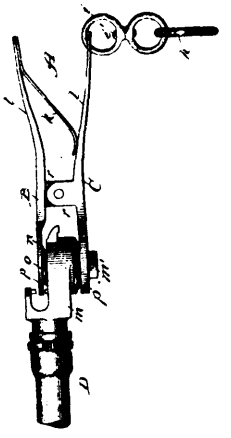
CANADIAN PATENT OFFICE RECORD.

ILLUSTRATIONS.

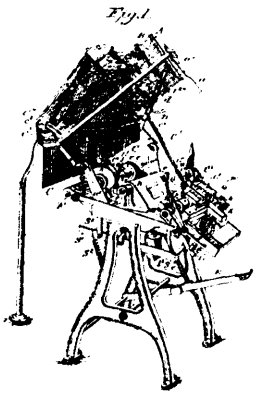
Vol. XX. MARCH, 1892. No. 3.



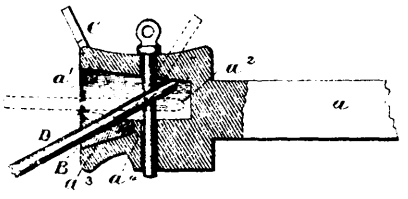
38377 Cullens' Brick Kiln.



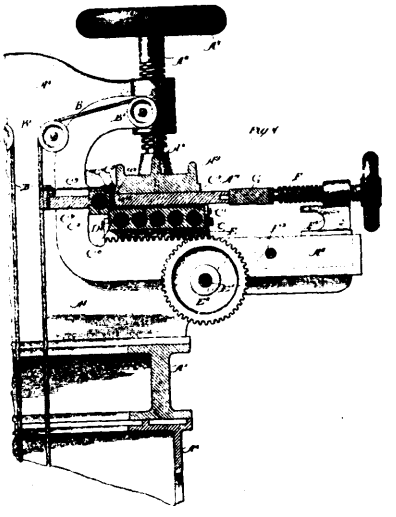
38378 Beery's Holder for Air-Brake Hose.



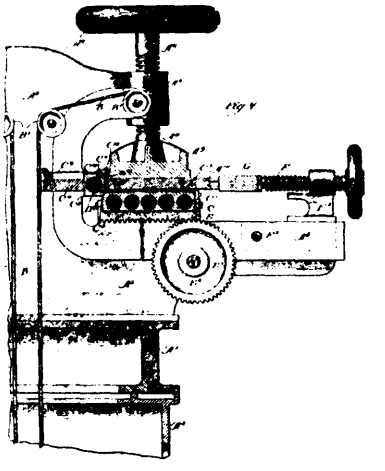
38379 Rogers' Typograph.



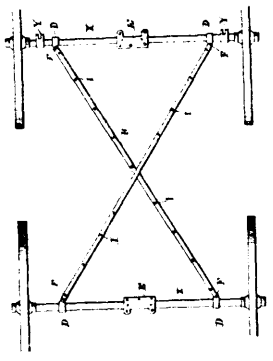
38380 Sedore's Car Coupler.



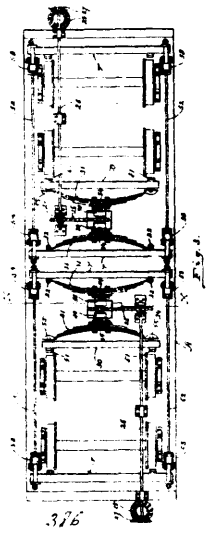
38382 Newell's Method of Applying Celluloid to Key-Boards.



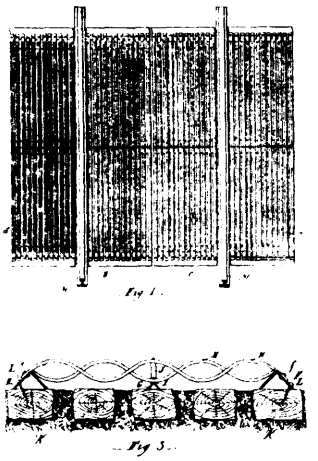
38383 Newell's Veneering Press.



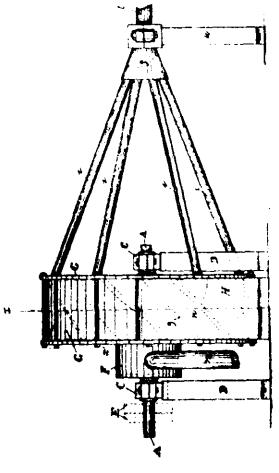
38385 Kinsman's Carriage Gear.



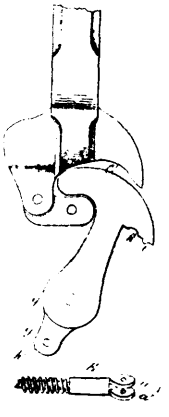
38386 Pool and Beals' Car Brake.



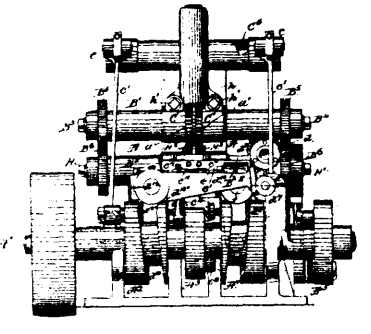
38387 Blackwell and Smith's Cattle Guard.



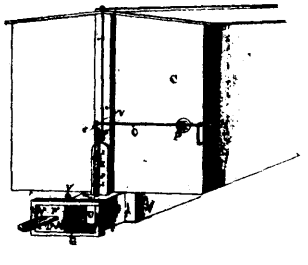
38388 Ruble's Centrifugal Steam Injector.



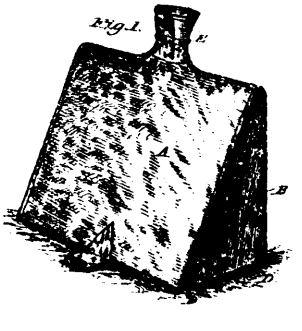
38389 Brown's Car Coupler.



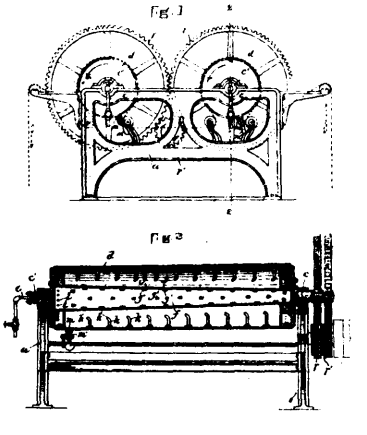
38390 Goddu's Nail Making Machine.



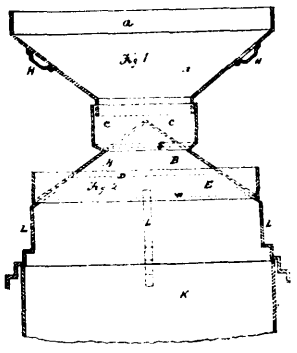
38391 Ledel's Car Coupler.



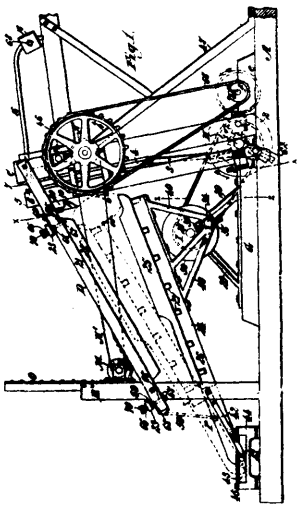
38392 Hesser's Foot Warmer.



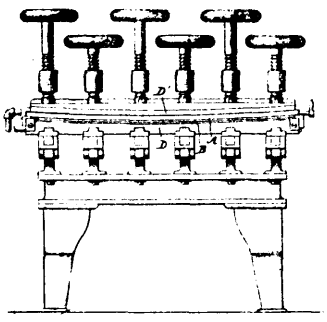
38393 Hebdon's Cloth Finishing Machine.



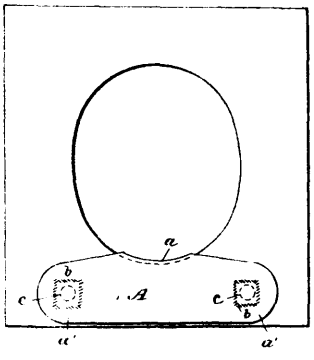
38394 Fowell's Cooler and Aerator for Milk.



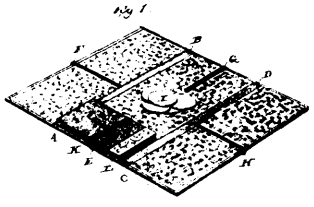
38396 Shely's Hemp Brake and Cleaner.



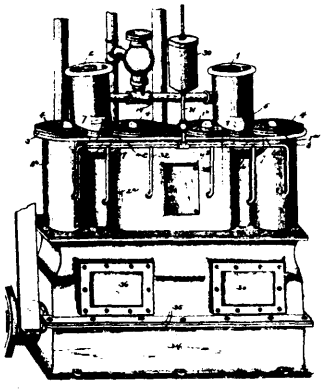
38397 Zeidler and Newell's Method of Making Key-Boards.



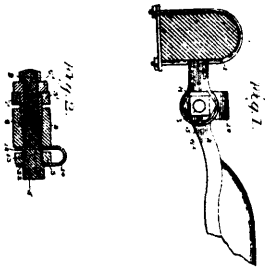
38398 Swann's Protector for Closet Seats.



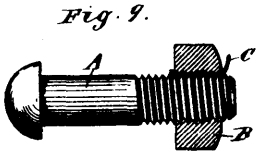
38399 Paine and Sebring's Apparatus for Playing Duplicate Whist.



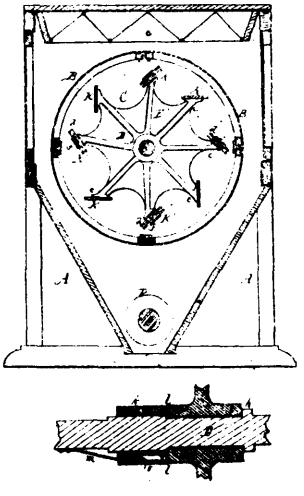
38400 Basom's Steam Engine.



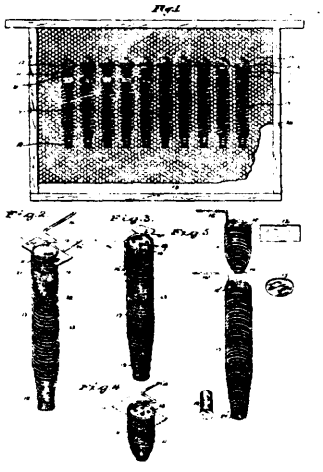
38401 Paul's Thill Coupler.



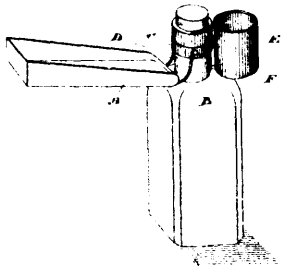
38402 Broadly's Nut Lock.



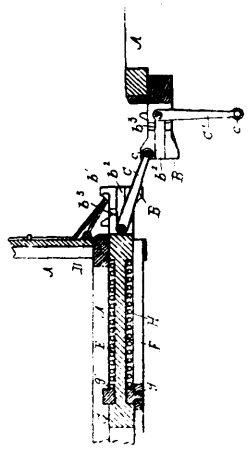
38403 Schied's Flour Bolt.



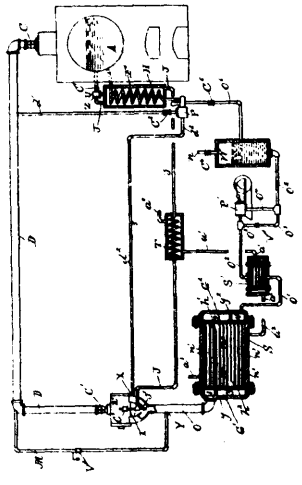
38404 West's Protector and Cell for Queen Bees.



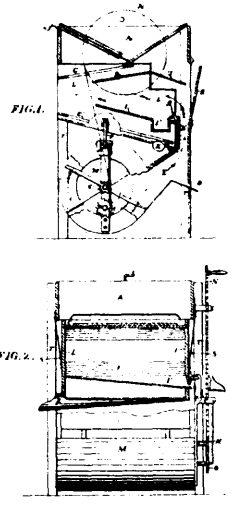
38405 Watson's Varnish Bottle.



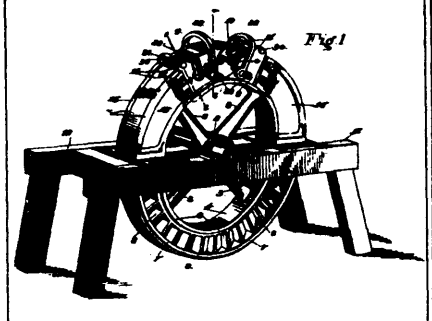
38406 Shuttleworth's Car Coupler.



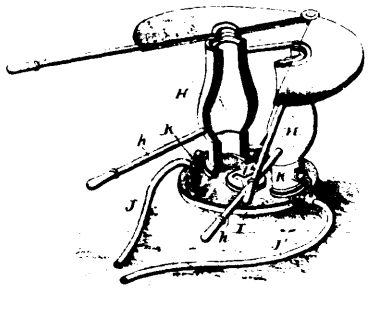
38408 Campbell's Ammonia Engine and Apparatus Connected therewith.



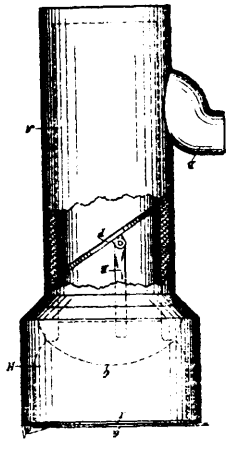
38409 Newkirk's Fanning Mill.



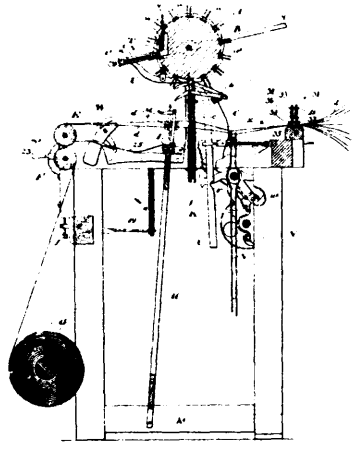
38410 Hollar's Rotary Engine.



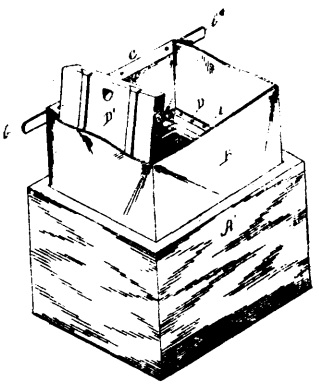
38411 Neville and Meacham's Revolving Mold for Glassware.



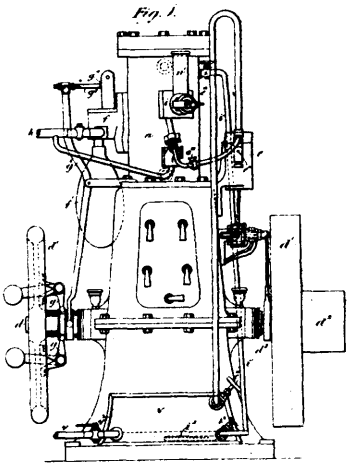
38412 North's Concrete Stone Gully.



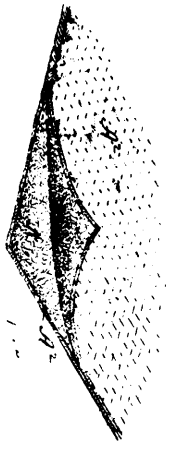
38413 Hay's Loom for Weaving Cane, &c.



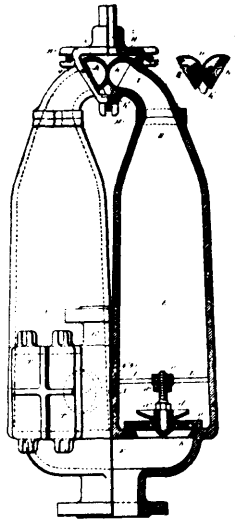
38415 Schilling's Method of Constructing Tea Chests, Tea Chest Covers and Tea Chest Linings.



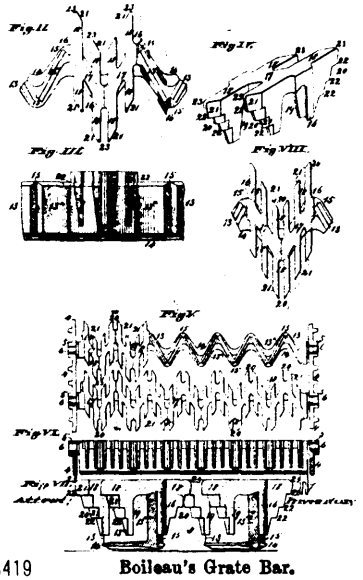
38416 Dawson's Gas Engine.



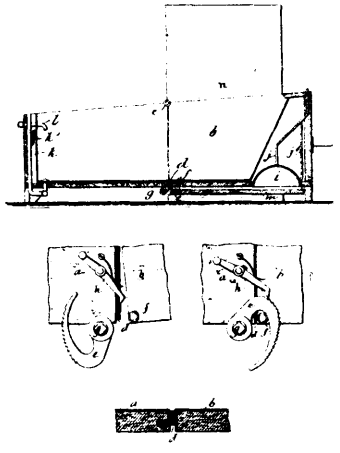
38417 Johnson's Lint Package.



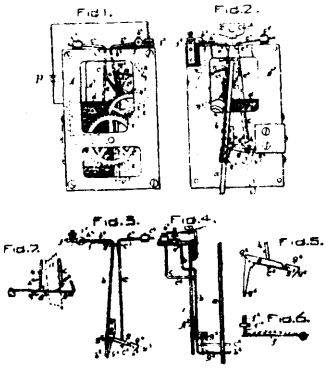
38418 Theermann and Foxwell's Pulsating Steam Pump.



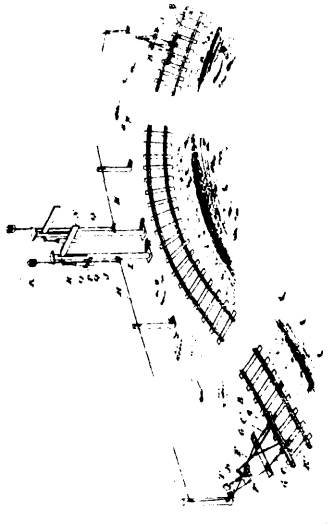
38419 Boileau's Grate Bar.



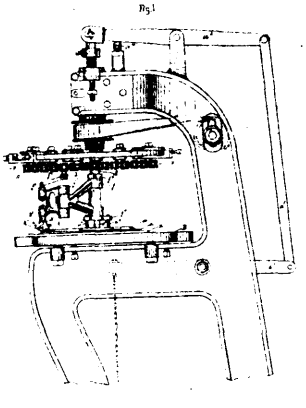
39420 Glass' Bath Tub.



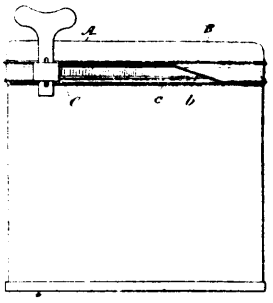
38421 Dudley's Electric Clock.



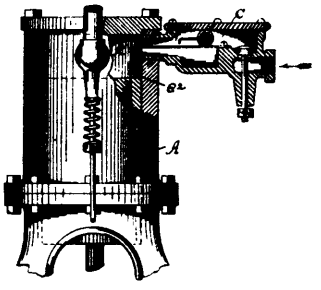
38422 Scarr's System of Operating Railway Signals.



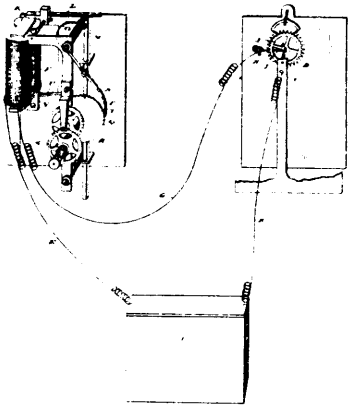
38423 Stickney's Machine for Cutting Soles and other Forms.



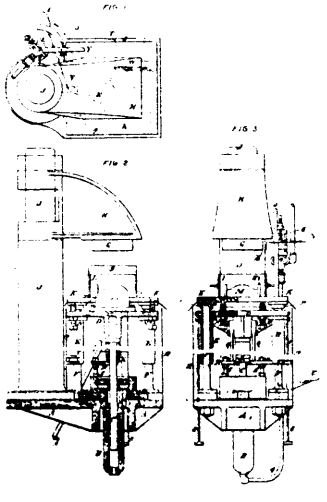
38424 Pratt's Can.



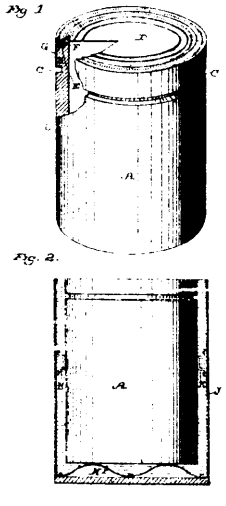
38425 Barrett and Daly's Electric Ignitor for Gas Engines.



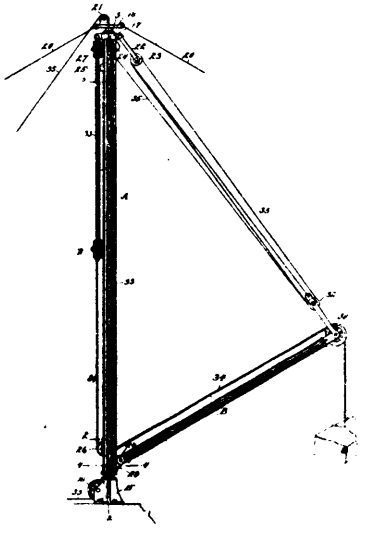
38426 Ellis' Electric Clock,



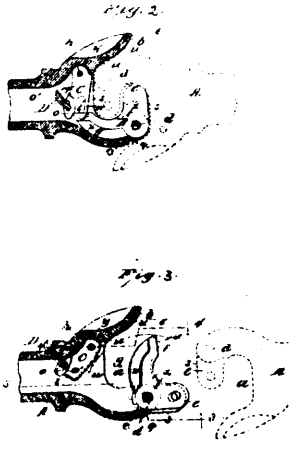
38427 Alley and MacLellan's Apparatus for Making Molds for Castings.



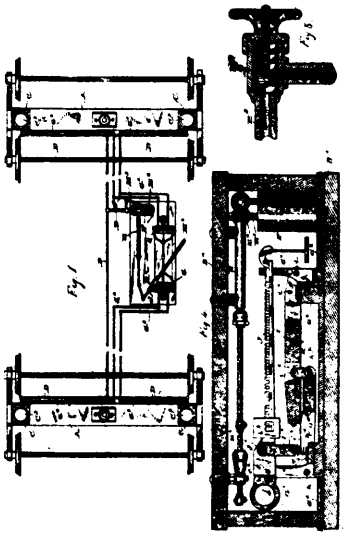
38428 Ashby's Fruit Jar.



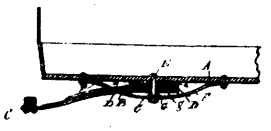
38429 Milliken's Derrick.



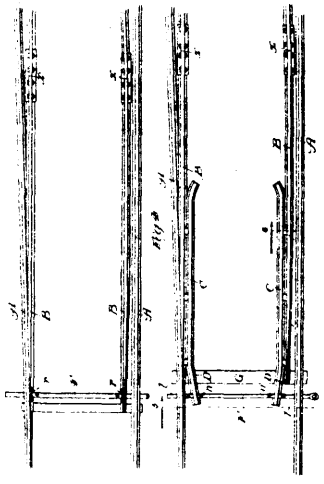
38430 Flohr's Vehicle Coupler.



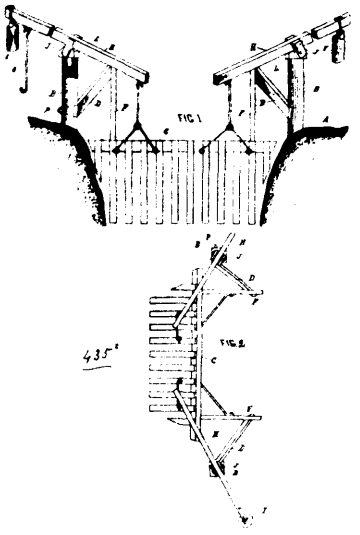
38431 Wanamaker's Weighing Apparatus for Vehicles.



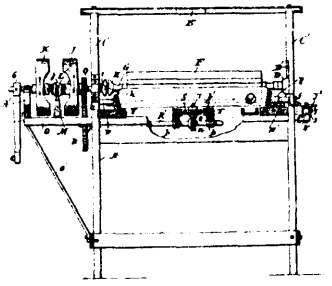
38433 Bartholomew's Spring Gear for Vehicles.



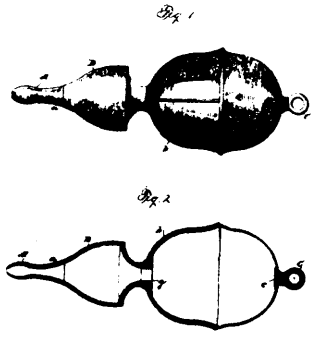
38434 Strom's Railway Switch.



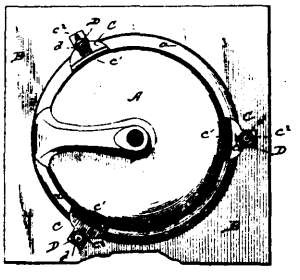
38435 Shellaborger, Monk and Hardestry's Flood Gate.



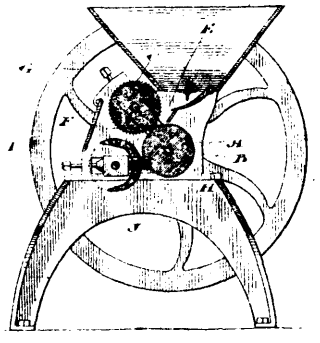
38436 Waters' Butter Worker.



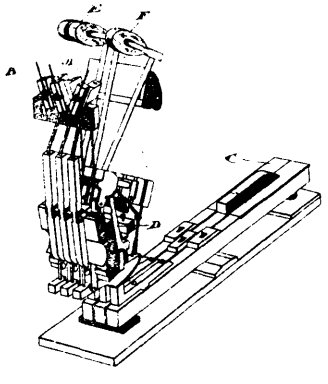
38438 Leisuring's Rectal and Vaginal Syringe.



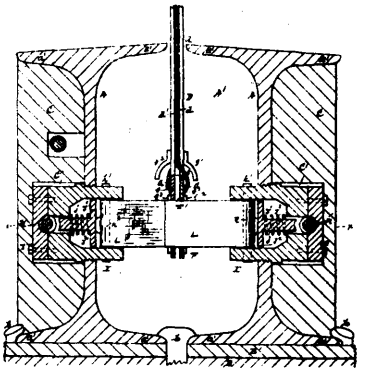
38439 O'Donnell's Clamp for Stationary Basins.



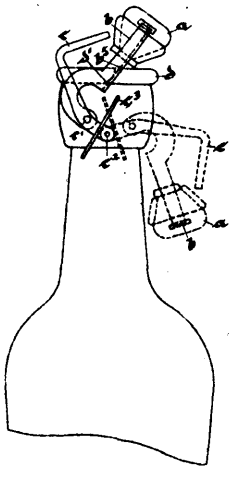
38440 Fleury's Grinding Mill for Farm Purposes.



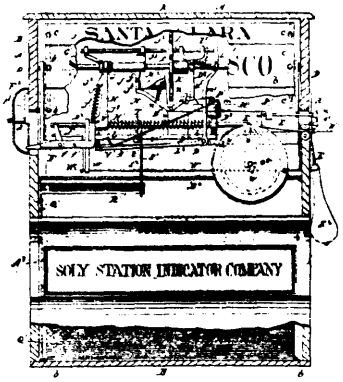
38441 George's Transposing Piano Action.



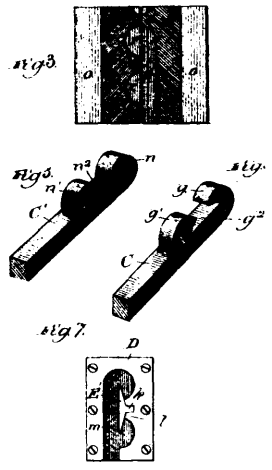
38442 Haselton's Underground Electric System of Street Car Propulsion.



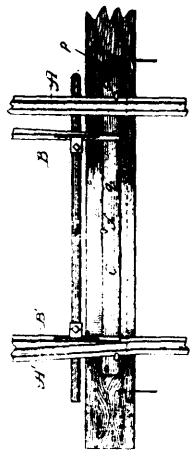
38443 Gerike's Stopper for Bottles.



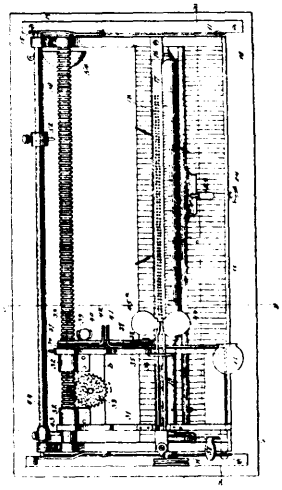
38444 Soly's Station Indicator.



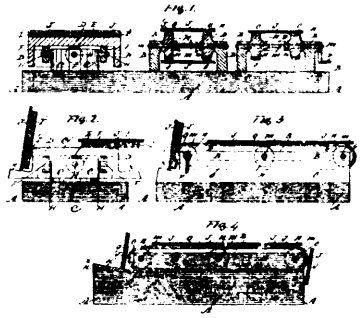
38445 Strom's Method of Manufacturing Tie Bars and Connecting Rods for Railways.



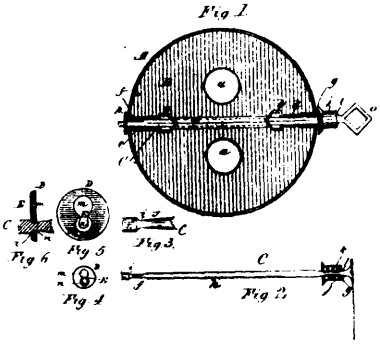
38446 Strom's Combined Tie Bar and Slide Plate for Railway Rails.



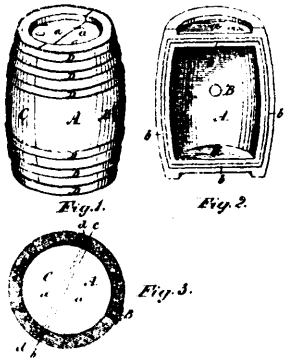
38447 Sthreshley's Typewriting Machine.



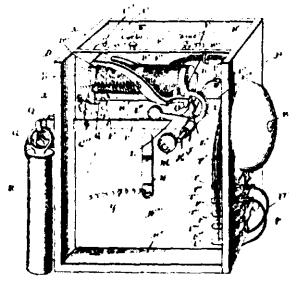
38448 New's Method of Loading Bricks from Machines.



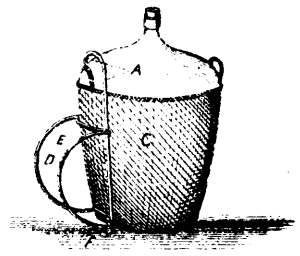
38449 Cook's Damper.



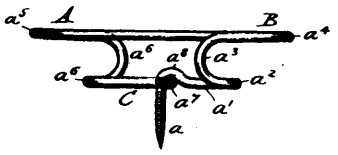
38450 Blake's Barrel.



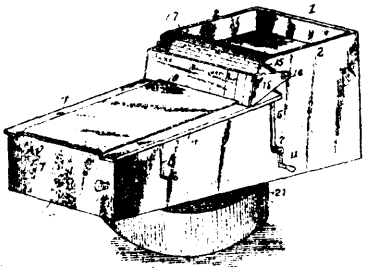
38451 Wooley's Electro-Magnetic Separator.



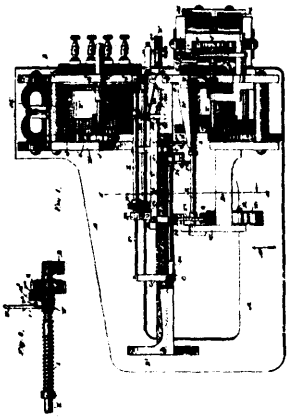
38452 Holme's Demijohn Holder.



38453 Gorton's Wire Cleat.



38454 Murray's Hotel Register.



38455 Essick's Telegraphic Apparatus.

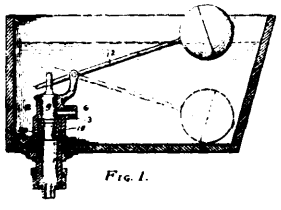


Fig. 1.

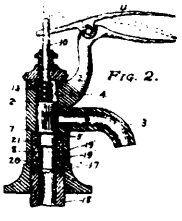


Fig. 2.

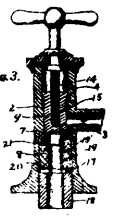


Fig. 3.

38456 King's Valve.

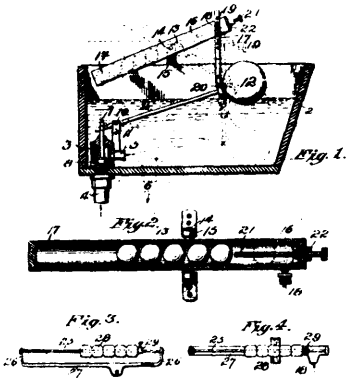


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

38457 King's Valve.

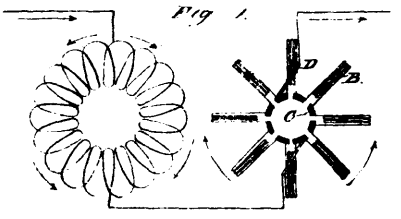


Fig. 1.

38458 Brain's Alternating Electric Current Motor.

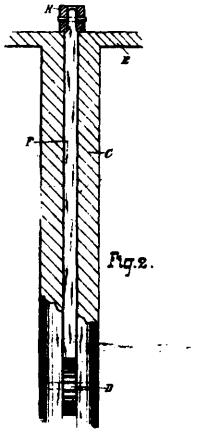
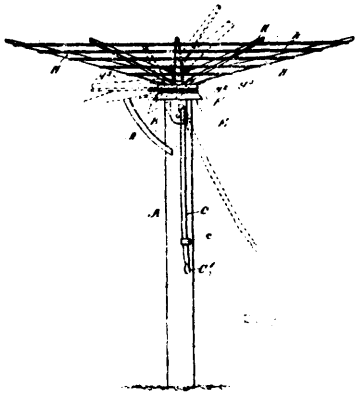


Fig. 2.

38459 Raymond, Cogan and Fairchild's Attachment for Raising and Lowering any Article of Furniture.



38461 McKinnon's Clothes Drier.

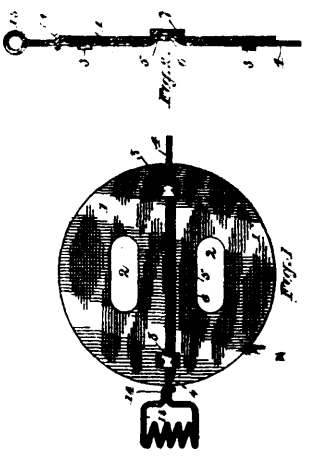
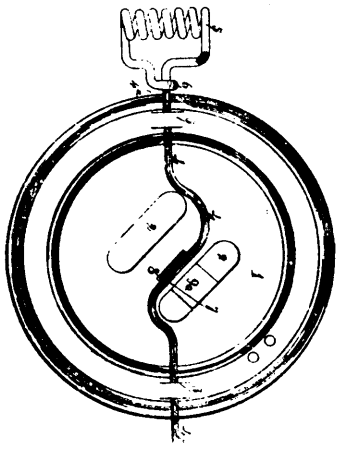
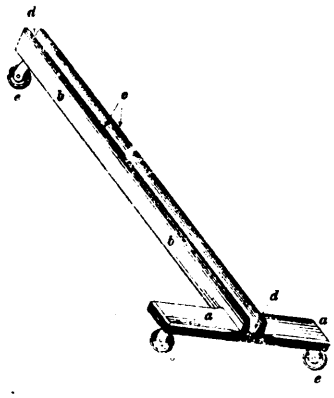


Fig. 1.

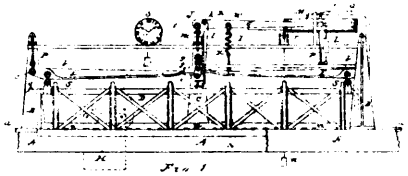
38462 Kemp's Damper.



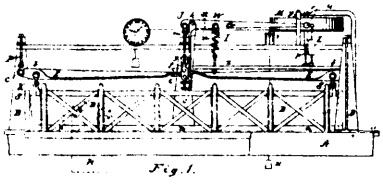
38463 Kemp's Damper.



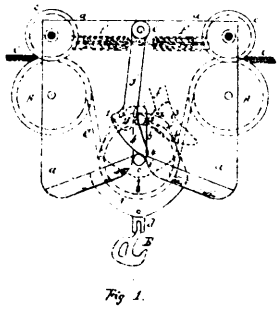
38464 Spencer's Sleigh Truck.



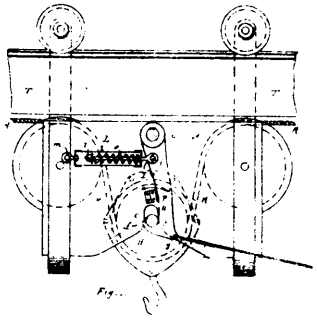
38465 Brown's Machine for Weighing Travelling Loads.



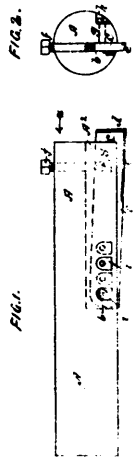
38466 Brown's Machine for Weighing Travelling Loads.



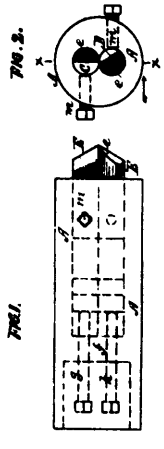
38467 Brown's Hoisting and Conveying Machine.



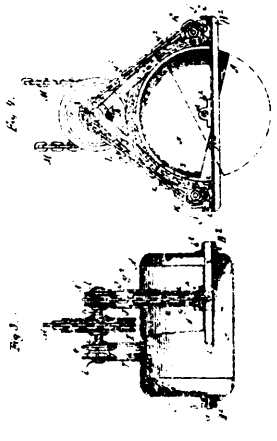
38468 Brown's Hoisting and Conveying Machine.



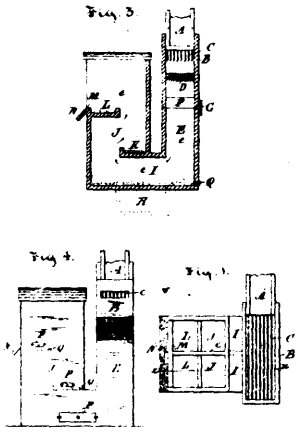
38469 Brown's Boring Tool.



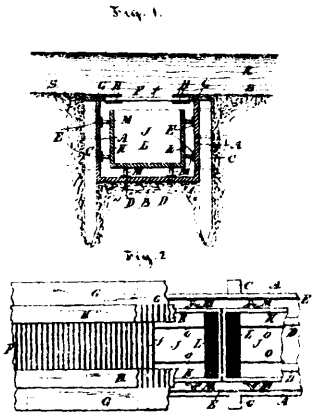
38470 Brown's Drilling Tool.



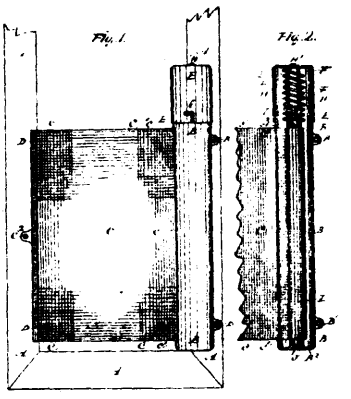
38471 Brown's Grab Bucket.



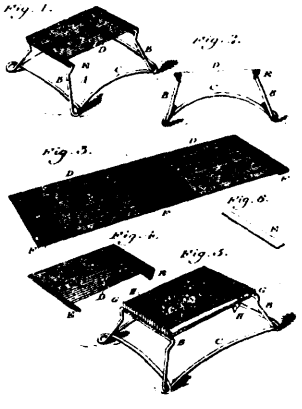
38472 **Samson's Gold Extractor.**



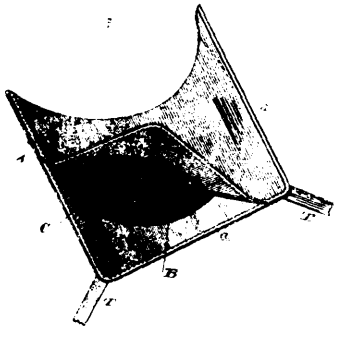
38473 **Samson's Gold Extractor.**



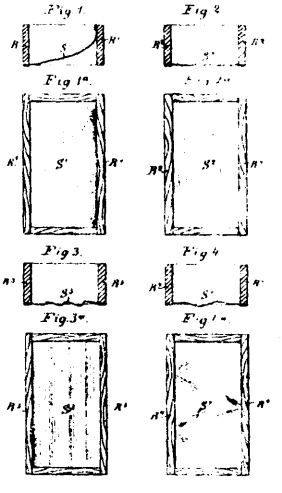
38474 **McKerlie's Window Screen.**



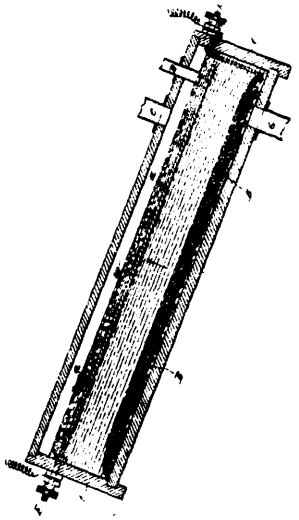
38475 **Pettit's Comb Cleaner.**



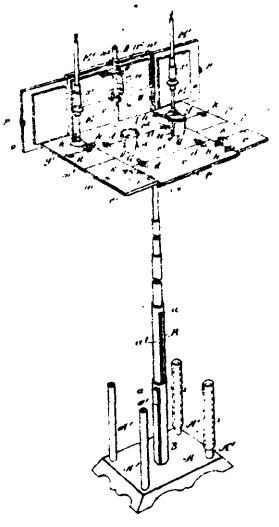
38476 **Klenert's Dress Shield.**



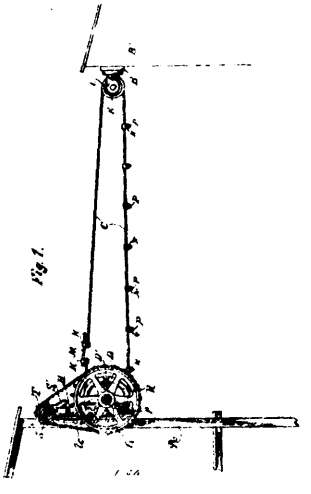
38477 **Sohnelle's Sieve.**



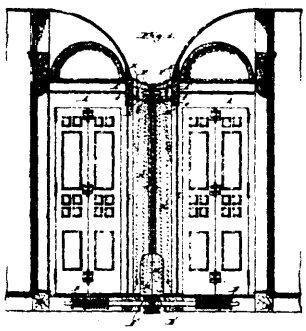
38478 **Richardson's Electrolytic Production of Caustic Soda, Caustic Potash and other Products from their Salts.**



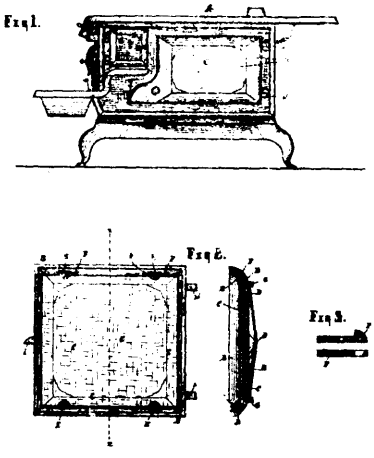
38479 **Beaudet's Household Altar for Sacramental Purposes.**



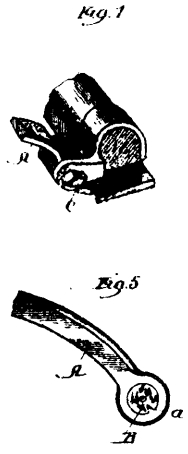
38480 **Caron's Clothes Drier.**



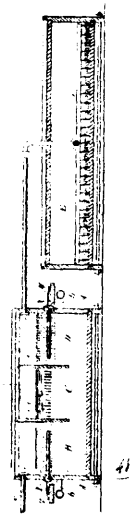
38481 Bissell's Vestibule Hood for Cars.



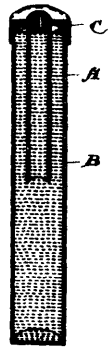
39482 Armstrong's Oven and Oven Door.



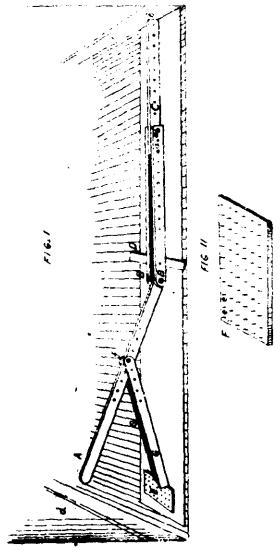
38483 Brown's Thill Coupler.



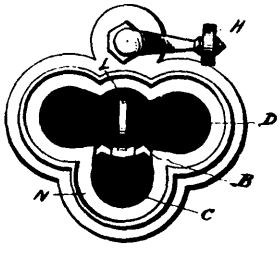
38484 Richardson's Electrical Decomposition of Solutions of Chloride of Sodium and Potassium.



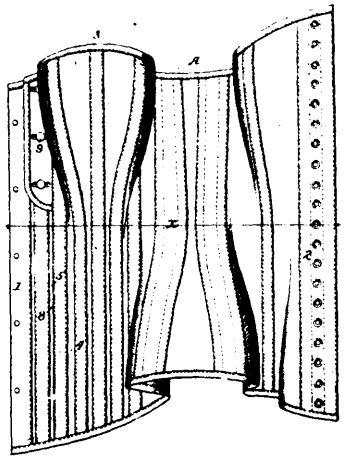
38485 Buchan's Fountain Flower Holder.



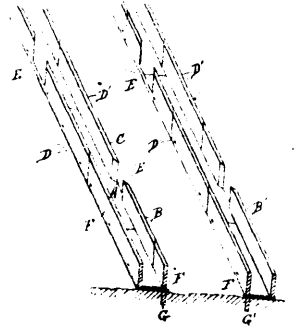
38486 Vandyke's Carpet Stretcher.



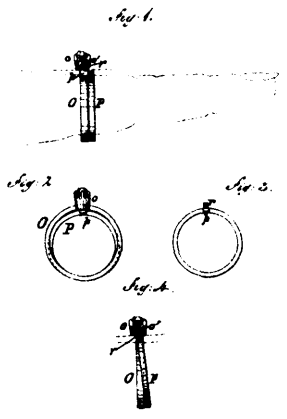
38487 Litch's Bottle for Mucilage, &c.



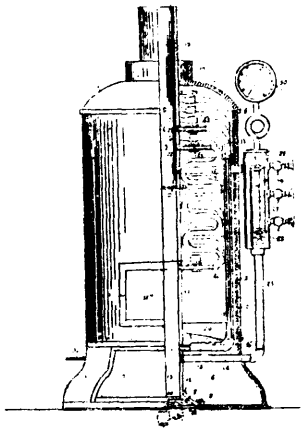
38488 Warner's Corset.



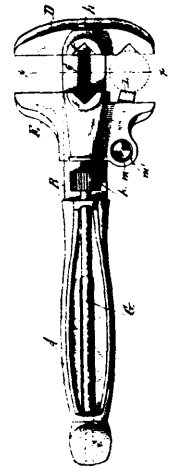
38489 Brock's Tramway.



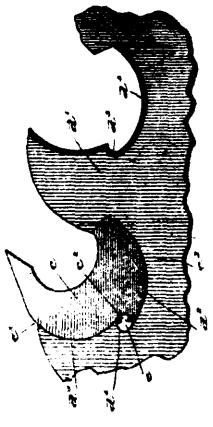
38490 **Bullard's Guard Ring.**



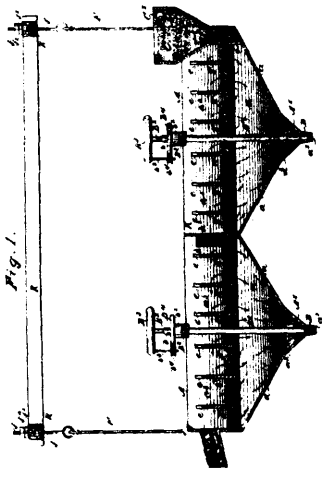
38491 **Foster's Steam Generator.**



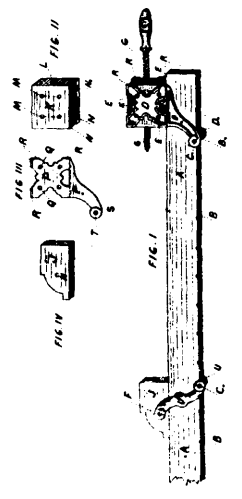
38492 **Hussey's Wrench.**



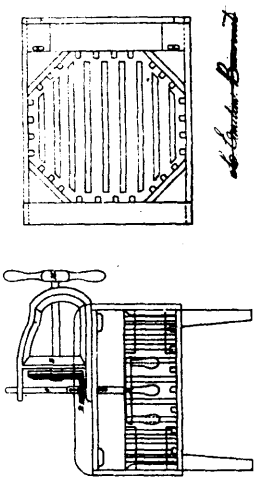
38493 **Dunbar's Saw.**



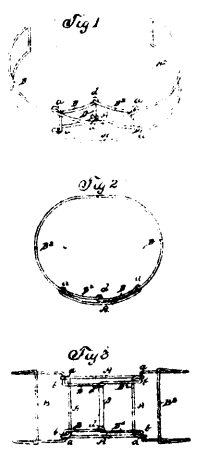
38494 **Fitch's Ore Concentrating Machine.**



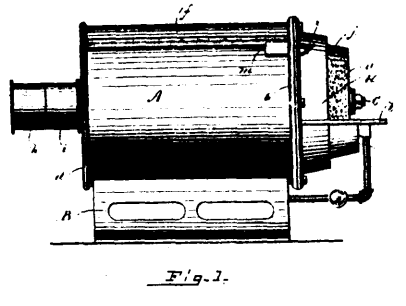
38495 **Bourassa's Joint Holder.**



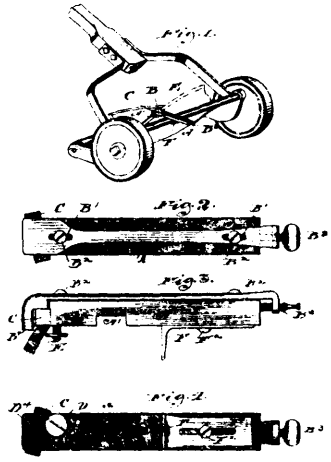
38496 **Biscornet's Washing Machine.**



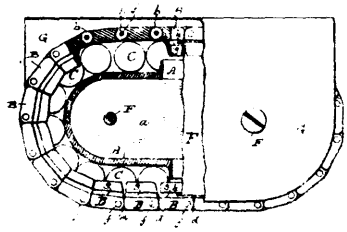
38497 **Alderman's Spring Fastener.**



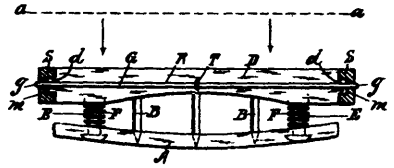
38498 **Wing and Ayer's Tool Grinding Machine.**



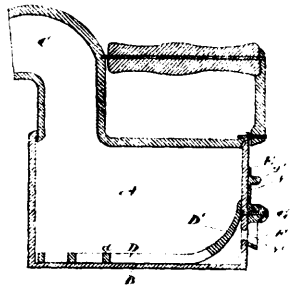
38499 **Bachelder and Garrett's Lawn Mower Sharpener.**



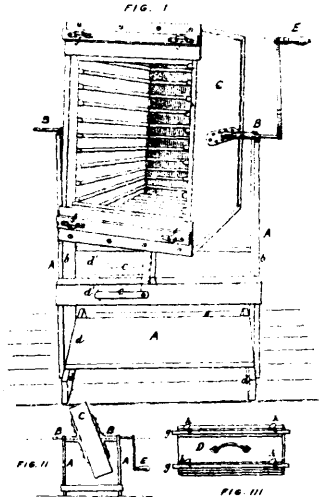
38500 **Peirce's Vehicle Runner.**



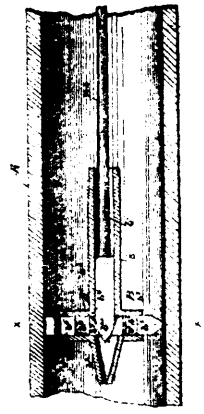
38501 **Magee's Horse Poke.**



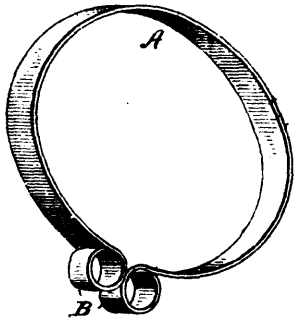
38502 **Good's Smoothing Iron.**



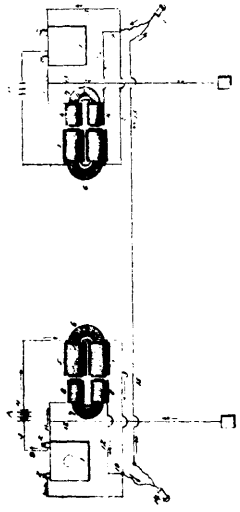
38503 **Vandyke's Washing Machine.**



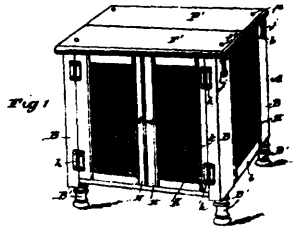
38504 **McDonald's Cleaner for Boiler Flues.**



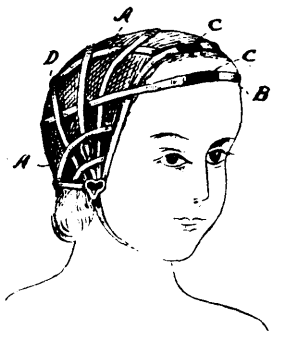
38505 **Ostergren and Schaap's Garment Protector.**



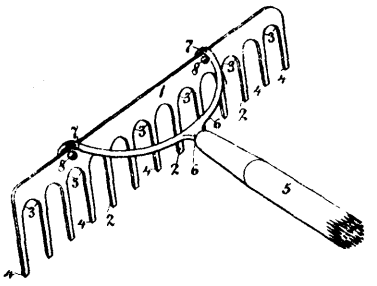
38506 **Lockwood's Telephone.**



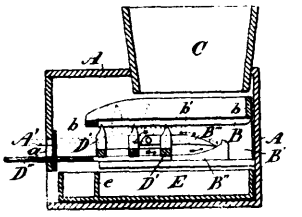
38507 **Moyer's Safe.**



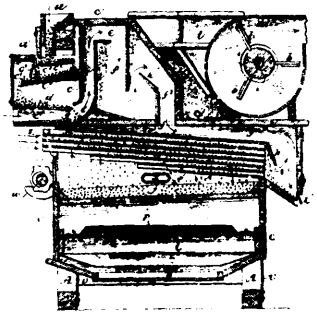
38508 **Turner's Sleeping Cap.**



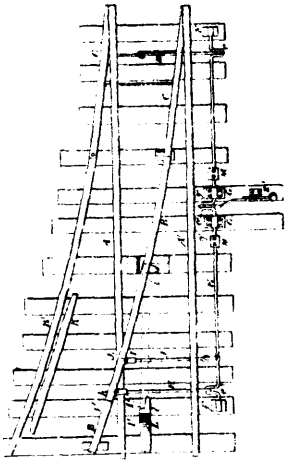
38509 **McMichael's Hand Rake.**



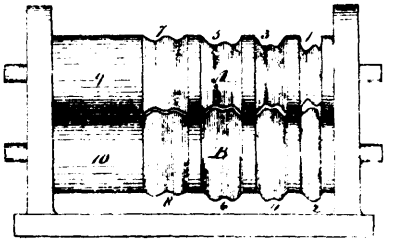
38510 **Ruddell's Grate.**



38511 **Closs's Separator and Cleaner for Grain.**



38512 **Merriman's Frog for Railways.**



38513 **Poole's Roll for Reducing Railway Rails to Nail Plates, &c.**

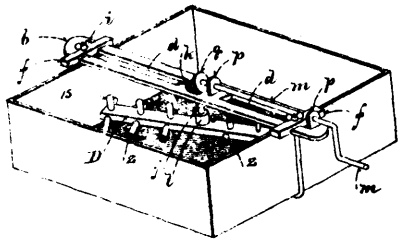
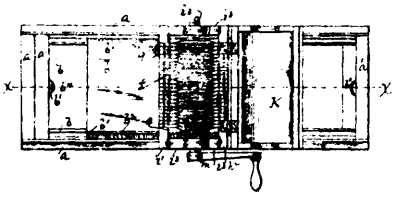
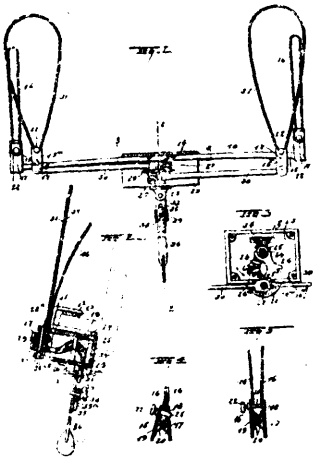


Fig. 1

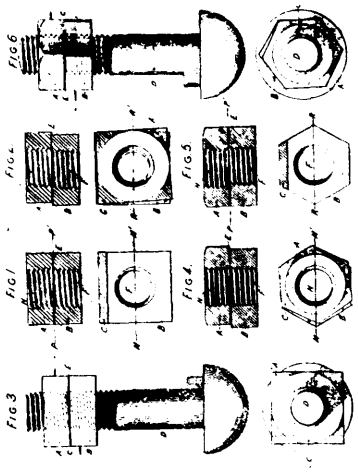
38515 **Currier's Device for Aerating, Cooling and Graining Maple Sugar.**



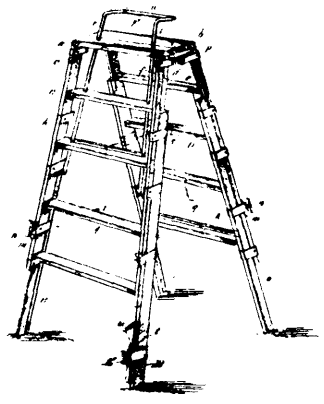
38516 **Rick's Meat Cutter.**



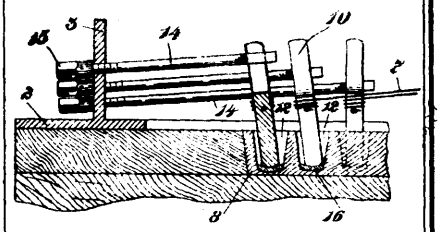
38518 **McMartin, Givern, Sanders and Mansbach's Turner for Music Leaves.**



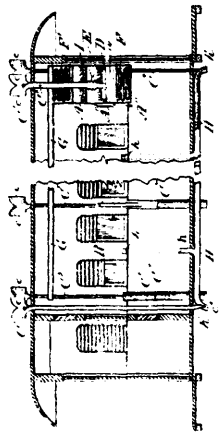
38519 **Peacock, Hill and Parker's Improvement relating to Nuts for Screwed Bolts.**



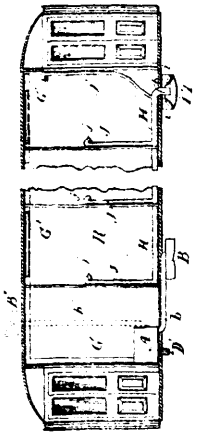
38520 **Meyer's Extension Step Ladder.**



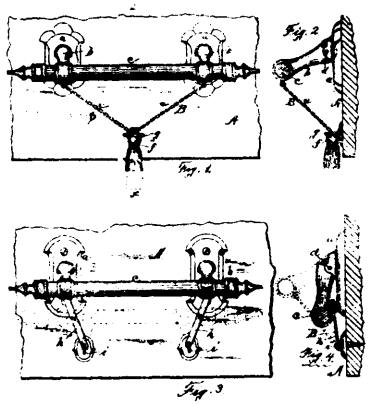
38521 **Ivers' Mechanism for Stringing Pianofortes.**



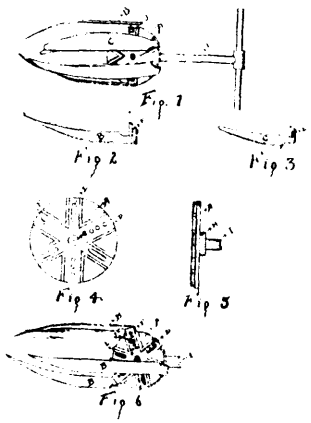
38522 **Hughes' Method of Ventilating Railway Carriages.**



38523 **Hughes' Method of Ventilating and Heating Railway Carriages.**



38524 **McCarthy's Casket Handle.**



38525 **Schellenberger's Earth Auger.**

FIG. 2

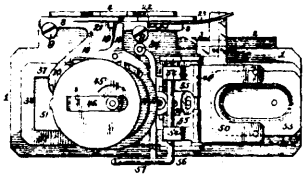
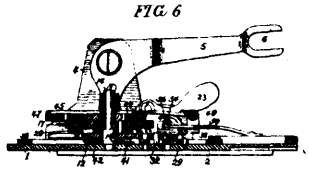
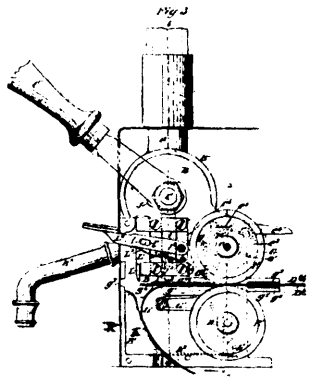


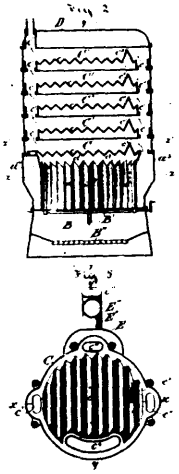
FIG. 6



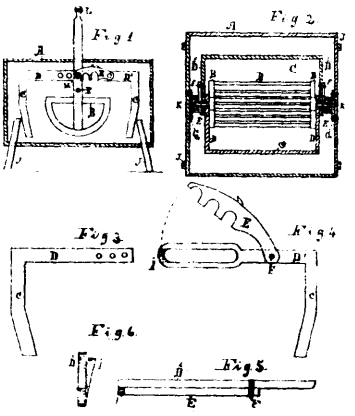
38526 **Wallick's Button Hole Attachment for Sewing Machines.**



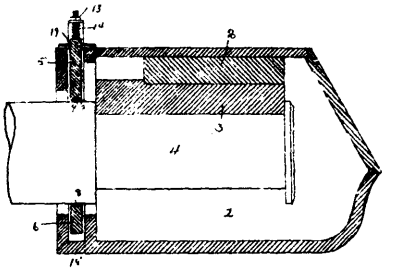
38527 **Fowler's Apparatus for Recording Liquid Measures.**



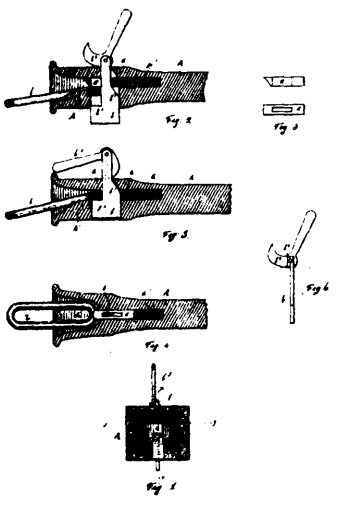
38528 **Butterworth's Hot Water Boiler.**



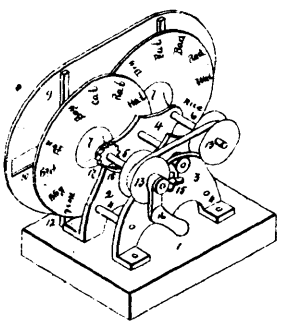
38529 **Flander's Washing Machine.**



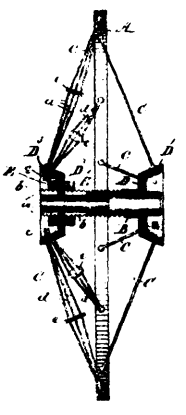
38530 **Harrison's Sectional Dust Guard for Car Axle Journals.**



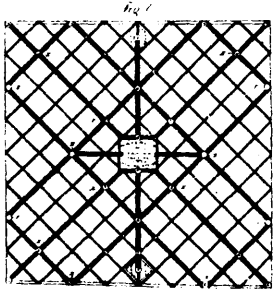
38531 **Woodard's Car Coupler.**



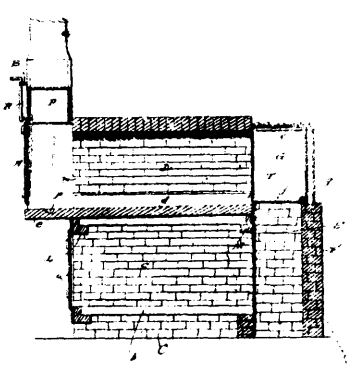
38532 **Hallett's Device for Instruction in Reading and Calculating.**



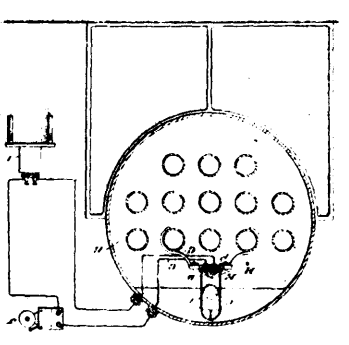
38533 **Horton's Vehicle Wheel.**



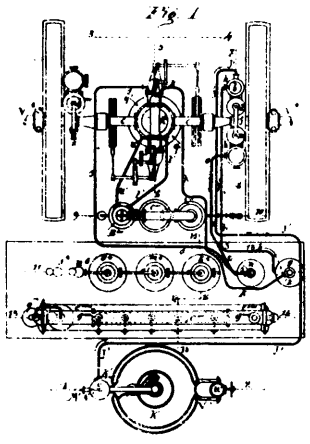
38534 **Hamilton's Game.**



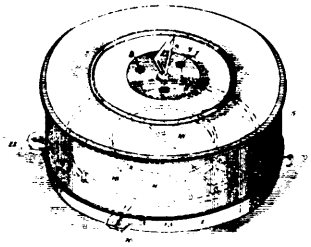
38535 **Hopper's Roaster, Smelter and Separator for Ore.**



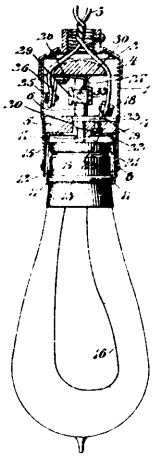
38536 **Mathews' Electric Alarm.**



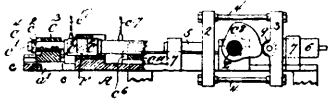
38537 Tellier's Apparatus for the Production of Motive Power.



38538 Milner and Wood's Boiler and Baker.

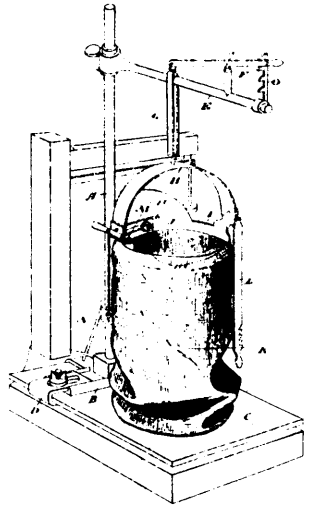


38539 Bryant's Incandescent Lamp Socket.

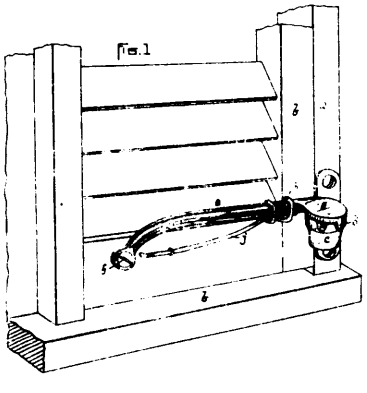


38540 Hull's Press.

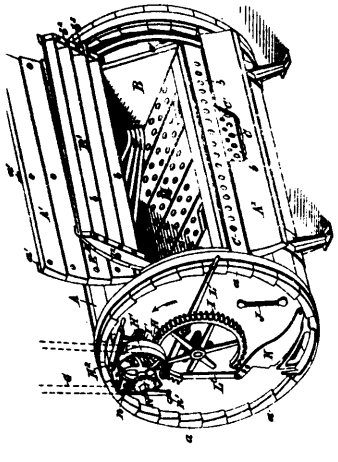
38541 Howard's Multiplex Stamping Machine.



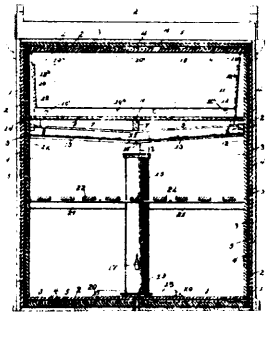
38542 Henning and Pigott's Holder for Bags.



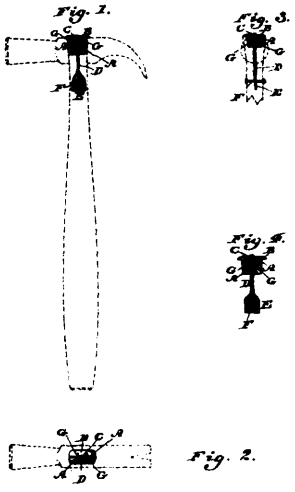
38543 Abbott's Means for Operating Lock Hinges.



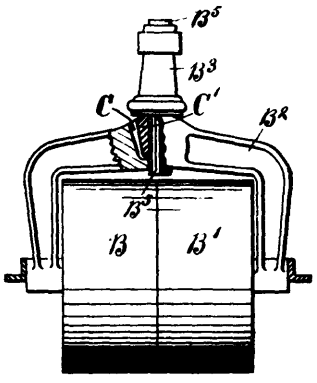
38544 Therien's Washing Machine.



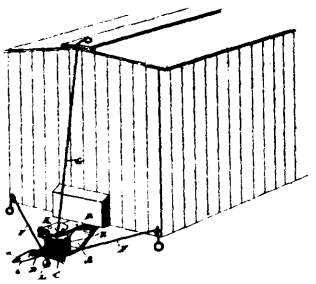
38545 Edgar's Refrigerator.



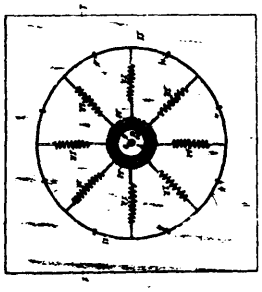
38546 Thompson and Tormey's Device for Securing Tools to Handles.



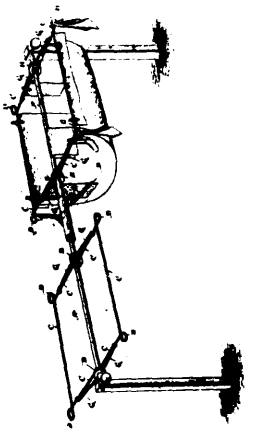
38547 Wright's Steam Road Roller.



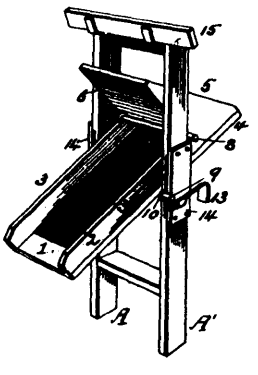
38548 Bunker's Car Coupler.



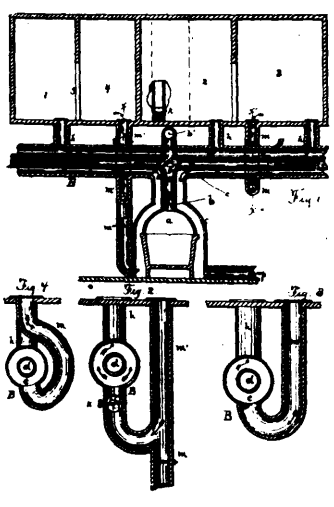
38549 Cannon's Mold for Metallic Wheels.



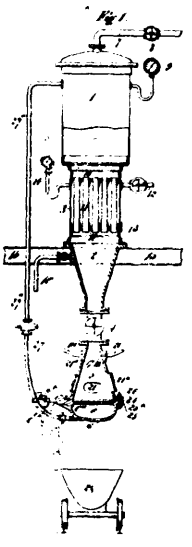
38550 Cox's Clothes Line.



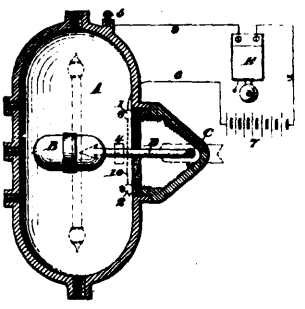
38551 Sackett's Coal Screen.



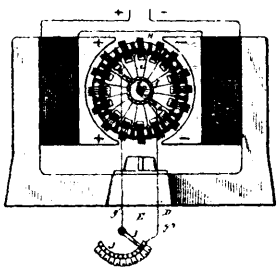
38552 Howard's Heating and Ventilating Apparatus.



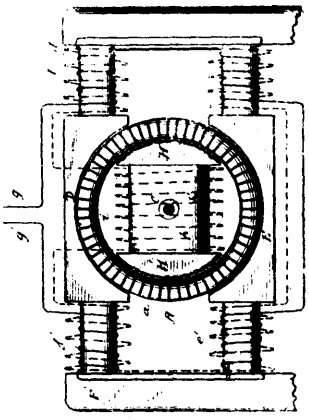
38553 Pick's Evaporator for Liquors Containing Salts.



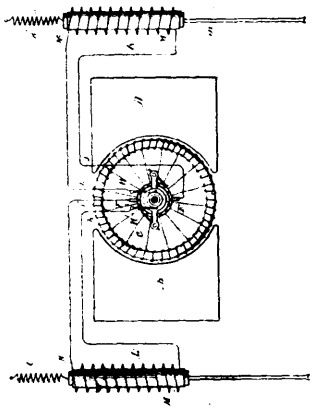
38554 Lovegrove's Electrical Boiler Alarm.



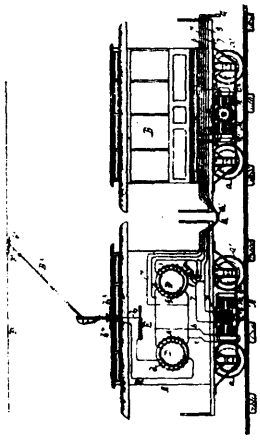
38555 Van Depoele's Induction Motor.



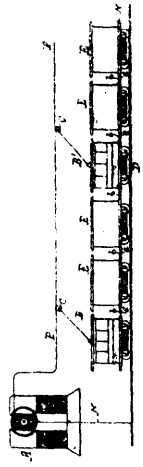
38556 Van Depoele's Alternate Current Induction Motor.



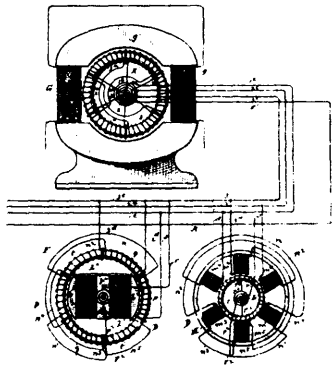
38557 Van Depoele's Reciprocating Electric Engine System.



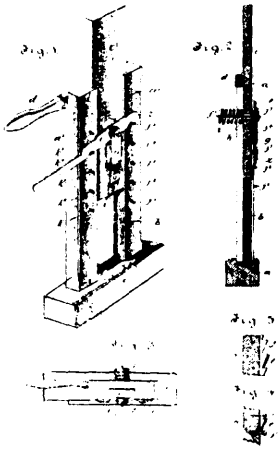
38558 Van Depoele's Alternate Current Electric Railway Train System.



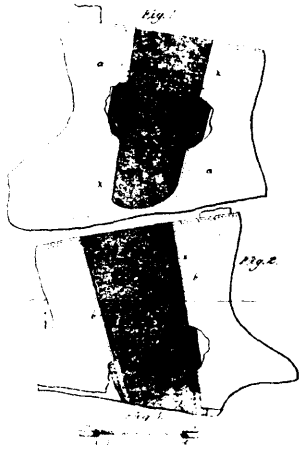
38559 Van Depoele's Electric Railway System.



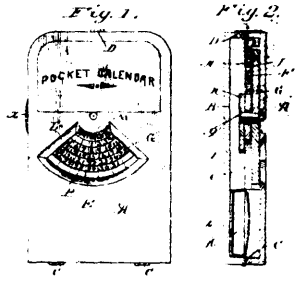
38560 Van Depoele's Multiple Current Electric Motor.



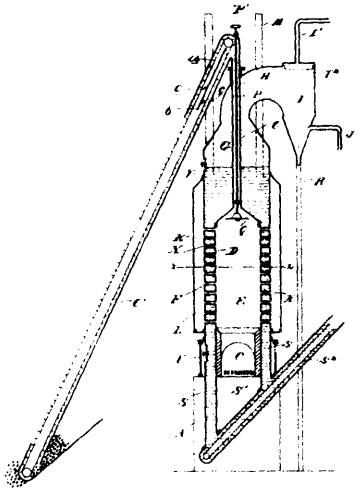
38561 Chumard's Lifting Jack.



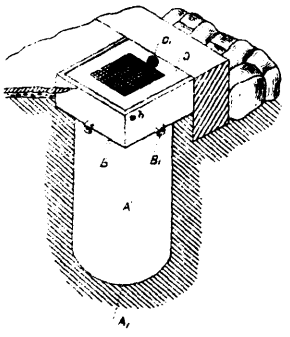
38563 Newcomb's Shoe.



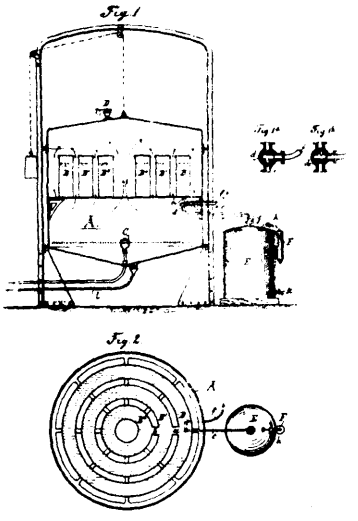
38564 McKee's Pocket Century Calendar and Stamp Holder.



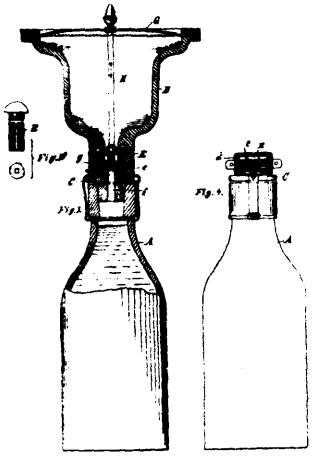
38565 Craney's Evaporating Machine.



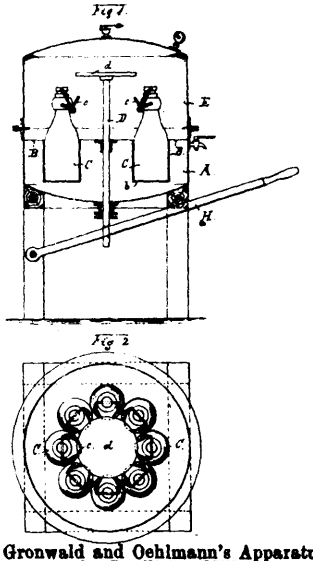
38566 St. George's Street Sweepings Bin.



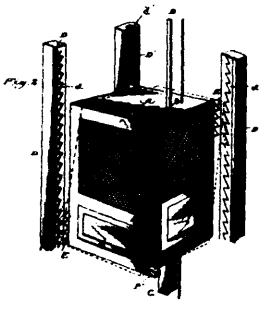
38567 Nauhauss, Gronwald and Oehlmann's Drawing-off Sterilising Apparatus.



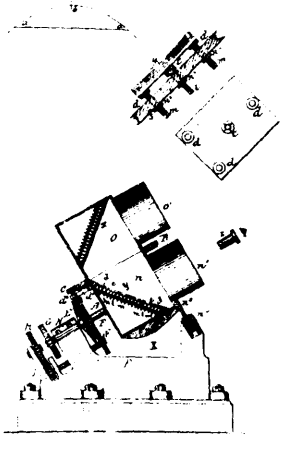
38568 Gronwald and Oehlman's Sterilising Apparatus.



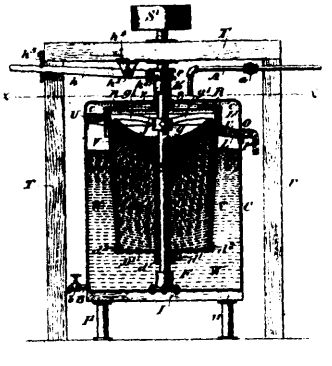
38569 Gronwald and Oehlmann's Apparatus for Sterilising Milk.



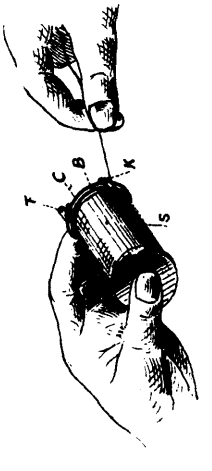
38570 Tracy's Elevator.



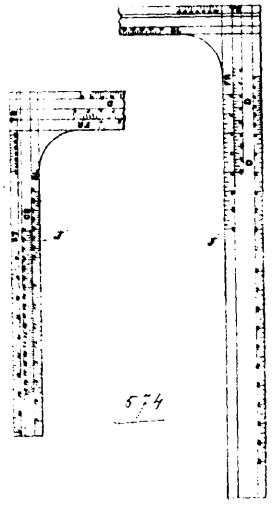
38571 Rudall's Telescope,



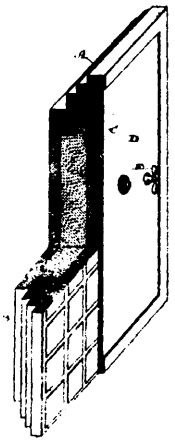
38572 Williamson's Filter.



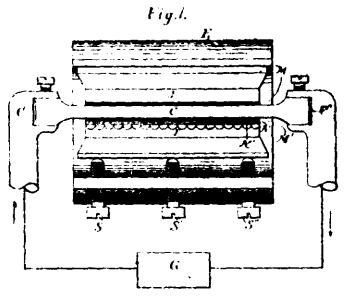
38573 Oakes' Holder and Cutter for Thread.



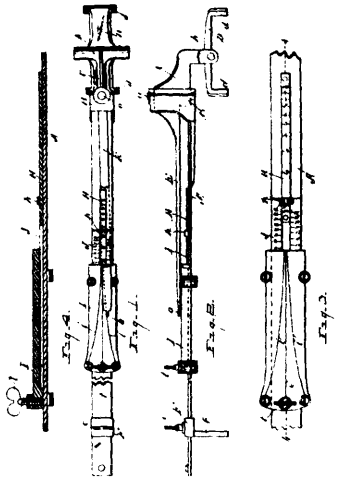
38574 Glass' System of Cutting Garments.



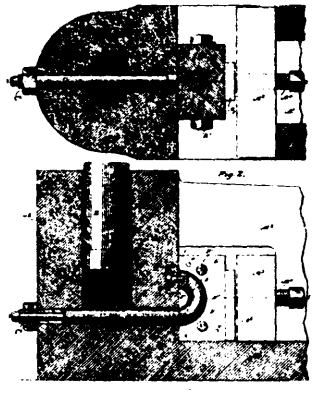
38575 Martin's Burglar Protection Device for Safes.



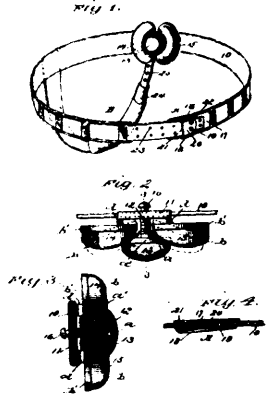
38576 Thomson's Method of Electric Soldering and Cementing.



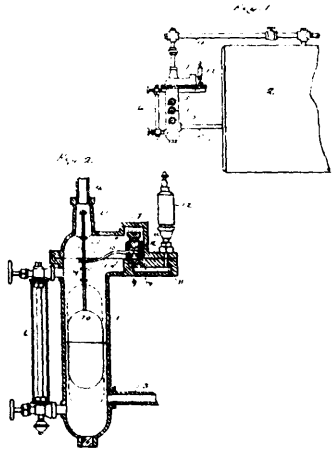
38577 McQuarry's Axle Gage.



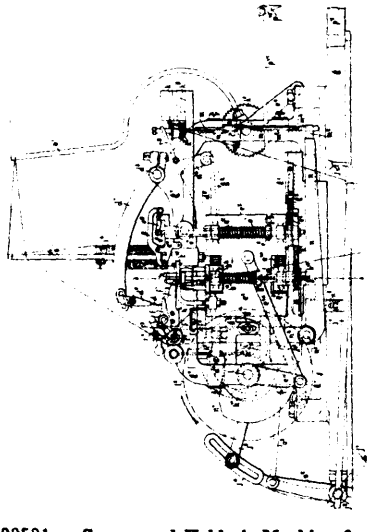
38578 Rosenfield's Apparatus for Making Lead Pipe S-Traps.



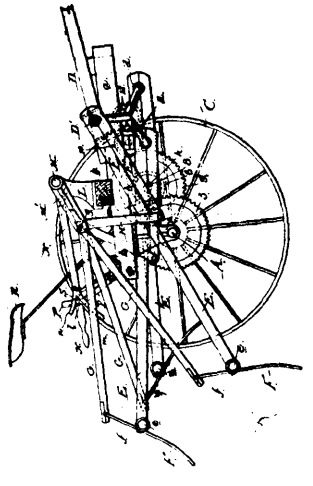
38579 Brownlow and Warner's Truss.



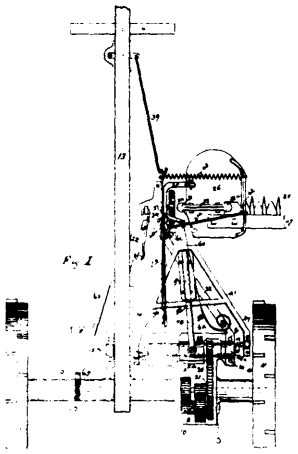
38580 Williams' High and Low Water Alarm.



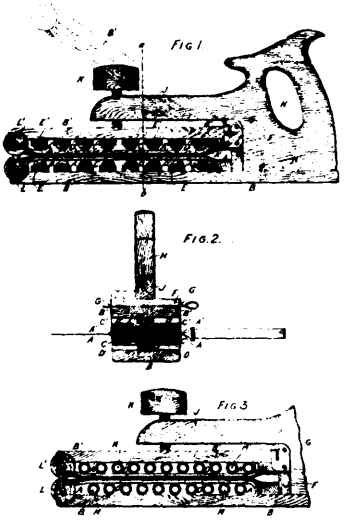
38581 Saurer and Kobler's Machine for Threading Needles of Embroidering Machines.



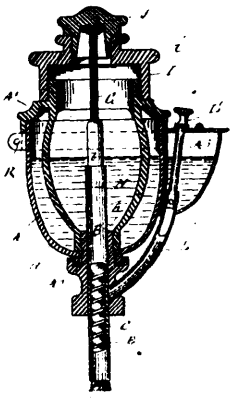
38582 Reynolds' Hay Tedder.



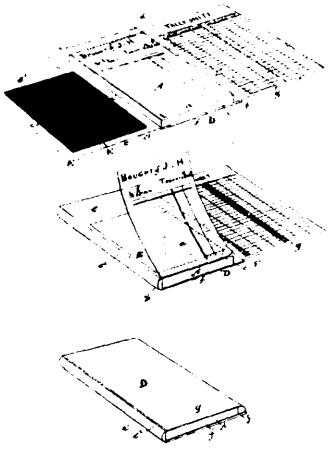
38583 Bartlett's Mowing Machine.



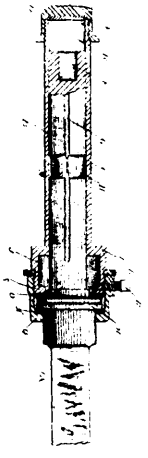
38584 Storey's Apparatus for Cleaning Knives.



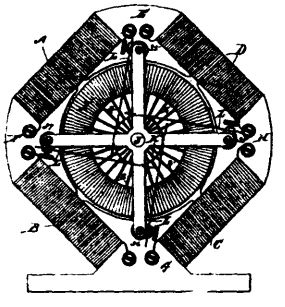
38585 Smith's Oiler.



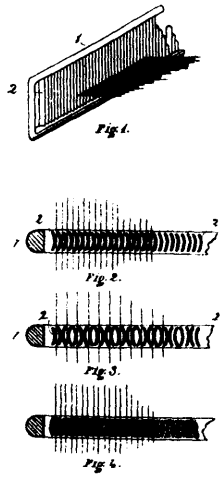
38586 Oldfield's Duplicating Cheque Book.



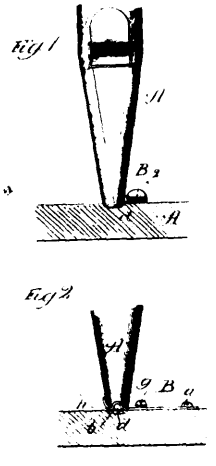
38587 Dansereau's Axle Skein.



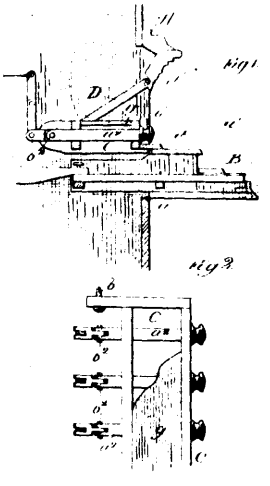
38588 McKee and Campbell's Electric Dynamo and Motor.



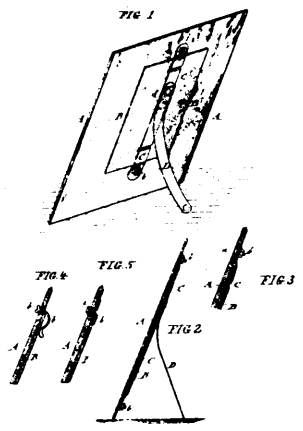
38589 Strobridge's Loom.



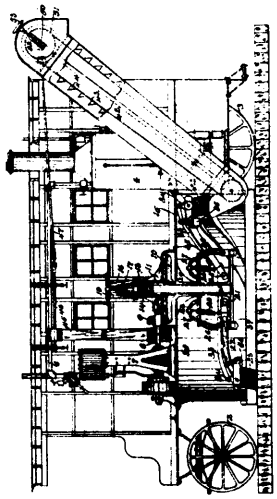
38590 Hedgeland's Spring Clutch for Organ Pipes.



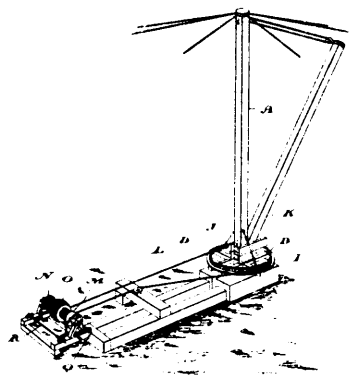
38591 Hedgeland's Folding Key-Board for Organs.



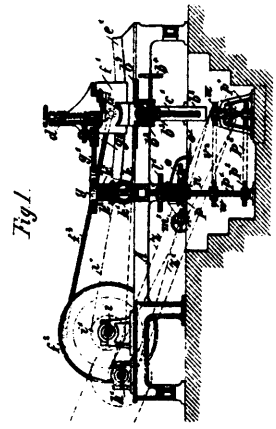
38592 **Wirth's Picture Holder.**



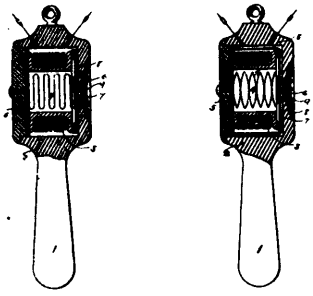
38594 **Choquette's Street Sweeping Machine.**



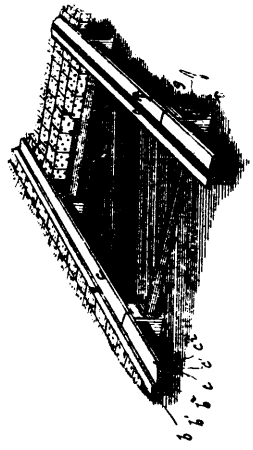
38595 **Meyer's Derrick.**



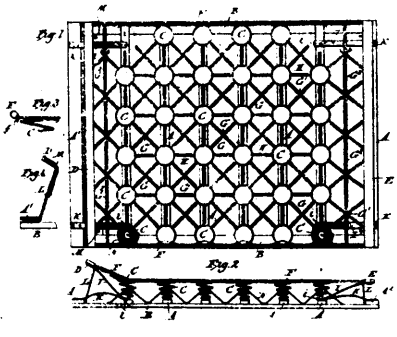
38597 **Oncken's Veneer Cutting.**



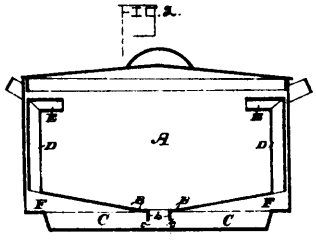
38598 **Wiegand's Telephone Receiver.**



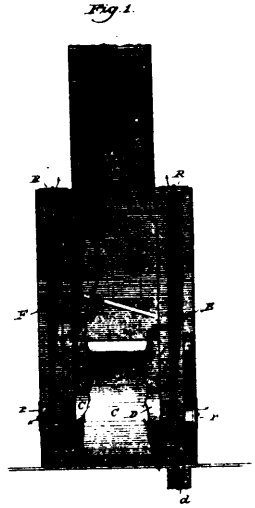
38599 **Gibbon's Method of Constructing Street Railway Tracks.**



38600 **Edgar's Spring Bed Bottom.**



38601 **Kempton and Neithercut's Wash Boiler.**



38602 **Holt's Chimney.**