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The Canadian Patent Office Record

Vol. XVIII.—No. 11. NOVEMBER, 1890. { Price in Canada $2.50 per An. / United States - $2.50 "

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. 35,309. Top Joint for Vehicles.

(*Joint pour soufflets de voiture.*)

James Higgins, Gananoque, Ontario, Canada, 3rd November, 1890; 5 years.

Claim.—1st. A top-joint for carriages, composed of similar sections, each provided with an eye 2, having a circumferential flange, and provided with the groove adapted to receive the flange of the opposite section, substantially as described. 2nd. A top-joint for carriages, composed of similar sections, each provided with an eye having a beveled circumferential flange, and provided with a dovetail groove adapted to receive the flange of the opposite section, substantially as described.

No. 35,310. Drying Kiln. (*Four à secher.*)

Seymour Wilson Peregrine, Grand Rapids, Michigan, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In combination with a drying chamber, a heating chamber at one end thereof, and a condensing flue extending between the opposite end of the drying chamber and the said heating chamber, and a series of deflectors located at intervals in the said flue, and arranged, as described, so as to direct the moist air against the condensing surface of said flue, substantially as described. 2nd. In combination with a drying chamber, a heating chamber and a return flue, having metal walls, having its area contracted by spring-seated deflectors, arranged within the same, adapted to act automatically, and to deflect the moisture-laden air against the metal walls, substantially as described.

No. 35,311. Tug Strap and Holder for Looms. (*Guide et porte courroie pour métiers mécaniques.*)

Dutee S. Knight, Hinsdale, New Hampshire, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. The combination, with a pivoted picker-staff and a connecting stick, of a tug formed of opposite sections bolted to the stick, and having their heels connected together, and intermediate said heels flared to form an opening or passage for the picker-staff, said heels having their adjacent faces provided with opposite registering semi-circular recesses, and a semi-circular bumper seated in the recesses, substantially as specified. 2nd. The combination, with a picker-staff, its pivot and a connecting stick, of a metal tug bolted at one end to the stick, and having an opening for the reception of the picker-staff, and provided at one side with a bearing stud, and a holder for supporting said tug, the same consisting of opposite rods pivotally connected to the bearing stud, and the bearing for the staff, said rods having their adjacent ends adjustably connected, substantially as specified. 3rd. The combination with the rocker-iron, having the elongated slot, the picker-staff, its bearing bolt, and the connecting stick of the metal tug, embracing the picker-staff bolted to the end of the stick, and provided with an external bearing stud, and the opposite holder sections at their outer ends to the bearing-stud, and the bearing bolt of the shaft respectively, one of said sections having a slot near its inner end, and the other provided with a section-embracing keeper, and an adjusting bolt passing through the slot of the opposite section and having a set nut, substantially as specified.

No. 35,312. Road Cart. (*Désobligeante.*)

Robert Day Scott, Pontiac, Michigan, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In a road cart, the combination, with the shafts and axle, of a body supported at its forward end with inclined links, substantially as described. 2nd. In a road cart, the combination, with the shafts and axle of the body, and a support for the forward end of said body, consisting of links inclined from the top rearwardly, substantially as described. 3rd. In a road cart, the combination, with the shafts and axle, of a body, of means for supporting the forward end of said body, consisting of inclined links and a spring at the rear of said body supported by a double shackle or links, substantially as described. 4th. In a road cart, the link L, pivotally connected with the forward end of the body at its lower end, the bracket N, in which said link is pivotally connected with its upper end, and means for adjusting the upper end of said link horizontally, substantially as described. 5th. In a road cart, the combination, with the body and shafts, of inclined depending links engaging the forward portion of the body with the shafts, and links adapted to support the rear portion of the body, said latter links so constructed and connected with their sustaining supports as to swing freely both laterally and longitudinally of the vehicle, substantially as described. 6th. In a road cart, the combination, with the shafts, of the loops B, forming the support for the rear portion of the body and for the fenders, substantially as described. 6th. In a road cart, the combination with the seat and spring, of a supporting bracket having a series of notches, and a link connecting the bracket and spring, said link gradually enlarging towards the base, substantially as described.

No. 35,313. Hay and Grain Rack.

(*Ratelier à grain et à foin.*)

James Alexander McGowan, Laurel, Ontario, Canada, 3rd November, 1890; 5 years.

Claim.—1st. In a hay and grain rack, the combination of the sills A, each having a gap *a* cut over the front wheel, an upright A^1 on each side of said gap, a piece A^{11} connecting the upper ends of each pair of uprights, and having one end extended rearwardly and curved down and formed with a flat foot a^{11}, secured to the top of the sill, the cross bars B, connecting said sills, and supporting projecting arms, an extra arm B^1, on one side of said gap, the arms C secured to the cross bars B, and the sills A, the rails D, D^1 secured to the arms, and the tie E, connecting the end arms, substantially as set forth. 2nd. In a hay and grain rack, the combination of the sills A, each having a gap *a*, cut out of its lower edge, which will be situated over the front wheel, the uprights A^1, placed on each side of said gap, a piece A^{11}, connecting said uprights at the top and extending rearwards and terminating in a curved down end formed with a flat foot a^{11}, secured to the top of the sill, and the cross bars B and B^1 connecting said sills, substantially as set forth.

No. 35,314. Blacking Brush. (*Brosse à souliers.*)

George W. Darling, Owosso, Mich., U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. A blacking brush, the back of which is, together with its bristles, provided with a semi-circular recess and the back with a block, said block being recessed longitudinally upon its inner surface and having the rear portion of the top of the recess cut away, as at 13, in combination with a dauber, the handle of which takes within the recess, and provided upon the upper side of its head with a series of tufts of stiff bristles taking in the cut-away portion, the usual bristles fitting into the recess formed in the bristles of the brush, substantially as specified. 2nd. A blacking brush, the back of which is longitudinally bored, said back and bristles being provided at one end with a recess, in combination, with a dauber, the handle of which is removably inserted in said bore, and the head and bristles of which snugly fit within the recess of the brush, the bristles of the dauber forming an uninterrupted continuation of those of the brush, substantially as specified. 3rd. A blacking brush, comprising a back and a series of bristles, the back and bristles being provided with a semi-circular recess at one end of the brush, in combination with a block mounted on the back of the brush and having a longitudinal recess, and an opening to receive the blacking box flush within the same, and a dauber, the handle of which is located in the longitudinal recess, and the head of which takes within the semi-circular recess, the bristles of the dauber, forming a continuation of those of the brush, substantially as specified.

No. 35,315. Fire Escape Ladders.

(*Echelle-sauveteur d'incendie.*)

Louis Smitter and Paul Duhamel, both of Paris, France, 3rd November, 1890; 5 years.

Claim.—1st. A tubular telescopic ladder, mounted on a wheel carriage, the outermost tube of such telescopic ladder carrying, on brackets, a winch and chain gear for actuating chains which are led over and under guide pullies, carried by the other tubes, such chains having their extremities made fast to the innermost tube, and serving, as the chain wheels are rotated, to raise or lower the sliding tubes, as desired. 2nd. A tubular telescopic ladder, mounted on a wheel carriage, each tube being fitted with a platform, as and for the purpose above set forth. 3rd. A tubular telescopic ladder, mounted on a wheel carriage and fitted with trunnions, and mounted in bearings carried by rack bars, which slide in vertical guides at the sides of the carriage, and are in gear with pinions keyed to a winch spindle, in combination with guy chains or their equivalent, attached to the upper end of the outermost tube and to the wheel carriage, as and for the purpose above set forth. 4th. In combination with a tubular telescopic ladder, mounted on a wheel carriage, and capable of turning in its bearings to permit of its tipping from a vertical to a horizontal position, a divided wheel axle with jointed coupling pieces and a sleeve, constructed, as and for the purpose above set forth. 5th. In combination with a tubular telescopic ladder mounted in rising and falling bearings fitted to a travelling carriage, the adjustable screws of the main tube, and the screw jacks of the carriage for fixing the position of the apparatus and relieving the carriage from the weight of its load, while the telescopic ladder is in use.

No. 35,316. Float Valve. (*Soupape de réservoir.*)

John Krehbiel, Kalamazoo, Michigan, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In a float valve, the combination, with the casing, a float therein, connecting with a rotary valve, of a curved seat at the inlet opening, concentrically arranged in relation to said rotary valve, substantially as described. 2nd. In a float valve, the combination, with the casing B, float D, stem E, lever F, spring J, rotary valve G, curved seat O, cut-away portion P, inlet opening L, and exit opening Q, substantially as described. 3rd. In a float valve, the combination of the casing B, float D, stem E, lever F, spring J, valve G, adjustable seat, having the curved face O at the inlet opening, the exit opening Q, the valve G, being provided with the cut-away portion P, the parts being arranged to operate, substantially as and for the purpose described.

No. 35,317. Railroad Car.

(*Char de chemin de fer.*)

Edgar Henry Beckley, Elkhart, Indiana, U.S.A., 3rd November, 1890; 5 years.

Claim—1st. A railroad car, constructed with end walls, having door frames, steps leading to the sides of the car inside of the end walls, and doors at the lower ends of said steps and closing flush with the sides of the car and inclosing the steps, substantially as set forth. 2nd. A railroad car, constructed with end walls having door-frames, steps leading to the sides of the car inside of said end walls, and folding doors arranged at the lower ends of said steps, and closing flush with the sides of the car and concealing the steps, substantially as set forth. 3rd. In a railroad car, the steps arranged inside of the end walls and leading to the sides of the car, in combination with the folding doors arranged at the lower ends of the steps closing flush with the sides of the car, and having spring hinges arranged to force said doors automatically shut, substantially as set forth. 4th. In a railroad car, the steps arranged inside the end walls and leading to the sides of the car, in combination with the doors hinged to the ends of the side walls of the cars to close flush with said side walls, said doors being composed each of two sections hinged together, and having spring hinges that serve to force said doors automatically shut, substantially as set forth. 5th. In a railroad car, the steps arranged inside of the end walls and leading to the sides of the car, one of said steps having an inwardly-sliding portion, in combination with the folding door, arranged to fold into the space between the said sliding step portion and the side plate of the step-frame, and to be thereby held in an open position, substantially as set forth. 6th. In a railroad car, the steps arranged inside of the end walls and leading to the side of the car, one of said steps having a sliding spring-actuated portion, in combination with the folding door arranged to fold into the space adjacent to said spring-actuated sliding step portion, and having spring hinges arranged to force the said folding door automatically shut when released from the said sliding step portion, substantially as set forth. 7th. In a railroad car, the herein described sliding step portion, having an inwardly-extended shank, in combination with a guide-tube extending inwardly from the bottom step, a spring coiled upon the shank of the sliding step portion and forcing the latter in an outward direction, and a folding door having spring hinges adapted to force it automatically shut, said door being arranged to be folded into the space adjacent to the sliding step portion and to be held by the latter in an open position, substantially as set forth. 8th. The combination, with the sliding spring-actuated step portion, having an inwardly-extending arm, of a lever pivoted upon the inner side of the side plate, of the steps and having a curved arm engaging the arm of the sliding step portion to force the latter inwardly against the tension of its spring, substantially as set forth. 9th. In a railroad car, having steps arranged inside of its end walls and leading to the sides of the car, the combination of the sliding spring-actuated step portion, a lever arranged to force the latter inwardly against the tension of its spring, and a folding door arranged to fold into the space adjacent to the sliding step portion, and having spring-hinges adapted to force said door automatically shut when the sliding step portion is withdrawn, substantially as set forth. 10th. A railroad car, having the steps arranged inside of the end walls and leading to the bottom of the car, in combination with the frame beams extended above the steps and to the end walls of the cars, and the cross-braces connecting said frame beams, substantially as set forth. 11th. The combination with a railroad car, of the spring-actuated buffers, provided with notches or recesses in their lower edges, and with forwardly-extending studs adapted to engage the recesses in the buffer of the adjacent car, substantially as and for the purpose set forth. 12th. The buffer-plates, mounted upon the longitudinally-sliding spring-actuated shanks, in combination with the sleeves swivelled to the said shanks, the screw-threaded adjusting rods extending through the screw-threaded openings in said swiveled sleeves, the supporting plates having sockets for the lower ends of said adjusting rods, and means for operating the latter, substantially as set forth. 13th. The combination of the spring-actuated shanks, carrying the buffer-plates, the swivelled interiorly screw-threaded sleeves, the adjusting rods extending through the latter and having polygonal recesses at their upper ends and the stems fitted in said recesses and having hand wheels at their upper ends, substantially as and for the purpose set forth. 14th. The combination with a railroad car, having the end walls, the door frames in the latter, and the steps arranged inside of said end walls and leading to the sides of the car, of the buffer-plate mounted upon spring-actuated shanks, means for vertically adjusting the front ends of said shanks, and the studs projecting forwardly from the buffer-plate, and adapted to engage recesses in the lower edge of the buffer plate of the adjacent car, substantially as set forth. 15th. In a railroad car, the combination of the spring-actuated buffer, the frame extending upwardly from said buffer, flexible connection between said frame and the door frame in the end of the car, and a packing strip seated in a groove in the outer side of said frame, substantially as and for the purpose set forth. 16th. In a railroad car, the combination of the spring-actuated buffer-plate, the frame extending upwardly from the same, the spring buffers supporting the upper end of said frame, the packing strip seated in a groove in the outer side of said frame, and the flexible connecting strips secured to the inner side of said frame and connected with spring-actuated rollers mounted in the door frame in the end wall of the car, substantially as and for the purpose set forth. 17th. In a railroad car, the steps arranged inside of the end walls and leading to the side of the car, one of said steps having a sliding spring-actuated portion, in combination with the folding door arranged to fold into the space adjacent to said spring-actuated sliding step portion, and a lever to operate the spring-actuated step portion against the tension of the spring, substantially as specified.

No. 35,318. Track Cutter for Logging Roads. (*Nettoyeur de voie pour traineaux à billots.*)

Edmund Richard Week, Stevens Point, Wisconsin, U. S. A., 3rd November, 1890; 5 years.

Claim.—1st. The combination, with the sleds and the supporting frame mounted thereon, of cutters vertically adjustable on said frame, and wings arranged in the rear of the cutters and adjustable vertically with reference thereto, substantially as described. 2nd. The combination, with the sleds and the supporting frame, of the vertically adjustable cutter frame supported thereby, and carrying a wing that is itself vertically adjustable with reference to the cutter frame, substantially as described. 3rd. The combination, with the sleds and the supporting frame, of cutter frames, each hinged to the supporting frame at one end, and means for raising and lowering the other end of each cutter frame, substantially as described. 4th. The combination, with the sleds and the supporting frame, of the cutter frames, each independently hinged to said frame at one end, and having a cutter head at the other end, guides secured to the frame and engaging with the cutter heads, and a sector rack and gear for raising and lowering each cutter head, substantially as described. 5th. The combination, with the supporting frame, of the arm d, hinged to the frame at its rear end and carrying a cutter head d^1, at its other end, provided with the flange d^3, the cutter E, and sector rack G, a gear F, meshing with the rack, and lipped guides I, engaging with the flange d^3, substantially as described. 6th. The combination, with the arm d, carrying the cutter head d^1, of the wing K, rigidly fixed to the bars k, k, and connected with the cutter head, the lifting chains k^2, and the drum L, mounted on the arm d, substantially as described. 7th. The combination, with the supporting frame, of the independently vertically adjustable cutter frames, and the rigid wing frame independently adjustable on the cutter frames, substantially as described. 8th. The combination, with two bob sleds, having their runners arranged to give a long sled base, of a pair of cutters supported between the sleds in line with but separate from the runners, whereby the machine is adapted to true up the runner beds of a logging road with but slight deviation from its true course, substantially as described.

No. 35,319. Book and Index. (*Livre et index.*)

Richard R. Vernon, Woodbridge, New Jersey, U. S. A., 3rd November, 1890; 5 years.

Claim.—1st. The combination, with a book, of an independent leaf secured to one of the covers and adapted to be opened outward in line with the leaves of the book, and also to fold between the said cover and leaves, and an index secured by its back to the upper edge of the said independent leaf, substantially as shown and described. 2nd. The combination, with a book, of an independent leaf secured to one of the covers and adapted to be opened outward in line with the leaves of the book and also to fold between the said cover and leaves, an index secured by its back to the upper edge of the said independent leaf, and letter tabs formed on two adjoining edges of the said index, substantially as shown and described.

No. 35,320. Billiard Cue. (*Queue de billard.*)

Hermann Stiller, Freystadt, Silesia, Germany, 3rd November, 1890; 5 years.

Claim.—A billiard cue, the body A, of which is rolled conically

from a wood veneer out after the mantle plane of a cone around the cone B, adapted to receive the leather tip and carries at its bottom end, the handle D, provided with the load plate C, substantially as described.

No. 35,321. Hinge Mortising Machine.

(*Machine à mortaiser les charnières.*)

The Storms Manufacturing Co., Chicago, Illinois, (assignees of James Alexander MacKenzie, Minneapolis), all of the U. S. A., 3rd November, 1890; 5 years.

Claim.—1st. In a device for forming hinge mortises, the combination, with a frame having an operating handle, of a stationary knife stock for the front knife, laterally adjustable stocks for the side knives, and a sliding knife mounted in ways of the frame and adapted to be projected between the side knives, substantially as described. 2nd. In a device for forming hinge mortises, the combination with the frame having a stationary stock for holding the front knife, one or more movable stocks for holding the side knives, and a removable sliding knife and an operating lever for moving said knife, substantially as described. 3rd. In a hinge mortiser, the combination, with the cutting knives, of a depth gage having bearing feet inclined from front to rear, and an inclined cross bar fitted to an inclined way of the frame, and secured thereto by screws passing through elongated apertures in the cross bar, whereby mortises of different depths may be cut, substantially as described. 4th. In a hinge mortiser, the combination, with the operating knives, of a depth gage having its bearing feet inclined from front to rear, whereby the device is adapted to cut a mortise thicker at its outer than at its inner side, substantially as described. 5th. In a hinge mortiser, the combination, with the front and side knives, and a sliding knife movable in ways in the frame, of an operating lever for said sliding knife pivoted between its ends upon a fulcrum rod, and adapted to be moved laterally along said rod to take its lower end out of engagement with the sliding knife, substantially as described. 6th. In a hinge mortiser, the combination with the front and side knives and a sliding knife movable in ways in the frame, of an operating lever for said sliding knife pivoted between its ends upon a fulcrum rod, and adapted to be moved laterally along said rod to take its lower end out of engagement with the sliding knife, and a spring adapted to hold said lever normally in engagement with the knife, substantially as described.

No. 35,322. Fire Alarm Regulator.

(*Regulateur pour avertisseurs d'incendie.*)

Clarence J. Spike, Hedley V. McLeod and Arthur C. Hawkins, all of Halifax, Nova Scotia, Canada, 3rd November, 1890; 5 years.

Claim.—1st. In an electric fire alarm regulator, the combination of a dial plate and its index arm, connected by the cog wheels a, a^1, and lever g, to a bar k, with the cylinder containing a series of pins or other corresponding signals indicating an alarm, and with means for transmitting such signals automatically, substantially as described. 2nd. In an electric fire alarm regulator, the combination of a dial plate b, and index arm c, cog wheels a, a^1, arm f, connected to slide j, and insulated bar k, with the cylinder d, its train of wheels and the push button p^1, and its mechanism, substantially as described. 3rd. In an electric fire alarm regulator, the circuit breaker f, travelling on an insulated bar k, and arranged between the cylinder d, and the frame of the regulator, in combination with the cylinder and frame, substantially as described. 4th. In an electric fire alarm regulator, the circuit breaker j, hinged to a sleeve l, and traveling on the insulated bar k, so as to be operated upon by the projections of the cylinder d, in combination with the cylinder d, and its pins r, r, substantially as described.

No. 35,323. Pressure Regulator.

(*Regulateur de pression.*)

The Consolidated Car Heating Co., (assignees of James Finney McElroy), all of Albany, New York, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In a regulating-valve, a casing having a steam-passage, a balanced-valve controlling the inlet of the steam therein, by means of a spring-controlled diaphragm located in a diaphragm chamber, having restricted openings connecting it with the steam passage, substantially as described. 2nd. In a regulating-valve, a casing having chambers N, and O, separated by the partition M, having an aperture P, at its lowest point, substantially as described. 3rd. In a regulating-valve, the combination, with the casing having a steam and diaphragm-chamber connected by a restricted opening only, of the spring-controlled diaphragm, adjustably connected to the stem K, the socket-piece O, lever R, pivotally connected with the valve-stem S1, having aperture a, screw-threaded portion e, upper valve d, lower adjustable valve s, and nut i, substantially as described.

No. 35,324. Manufacture of Iron and Steel.

(*Fabrication du fer et de l'acier.*)

Hiram Gilbert Bond, city of New York, New York, U.S.A., 3rd November, 1890; 5 years.

Claim.—The method, substantially as herein described, of smelting or refining iron ore, or crude, or pig iron, which consists in treating it in the presence of the salts of barium.

No. 35,325. Closet Cistern.

(*Réservoir de latrines.*)

David Lancaster Dwinnell and Miller Bros. & Toms, all of Montreal, Quebec, Canada, 3rd November, 1890; 5 years.

Claim.—1st. In water closet cisterns, a depressible and submergible siphon outlet. 2nd. In water closet cisters, having siphon outlets, a stand pipe, a portion of which is normally above the water line, and depressible beneath the same, for the purpose set forth. 3rd. In water closet cisterns, provided with siphon outlets, a stand pipe having a portion of its length collapsible, for the purpose set forth. 4th. In water closet cisterns, the combination of a stand pipe, the upper end of which is held normally above the water line, and depressible beneath same, a hood or cap suspended over such pipe, and means for suspending such hood and elevating and depressing said pipe, as set forth. 5th. In water closet cisterns, a siphon outlet having a portion of its length flexible for the purpose set forth.

No. 35,326. Grain Separator.

(*Séparateur des grains.*)

William Lorenzo Gibson, Minnville, Oregon, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In a grain separating device, the agitating rollers having spiral flanges coiled oppositely from their central portions, and provided at their ends with spiral flange-sections coiled oppositely to the spiral flanges, the ends of which they adjoin, substantially as set forth. 2nd. In a grain separating device, the agitating shafts having inclined ovoid disks, in combination with the oppositely inclined disks mounted at the ends of said shafts. 3rd. A grain separating device, comprising a series of pairs of shafts having spiral flanges and inclined disks, and provided at their ends with oppositely coiled spiral flange-sections and oppositely-inclined disks, substantially as and for the purpose set forth.

No. 35,327. Manufacture of Vinegar.

(*Fabrication du vinaigre.*)

Aurèle Resther and Ferdinand Ouézieme Lavigueur, both of Montreal, Quebec, Canada, 3rd November, 1890; 5 years.

Résumé.— Un système de générateurs a doubles compartiments A et B, separès par la cloison a^1, traversée par les tubes b, c, d, en combinaison avec le baril E contenant le filtre à charbon u de la liqueur alcoolique avant son entrée dans le baril D, ainsi que le feutre r^1 et les tubes de communication o^1, p, q, z, en combinaison aussi avec les barils D, munis des tubes speciaux de communication e, f et g, h, i, m, ainsi que de la soupape o, en combinaison aussi avec les barils F à deux compartiments M et H, à cloison médiane V et à soupapes c^1, h^1, u avec ouverture b^1 et les tubes de communication d^1, a^1, m^2, m^3, m^4, le tout tel que ci-dessus décrit et pour les fins sus-mentionnées.

No. 35,328. Universal Joint Coupling for Pipes. (*Joint universel de tuyau.*)

Joseph Walker, Clark's Green, Pennsylvania, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In a pipe coupling, the combination, with the pipe having a semi-spherical enlargement B, at its end, of the cap C, and ring D, fitted to the contour of said enlargement, and the cap E, for holding said cap C, and ring D, in position, substantially as described. 2nd. In a pipe coupling, the combination, with the pipe having the semi-spherical enlargement or head, of the cap C, seated against the enlargement B, the ring D, shaped to conform to said enlargement, the packing F, and the screw cap E, enclosing ring D and united to cap C, substantially as described. 3rd. In a pipe coupling, the combination, with the pipe having the semi-spherical enlargement or head, of the cap C, seated against the enlargement B, ring D, shaped to conform to said enlargement, cap E, enclosing ring D, and united to cap C, packing F, ring G, and means for adjusting it, substantially as described.

No. 35,329. Car Coupling. (*Attelage de chars.*)

George Washington Powell, Sunny South, Alabama, U. S. A., 3rd November, 1890; 5 years.

Claim.—1st. In a car coupler, the combination, with a draw-head provided on its lower edge with a longitudinal slot, of a coupling-latch pivoted in said draw-head, hangers, a transverse shaft having bearings in said hangers, said shaft formed or provided with a cam, a vertical lever secured to the end of the transverse-shaft, and extending upward above the roof of the car, and a laterally-extending guideway through which said lever passes, substantially as set forth. 2nd. In a car coupler, the combination, with a draw-head provided upon its upper and lower edges with longitudinal slots, of a spring pressed coupling-latch pivoted in said draw-head and working in the slot, said latch terminating in a hooked end adapted to engage the coupling-link, hangers, a transverse shaft having bearings in said hangers, said shaft formed or provided with a cam, a vertical lever secured to the end of the transverse shaft and extending upward above the roof of the car, and a laterally-extending guideway through which said lever passes, substantially as set forth.

No. 35,330. Vehicle. (*Voiture.*)

Cornelius John Sullivan, Bar Harbor, Maine, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In a vehicle of the class described, the combination, with a seat, of a pair of oppositely arranged Y-shaped spring standards for supporting the same, each of the standards consisting of opposite strips bolted together at their lower ends to form a shank, and diverging toward their extremities and secured to the seat, substantially as specified. 2nd. The combination, with one of the U-braces for connecting the buckboard and driver's platform, of a pair of Y-shaped spring-metal standards arranged in line with each other and at the centre of the seat, each standard consisting of a pair of strips bolted together near their lower ends to form a shank, and diverging after they leave their points of connection, and having its

lower end secured to the brace, and a driver's seat mounted on the arms, substantially as specified. 3rd. The combination, with the board, of opposite pairs of recessed undercut sockets, the recesses tending inwardly and seat standards terminating in opposite outwardly projecting feet, and adapted to be inserted in the sockets, substantially as specified. 4th. The combination with the board 1, of transversely-opposite pairs of L-shaped undercut sockets and transversely-opposite pairs of undercut recessed sockets, and of opposite seat standards, terminating in opposite feet adapted to fit the sockets, and at a distance apart agreeing with that between the adjacent edges of each pair of longitudinally-opposite sockets, substantially as specified. 5th. The combination, with the buckboard and its rear axle, of opposite braces connecting the same and formed in sections, the ends of which are loosely connected with each other, substantially as specified. 6th. The combination, with the front platform and its supporting bolster, of a fifth wheel mounted under the bolster, an axle connected with the fifth wheel by means of a king bolt, and an L-shaped traveller connected to the lower end of the king bolt, and having its opposite end mounted for travel on a travelling rod connected to the rear end of the platform, substantially as specified. 7th. The combination, with the herein described vehicle, having the front bolster provided with the upper annular section, of a fifth wheel having an offset transverse bar centrally perforated and an inwardly-disposed stop, a front axle carrying an opposite annular section of the fifth wheel and having a central bearing lug projecting above the plane of the section and bearing on the transverse bar of the opposite section and having an aligning perforation, stops also projecting from the lower annular section and adapted to come against the stop of the opposite section, and a king bolt passing through the perforations, substantially as specified. 8th. In combination with the fifth wheel, the traveller 32, connected to the lower end of the king bolt of the fifth wheel, below the latter, and the travelling rod 33, connected to the waggon and having the traveller mounted thereon, as set forth.

No. 35,331. Waggon. (*Wagon.*)

Thomas Hill, Jersey City, New Jersey, U.S.A., 3rd November, 1890; 5 years.

Claim—1st. In a waggon, the platform, having a main frame constructed of angle-iron, embracing two sides and one end, bars extending from side to side of such frame and secured thereto, and boarding in and between the flanges of the angle iron frame. 2nd. In a waggon, the platform, having a main frame constructed of angle iron embracing two sides and one end, bars extending from side to side of such frame and secured thereto, boarding in and between the flanges of said angle iron frame, and reinforcing strips within the channel between said boarding and the upper flange of said angle iron frame. 3rd. In a waggon, the platform having a main frame constructed of two pieces of angle iron, one of which forms the front and sides thereof, and the other the back, the latter piece being bolted or rivetted to the underside of the ends of the former. 4th. In a waggon, the rear axle trestles or bridges formed of metal trusses bent to secure the required depth or distance from the platform, as set forth. 5th. In a waggon, the combination, with the rear axle, trestles or bridges formed of metal trusses, of spring pedestals, and a stay or stays taken from each of said pedestals to the cross-bars of the waggon. 6th. The rear angle iron A^1, apertured for the reception of skid hooks.

No. 35,332. Game. (*Jeu.*)

James McCardell, Newton, Iowa, U.S.A., 3rd November, 1890; 5 years.

Claim.—The game of money-change, herein shown and described, comprising the following elements, a series of checks or jettons of varying size and denominations, the slotted box adapted for shuffling and dealing the same, and the removable partitioned frame, constructed and combined to co-operate substantially in the manner and for the purpose set forth.

No. 35,333. Device for Tightening and Fastening Freight Car Doors. (*Appareil pour assujétir et fermer les portes de char à marchandises.*)

John Clark Wands, St. Louis, Missouri, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. The door-plate, having at one end an inwardly-projecting slotted or notched barrel, provided with an offset notch, in combination with a bevel-edged thimble secured to the door-jamb, and the fastening or tightening bolt, having a lug engaging said barrel and thimble, substantially as set forth. 2nd. In a car door fastening, the combination with the door-plate, having at one end a perforated stop lug, and at the other end an inwardly-projecting slotted or notched barrel, of the bevel-edged thimble bolted to the door-jamb, and the tightening bolt having a lug on one end, and the perforated handle on the other, substantially as specified. 3rd. The car door tightening devices and fastening, consisting of the keeper-plate on the middle portion of the rear jamb, the door-plate having the slotted or notched barrel and the perforated stop-lug, and the fastening or tightening bolt, having a toe lug engaging an angular notch or groove, of the barrel of the door-plate and a perforated lever-handle adapted to be locked or sealed to said stop-lug of the door-plate, substantially as specified.

No. 35,334. Gas or Oil Heating Stove. (*Calorifère à gaz ou à huile.*)

Charles W. Jenks, Chicago, Illinois, U.S.A., 3rd November, 1890; 5 years.

Claim—1st. The stove, constructed substantially as shown and described, having the combustion chamber in the centre, provided with deflecting plates, constructed as shown, and arranged over the burners and under the smoke-flue, the air-heating flue surrounding the combustion chamber, and exterior air-flue surrounding the air-heating flue, and an enlarged chamber or flue placed directly over the combustion chamber and communicating with the air-heating flue and exterior air flue by passages e^5, f^2, and f^3, as specified. 2nd. The stove, constructed as shown and described, having the central combustion chamber, provided with deflecting plates over the burners, the air-heating flue surrounding the combustion chamber, the cap e, having flanges e^1, e^2 and e^4 and perforations e^5, in combination with the casing b^2, provided with the top plate f, having flange f^1, arranged, as shown, relatively to the cap e, as specified. 3rd. In a gas or oil-heating stove, and in combination a central combustion chamber, having the burners near the bottom, and the smoke-flue connected at the top, deflecting plates c^1, arranged over the burners and below the smoke-flue, a flange e^4, connected to an extension of the top plate of the combustion chamber, provided with a row of perforations e^5, the casing b^1 surrounding the combustion chamber and extending above it, the casing b^2 surrounding casing b^1 and extending above it, and the plate f, provided with the flange f^1, said plate and flange being arranged, as shown, relatively to casing b^1.

No. 35,335. Connecting and Joining together Electric Carbon Plates and Carbon Pencils. (*Moyen de raccorder et joindre les plaques de carbone, et carbone pour lumieres électriques.*)

John Blair, North Orillia, and Alexander Gokey Hunter, Dundalk, both of Ontario, Canada, 3rd November, 1890; 5 years.

Claim.—1st. A means, whereby the short and broken pieces of carbon pencils may be utilized to a more profitable account. 2nd. A means, whereby a piece of large carbon pencil may be connected to a smaller carbon pencil for the purpose of producing a larger or smaller arc light at times and places when such change of light may be advantageous. 3rd. A means, whereby to join and connect two or mere carbon pencils together for any and every purpose for which said extension may be required. 4th. A means whereby carbon pieces, stubs, and pencils, may be used together, all of which is substantially described and specified, and for the purposes herein set forth.

No. 35,336. Process of and Apparatus for Manufacturing Gas. (*Procedé et appareil de fabrication du gaz.*)

Marcellus A. Morse and Theodore G. Springer, both of Chicago, Ill., U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. The process of manufacturing gas, which consists in highly heating a body of high grade hard coal or coke by rapid combustion, and burning the resulting gaseous products with air, and storing the heat in a body of refractory material, and at the same time burning a body of slack or low grade cheap fuel with a slow combustion, and by means of the resulting gaseous products, heating a second body of refractory material, then suspending the combustion, then superheating steam by passing it through the body of refractory material heated by the waste gaseous products of the hard coal or coke, then decomposing such steam by passing it through the body of incandescent hard coal or coke, and then passing the resulting gases, together with a hydro-carbon, through the body of refractory material previously heated by the gaseous products arising from the low grade fuel for producing a fixed illuminating gas. 2nd. The process of manufacturing gas, which consists in raising a body of hard coal or coke to a state of incandescence by rapid combustion with air, burning the resulting gaseous products with air, and storing the heat in a body of refractory material, and at the same time heating a second body of refractory material by the combustion of gaseous products arising from a separate body of cheap low grade fuel, then suspending the process of combustion and passing a hydro-carbon, with steam in excess through the body of refractory material heated by the waste products of combustion of the hard coal or coke, decomposing the steam into carbonic acid and hydrogen gas, then passing such gases through the incandescent hard coal or coke to convert the carbonic acid gas into carbonic oxide, and the hydrogen into light carbureted hydrogen, and then passing the carbonic oxide and carbureted hydrogen, together with sufficient hydro-carbon to make an illuminating gas through the second body of refractory material previously heated by gaseous products from the low grade fuel, whereby the hydro-carbon is converted into fixed illuminating gas. 3rd. A cupola gas generator, having a fuel chamber and a fixing chamber, both in one structure, as described, the walls of the fuel chamber being constructed to flare from below, upward and outward and project at the top circumferentially outward beyond the base of the fixing chamber, and said projecting portion having one or more openings passing downward through its top and in line with the flaring walls, through which openings the fuel chamber may be evenly charged with fuel and the clinker readily cleaned from the walls, and said openings being provided with tight-fitting lids, as described.

No. 35,337. Galvanic Battery. (*Batterie galvanique.*)

Edward Milton Burt, Paris, Illinois, U.S.A., 3rd November, 1890; 5 years.

Claim.—1st. In a galvanic battery, an exciting solution formed of the soluble salts of burned Indian corn cobs, the same consisting of carbonate, phosphate, silicate, and chloride of sodium, potassium, iron, calcium and magnesium, as specified. 2nd. In a galvanic battery, an exciting solution formed of carbonate of potash and other soluble salts derived from the ash of the Indian corn cob, as specified.

No. 35,338. Propeller Wheel.

(*Helice de propulsion.*)

George W. Pelton, Muscatine, Iowa, U.S.A., 3rd November, 1890: 5 years.

Claim.—1st. The combination of the supporting timbers, the spur wheels mounted permanently upon the inner sides of the same, the main shaft extending through said spur wheels and journalled in boxes upon the said supporting timbers, the hubs mounted upon said shaft and having radiating arms or spokes, the shafts journalled at the outer ends of said spokes and carrying the paddles, and pinions, spur wheels and pitmen for transmitting motion from the said spur wheels to the said paddles, for the purpose of feathering the latter, substantially as set forth. 2nd. The combination of the supporting timbers, the main shaft journalled upon the same, the stationary spur wheels attached permanently to the supporting timbers, concentrically with the main shaft, the hubs mounted upon the latter and having radiating spokes, the shafts journalled at the outer ends of the latter and carrying the paddles, the shafts journalled between the spokes of the wheel, and having pinions meshing with the stationary spur wheels, the spur wheels journalled upon the spokes and meshing with pinions mounted intermediately upon the said shafts, the ring mounted upon wrist pins extending from the said spur wheels eccentrically to the main shaft, and pitmen connecting said ring with brackets extending from the paddles at right angles to the latter, substantially as set forth. 3rd. The combination of the main shaft, the hubs having the radiating arms or spokes, the shafts journalled at the outer ends of the latter and carrying the paddles, spur wheels mounted upon the said spokes, a ring mounted pivotally upon the said spur wheels eccentrically to the main shaft, means for transmitting motion to the said spur wheels from stationary spur wheels mounted upon the supporting frame of the wheel, and pitmen connecting the said eccentric ring with the paddles, substantially as and for the purpose set forth.

No. 35,339. Cooking Utensil.

(*Ustensile de cuisine.*)

Cyrus Crabbs, Toronto, Ontario, Canada, 3rd November, 1890; 5 years.

Claim.—A jointed chamber, substantially oval in form, and containing a similarly shaped but smaller meat pan supported above the bottom of the chamber so as to leave an air space around the pan and the meat which it contains, substantially as and for the purpose specified.

No. 35,340. Sling Pulley Block.

(*Embrelage de poulie.*)

James White Provan, Oshawa, Ontario, Canada, 3rd November, 1890; 5 years.

Claim.—1st. A pulley-block having a carriage bail or projection formed on or connected to it, in combination with a hook or loop pivoted on the block or bail, and designed to engage with a pulley block through which the draft rope passes, substantially as and for the purpose specified. 2nd. A pulley block A, carried by the draft rope C, and having a bail B, formed on or connected to it, a hook F, pivoted on the bail B, in combination with a pin H, located in the pulley block G, through which the draft rope C, passes, substantially as and for the purpose specified. 3rd. A pulley block A, carried by the draft rope C, and having a bail B, formed on or connected to it, a hook F, pivoted on the bail B, and encircled by a staple I, in combination with a pin H, located in the pulley block G, through which the draft rope C, passes, substantially as and for the purpose specified.

No. 35,341. Roof Scaffold Bracket.

(*Boulin d'échafaud.*)

Thomas Levi and James William Murchison, both of Westminster, British Columbia, Canada, 3rd November, 1890; 5 years.

Claim.—In a scaffold bracket, the combination of the tongue A, hub *a*, stirrup A^1, with shoulder a^1, stirrup A^{11}, adapted to hold a beam, and the pivotal dog B, secured to the hub *a*, and having spurs *b*, and b^1, substantially as set forth.

No. 35,342. Curtain Holder. (*Porte-rideau.*)

Thomas Tribe, Colorado Springs, Colorado, U. S. A., 4th November, 1890; 5 years.

Claim.—1st. The brackets, and the rod extended between the same combined with the cap nuts upon the end of the said rod and acting against the said bracket, substantially as described. 2nd. The two rods, the intermediate coupling *h*, and the brackets to receive the said rods, combined with nuts by which to strain the said rods, substantially as described. 3rd. The brackets, provided with sleeves or tubular sockets having smooth interiors, combined with the screw bolts fitting loosely and adapted to revolve in the sleeves or sockets, and provided with threaded bores, and the rod provided with threaded extremities engaging the bores of the screw bolts, substantially as specified. 4th. The brackets, provided with sleeves or tubular sockets, combined with the revoluble screw bolts fitting loosely in the sleeves or sockets, provided with threaded bores and having heads on their outer ends bearing against the outer ends of the sleeves or sockets, and the rod or wire having threaded ends engaging the bores of the screw bolts, substantially as specified. 5th. The combination, with the brackets provided with sleeves or tubular sockets D, D, of the revoluble screw bolts K, fitting snugly in the sleeves or sockets, and having angular heads bearing against the outer ends of the sleeves or sockets, and provided with transverse grooves, and the rod or wire having threaded ends engaged in the bores of the said screw bolts, substantially as specified. 6th. The herein described brackets for curtain hangers, comprising the washer having its edges turned up, the base plate fitting between the turned up edges of the washer, and having its center looped up to form a tubular sleeve or socket D, and the revoluble screw bolts fitting in the said sleeves or sockets and provided with a threaded bore to engage the end of a rod or wire, substantially as specified.

No. 35,343. Log Loading Machine.

(*Appareil pour charger les billots.*)

Joseph W. Kuntz and Charles A. Eschenbrener, both of Republic, Ohio, U.S.A., 4th November, 1890; 5 years.

Claim.—1st. A log loading device, comprising a frame having cross pieces upon its upper side, a shaft mounted in the frame, a crank and gear mechanism for turning the shaft, a bracket removably attached to the side of the frame, said bracket having a pulley mounted in the lower end thereof, and having an upwardly extending arm with a pulley mounted thereon, and ropes having one end fixed to the shaft, said ropes being adapted to pass over the pulleys and connect with a log, substantially as described. 2nd. The combination, with the frame A, shaft D, and ropes *g*, and *h*, of the bracket E, fixed to the frame by the clasps *i*, and *j*, and having the pulley F, mounted in the lower part thereof, and having the arm E^1, carrying pulley F^1, attached to the upper part thereof, substantially as described. 3rd. The combination, with the bracket E, fixed to the frame A, as shown, of the arm E^1, having pulley F^1, mounted thereon, and means, as pins *k*, and *l*, for attaching the bracket and arm. 4th. The combination, with the frame A, and shaft D, having ropes *g*, and *h*, attached thereto, of the slidable bracket E, mounted upon the frame and having pulleys F, F^1, pivoted above and below the same for the passage of the ropes, substantially as described.

No. 35,344. Sifting Machine. (*Crible.*)

Carl Haggermacher, Budapest, Hungary, 4th November, 1890; 5 years.

Claim.—In sifting machines containing plan-sieves, having a gyratory motion in a horizontal or nearly horizontal plane, and in which the material to be sifted is carried over the sifting surface by means of a grid on the latter, the arrangement of the propelling ribs in such a manner that the lower edges do not come in contact with the sifting surface or seive-bottom, but is at a distance of the latter which corresponds to the desired thickness of the layer, substantially as set forth.

No. 35,345. Belt Shifter. (*Embrayage de courroie.*)

John C. Jackson and Henry Whitcomb, both of Philadelphia, Pa., U.S.A., 4th November, 1890; 5 years.

Claim.—1st. In a belt shifter, a bracket provided with a stationary holder adjustably secured thereto, in the manner and for the purpose substantially as described. 2nd. A belt holder, in combination, with a spring-actuated shifter, substantially as described. 3rd. In a belt shifter, a bracket provided with an arc-shaped slot, in combination with a belt holder having bolts passing through said slot, and arranged to be moved therein, whereby the holder can be adjusted in the manner and for the purpose, substantially as described.

No. 35,346. Hermial Truss.

(*Bandage herniaire.*)

Allen George Smith, Columbus, Ontario, Canada, 4th November, 1890; 5 years.

Claim.—1st. A truss, consisting of a continuous rod or wire curved to fit the body, and coiled at the front end into a rigid open spiral to form the pad, and bent at the back end into the form of a loop, substantially as and for the purpose set forth. 2nd. A truss pad made in one continuous piece with the bow by coiling the wire into suitable shaped spirals, substantially as and for the purpose set forth. 3rd. The combination of the front pad C, the bow *a*, the rear loop E, the web or partial belt B, and the button F, substantially as and for the purpose set forth.

No. 35,347. Horse Shoe. (*Fer à cheval.*)

Carl Heinrich Bernhard Schatz, Hamburg, German Empire, 4th November, 1890; 5 years.

Claim.—1st. The improved mode of shoeing horses and other beasts of draught, by employing a detachable fastening device to engage with the hoof, and simultaneously with the shoe, substantially as and for the purpose specified. 2nd. The combination of a horse-shoe, having at its inner edge outwardly splayed flanges, with a fastening device consisting of two wings hinged together at the toe and engaging simultaneously with the hoof and the shoe, substantially as set forth. 3rd. The combination of a horse-shoe having at its inner edge outwardly splayed flanges, a fastening device consisting of two wings hinged together at the toe, and provided at their upper face with projecting claws to engage over the hoof, and a pair of right-and-left screw-bolts operated by a nut, substantially as and for the purpose set forth.

No. 35,348. Process of Making Gas by Carburetting Air. (*Procedé pour fabriquer le gaz par l'air carburé.*)

George Hargreaves, James Pardee Scranton and Edward Williams Porter, all of Detroit, Michigan, U.S.A., 4th November, 1890; 5 years.

Claim.—1st. In an apparatus for manufacturing gas, the same consisting of a carburetor into which the hydro-carbon oil is fed in

small quantities under pressure from a storage tank, an air compressor and feed-pipe, a connection from said air-feed pipe into the carburetor, and a pressure valve in said connection, substantially as described. 2nd. The herein described process for manufacturing gas, the same consisting of a carburetor into which hydro-carbon oil is diffused or sprayed, and brought into intimate contact with compressed air, a storage tank from which the hydro-carbon is fed automatically in small quantities into the carburetor, an air-feed pipe receiving compressed air from a suitable air-compressor, a connection from said air-feed pipe into the top of the storage tank, a check valve in said connection for maintaining a constant pressure of air on the oil in the storage tank, a connection from said air-pipe into the carburetor, and a pressure valve in said connection, substantially as described. 3rd. In an apparatus for manufacturing gas, a carburetor provided with an oil-feeding connection into the top from which the oil is automatically fed in small quantities under pressure, an air-feeding connection into the bottom, and a vertical series of spiral planes forming an interrupted spiral path adapted to diffuse and spray the oil by the air current flowing in an opposite direction, substantially as described. 4th. In an apparatus for manufacturing gas, the same consisting of a carburetor, a storage tank from which the hydro-carbon oil is automatically fed into the carburetor in small quantities regulated by a feed valve, an air compressor, a feed-pipe and connections with the storage tank, a pressure valve in the air-feed connection with the carburetor, a purifier, a valve controlled connection between said purifier and the air-feed pipe, and an exhaust pipe from said purifier, all arranged to operate, substantially as described. 5th. In an apparatus for manufacturing gas, the same consisting of a carburetor into which the oil is automatically fed in small quantities under pressure, a feed-valve regulating the feed of the oil, an air compressor, an air-feed pipe having an automatic pressure valve through which the air passes into the carburetor, a gasometer, a belt-shifting device operated by the extreme rise and fall of the bell of the gasometer, and an automatically operating connection between said belt-shifter and the oil-controlling feed-valve on the carburetor, substantially as described.

No 35,349. Machine for Insulating Electrical Conductors. (*Machine à isoler pour conducteurs d'électricité.*)

Charles T. Stetson, Hanson, Massachusetts, U.S.A., 4th November, 1890; 5 years.

Claim.—1st. A machine for weaving insulated wire covering, provided with heddle mechanism, consisting of independent vertically reciprocating continuously movable heddle rods actuated by a continuous rotary crank-and-connecting-rod motion, substantially as described. 2nd. In a machine for weaving insulated wire covering, a heddle mechanism consisting of independent vertically guided heddle rods coupled in pairs, connecting rods pivoted to the couplings of each pair of heddle rods, and continuously revoluble shafts arranged, whereby each shaft actuates by a continuous rotary crank motion a pair of said connecting rods, substantially as described. 3rd. In a machine for weaving insulated wire covering, the combination, with vertically movable reciprocating heddle rods having eyes for receiving the warp threads of stationary arrests, above and below each warp thread to stop the motion of the said warp thread before the heddle reaches the end of its stroke, thereby forming a still spot, substantially as and for the purposes described. 4th. In a machine for weaving insulated wire covering, the combination, with reciprocating heddle rods provided with eyes, of shuttle tracks, and guard provided with slits for guiding the warp threads, whereby the ends of the slits arrest the motion of the said threads before the end of the stroke of the heddle rods, thereby forming a still spot at each end of the stroke, substantially as and for the purposes described. 5th. In a machine for weaving insulated wire covering, a shuttle frame provided with wheels i^1, in combination with a circular track provided with the circular flanged guard E^1, secured to the outer circumference of said track, whereby the said shuttle frame is prevented from rising, substantially as described. 6th. In a machine for weaving insulated wire covering, a shuttle frame provided with a guard wheel i^6, in combination with a shuttle driving frame provided with the piece d^2, whereby the inner end of the shuttle frame is prevented from leaving the track, substantially as described. 7th. In a machine for weaving insulated wire covering, wheels F, each of which is provided with a pair of connecting rods N^1, N^2, pivotally connected therewith, in combination with couplings n, n^1, pivoted to said connecting rods, and heddle rods N, arranged in pairs and connected by said couplings, substantially as described.

No. 35,350. Brush. (*Brosse.*)

Louis Strickel, Detroit, Michigan, U.S.A., 4th November, 1890; 5 years.

Claim.—1st. The herein described brush head, provided with grooves and sockets communicating with said grooves to receive the stock, substantially as described. 2nd. The herein described brush head, beveled on its under surface at the ends, and provided with longitudinal grooves, each having angularly-extended sockets, communicating therewith at the ends of the groove, substantially as and in the manner described. 3rd. The improved brush, herein described, formed with a head provided with longitudinal grooves, each having angularly extended end sockets communicating therewith, said head having, in combination, the stock or fibre, a binder for each said groove, and its communicating end sockets, said stock and binder forced into said groove and its communicating end sockets, all substantially as and in the manner described. 4th. The improved brush, herein described, consisting of a head bevelled on its lower surface at the ends and provided with longitudinal grooves, each having angularly extended end sockets communicating therewith, said head having, in combination, the stock, a single binder for each said groove and its communicating end sockets, the ends of the binder bent into said sockets, and nails D, to hold the binder in place, the margins of said head being intact, substantially as described. 5th. The improved brush, herein described, formed with a head provided with longitudinal grooves, each having end sockets communicating therewith, said head having, in combination therewith, the stock or fibre, a binder for each of said grooves and its communicating end sockets, said stock and binder forced into said groove and its communicating end sockets, all substantially as and in the manner described. 6th. In a brush, a head formed in a single integral piece and provided with a longitudinal groove, having end sockets communicating therewith, and in combination therewith, the stock or fibre, a single binder for said groove and its communicating end sockets, said stock and binder forced into said groove and communicating end sockets, the extremities of said binder bent into said end sockets, substantially as set forth.

No. 35,351. Oil Burner. (*Bruleur d'huile*)

John Krehbiel, Kalamazoo, Michigan, U.S.A., 4th November, 1890; 5 years.

Claim.—1st. In an oil burner, a wick, composed of an inner and outer tube forming an annular space between them, the lower portion of which is filled with a textile fabric, and the upper portion with refractory material, substantially as described. 2nd. In an oil burner, a wick, composed of an inner and outer tube, forming an annular space between them, the lower portion of which is filled with a textile fabric, and the upper portion with refractory material molded into shape and joined with an annular meeting face on top of the textile portion, substantially as described. 3rd. In an oil burner, a wick, composed of an inner and outer tube forming an annular space between them, and detachably secured together by means of spacing pins secured to the inner tube, of a textile fabric secured in the lower portion of the annular space between the tubes, and molded refractory material in the upper portion of the tube, and an angular meeting face between the upper and lower portion of the wick, substantially as described. 4th. In an oil burner, the combination, with the fount C, of the vertical tubular extension, the inner concentric air tube F, and a wick consisting of an inner and outer metallic tube detachably and concentrically secured together by means of spacing pins H, secured to the inner tube, and textile fabric secured in the lower portion of the annular space between the two tubes, and a refractory material in the upper portion of the annular space in the tube, said wick being adapted to slidingly engage between the extension D and the air tube E, substantially as described.

No. 35,352. Process of Tempering Steel and of Carburetting Castings and Steel. (*Procédé pour tremper l'acier et carburer la fonte et l'acier.*)

Martin F. Coomes and Arunah W. Hyde, both of Louisville, Kentucky, U.S.A., 4th November, 1890; 5 years.

Claim.—1st. In the manufacture of steel, the process of carburizing malleable cast-iron and low carbon steel, which consists in placing the metal raised to a white heat in a bath, composed of water, a sugar chloride of sodium and chloride of ammonium, substantially as described. 2nd. As a tempering and carburizing bath, the triple saturated solution of water, sugar, chloride of sodium and chloride of ammonium, substantially as described.

No. 35,353. Process of Tempering Fluids for Treating Steel. (*Procedé pour la trempe et le traitement de l'acier.*)

Byron M. Pickett, New York, State of New York, U.S.A., 4th November, 1890; 15 years.

Claim—1st. A tempering fluid for treating steel, the same consisting of a diluent, such as water or oil, and a base containing a metallic ingredient or ingredients, such as an oxide, or a carbonate, or both, an oxide, and a carbonate of a metal of the so-called iron group, and an organic ingredient, such as glucose, with or without a small quantity of sulphuric or other acid. 2nd. The herein described process of treating steel, which consists in heating it to a red heat, and then plunging it into a previously prepared bath, consisting of a diluent, such as water or oil, and a base, containing a metallic ingredient or ingredients, such as an oxide, or a carbonate, or both an oxide and a carbonate, of a metal of the so-called iron group, and an organic ingredient, such as glucose, either with or without a small quantity of sulphuric, or other acid, substantially as set forth.

No. 35,354. Method of Placing Glass in Windows. (*Posage des vitres de chassis.*)

William Babit, Levis, Quebec, Canada, 4th November, 1890; 5 years.

Résumé.—1o. La combinaison des baguettes et la rainure, telles que décrites à et pour les fins designées. 2o. La combinaison des bandes de caoutchouc sur le rebord de la rainure a l'extérieur, telles que decrites, à et pour les fins ci-dessus designeés.

No. 35,355. Steam Warping Scow.

(*Grelin pour chaland à vapeur.*)

John Ceburn West and James Peachey, both of Simcoe, Ontario, Canada, 5th November, 1890; 5 years.

Claim.—1st. A scow A, provided with steel-covered runners B, substantially as and for the purpose specified. 2nd. A boiler C, pivoted in a scow A, on suitable trunnion bearings D, a jointed steam pipe I, in combination with an arm E, nut F and screw G, substantially as and for the purpose specified. 3rd. A drum K, hav-

ing a cable O connected to it, and connected by suitable adjustable driving mechanism to the engine shaft L, substantially as and for the purpose specified. 4th. A scow, provided with paddles, in combination with adjustable driving mechanism arranged to connect the paddle-shaft M, with the driving shaft L, substantially as and for the purpose specified. 5th. A cable O, connected to a cable drum K and passing between the friction pulleys P, suitably journalled in the frame Q, which is adjustably held to the scow A, substantially as and for the purpose specified.

No. 35,356. Animal Trap. (*Piège.*)

Henry H. Robertson, assignee of Henry Celay Anderson, both of Whitesboro, Texas, U.S.A., 5th November, 1890; 5 years.

Claim.—1st. In an animal trap, the combination of the base board having the recess formed in opposite sides thereof, the shaft extending transversely through said base-board and into the said recesses, and the yoke having spring coils mounted upon the ends of said shaft, substantially as set forth. 2nd. The combination, of the base board, the spring actuated yoke, the upright or standard, the trigger rod jointed loosely to the latter, the trigger connected to the base board in front of the point of attachment of the yoke, and the prongs or guards arranged in rear of the trigger, substantially as set forth. 3rd. In an animal trap, the combination of the base board, having the opposite recesses and the transverse shaft, the yoke having the spring coils mounted on the projecting ends of the shaft in said recesses, the standard having the holding rod, the trigger, and the guards or prongs secured in the base board, substantially as set forth.

No. 35,357. Machine for Manufacturing Woodem Trays. (*Appareil pour la fabrication des plateaux en bois.*)

The International Manufacturing and Supply Co., assignee of Julien Eugene Tinker and George Tyler Benjamin, all of Chatanooga, Tennessee, U.S.A., 5th November, 1890; 5 year .

Claim.—1st. The combination, with clinchers mounted on parallel shafts journalled in the plunger-head, such shafts having slotted arms extending toward and overlapping each other, substantially as indicated, of a rod embraced by such overlapping arms, the rod having a lateral pin operating in the slots of the arms, a spring for elevating the rod, a toe connected with the rod, and a lug connected with the disk on the driving shaft for engaging such toe, whereby the clinchers are operated against the action of said spring, substantially as set forth. 2nd. The combination, with housing, provided with cross-bar separated from the back wall of the housing, of driver operating between such cross-bar and back wall, a tilting gravity arm having a shelf adapted to extend under such cross-bar and a lug and incline connected respectively with the tilting-arm and driver for tilting the former with the depression of the latter, substantially as set forth. 3rd. The combination, with feed-belts, band-wheels and shafts for supporting such belts, of sliding boxes for supporting the one shaft and mechanism for operating such sliding boxes to elevate and depress the feed-belt, substantially as set forth. 4th. In a machine for making wooden trays, the combination, with cross-heads L, shaft P^1, and eccentrics mounted on the shaft for operating the cross-heads, substantially as indicated, of crank on the driving-shaft, a pitman connecting with such crank, lever, pawl, ratchet-wheel and gear, substantially as indicated, for operating shaft P^1 from the crank of the driving shaft, substantially as set forth. 5th. The combination, with feed-rolls for wire and mechanism for forming such wire into staples, substantially as indicated, of a sliding block having a longitudinal hole for the passage of the wire, a spring for moving the sliding block inward, an incline for moving the block outward, and mechanism for cutting the wire, the parts being arranged substantially as described and for the purpose set forth.

No. 35,358. Apparatus for Elevating and Lowering Electric Lights. (*Appareil pour elever et baisser les lumières électriques.*)

John Peter Hebendahl, George Miller and Edwin Franklin Warner, all of Weatherly, Pennsylvania, U.S.A., 5th November, 1890; 5 years.

Claim.—1st. In a device for elevating and lowering electric lights, the suspending cable or rope, the drum or reel, its shaft and enclosing casing, the jaws having a sliding and pivotal connection with their support, and the hollow conical cap connected to the lamp, substantially as shown and described. 2nd. In a device for elevating and lowering electric lights, the supporting jaws having a sliding and pivotal connection with their support, and having their lower ends upturned to form a hook or beak which engages the hollow conical cap connected to the lamp, said cap having the screw-threaded plug or block in its upper end, having connection with the suspending wire, substantially as shown and described. 3rd. In a device for elevating and lowering electric lights, the pole or post having the supporting bracket or arm at its upper end, in combination with the drum or windlass and its shaft, and enclosing casing supported by said bracket, the jaws having a pivotal and sliding connection with their support, the enclosing casing formed on the end of the bracket supporting the pulley, the hollow conical cap connected to the lamp and the suspending wire, substantially as shown and described. 4th. The combination, with the lamp, with the jaws having a sliding and pivotal connection with their support, and the conical support, having a proximately ball-shaped upper end engaging said jaws at their upper inner ends, substantially as shown and described. 5th. The combination of the pivoted jaws, the suspending wire or cable, the conical cap, said wire having a screw plug or block connection with the upper spherical end of said support, substantially as shown and described. 6th. In a device for elevating and lowering electric lights, the drum or windlass, its enclosing casing, and its shaft, having secured thereto, near its lower end the ratchet wheel engaged by the pawl pivoted to the shaft supporting bracket, the shaft being adapted to receive a crank at its lower end, the suspending rope or cable secured to the hollow cap, and the jaws having the pivotal and sliding connection with their support, substantially as shown and described.

No. 35,359. Fire Extinguishing Compound. (*Composé pour extincteurs d'incendie.*)

The Muskegon Chemical Fire Engine Co., assignee of Randall Tompkins Van Valkenburg, all of Muskegon, Michigan, U.S.A., 5th November, 1890; 5 years.

Claim.—1st. The improved method, herein described, for generating gas in fire extinguishers, the same consisting in generating sulphurous oxide by mixing hydric sulphate with a solution of sulphite of soda or other sulphite previously contained in a separate bottle, and throwing the mixture into a solution of a carbonate contained in the main vessel of the extinguisher, substantially as described.

No. 35,360. Banner Frame. (*Brancard pour bannières.*)

Albert Gauthier, Montreal, Quebec, Canada, 5th November, 1890; 5 years.

Résumé.—Un brancard pour porter les bannières consolidé par l'ensemble des pièces metalliques *e*, et *f* les tiges *d*, et leurs crochets *s*, les clefs écrous D et les tubes C. avec les vis *o*, le tout pour servir à porter les bannières d'après la manière précédemment décrite.

No. 35,361. Disinfectant and Moth Preventive. (*Désinfectant et préventif pour les mites.*)

William Foreman Simes, Philadelphia, Pennsylvania, U.S.A., 5th November, 1890; 5 years.

Claim.—A disinfectant and moth preventive, composed of naphthaline, oil of camphor and caustic soda in the proportions, substantially as set forth.

No. 35,362. Grass Receptacle for Lawn Mowers. (*Réceptacle d'herbe pour faucheuses à bras.*)

Carl Buchmuller, Pasadena, California, U.S.A., 5th November, 1890; 5 years.

Claim.—1st. The combination, with the lawn mower, of two laterally-swinging trough-shaped baskets, open at the front end, attached to and hung beneath the handle of the mower, each with one side horizontal, and fitted edge to edge with the horizontal side of the other basket to form the bottom of the grass receiver, and means for operating the baskets to secure them in and release them from their closed position. 2nd. The combination of the lawn mower, the two laterally-swinging trough-shaped baskets open at the front end, attached to and hung beneath the handle of the mower, the latch bar provided with the shoulder, the staple, the spring, and the two cords connected with their respective baskets, and with the latch-bar. 3rd. The combination of the lawn mower, the transverse support rod fastened to the under side of the handle, the two trough-shaped baskets, open at their front ends and hinged to the support rod, and handle brace and means for operating the baskets and to secure them in and release them from their closed position.

No. 35,363. Lubricator. (*Graisseur.*)

James Powill, Cincinnati, Ohio, U.S.A., 5th November, 1890; 5 years.

Claim.—1st. The combination, in a lubricator, of a self-closing valve-carrier, a valve proper flexibly coupled to said carrier, and a reservoir having a seat for said valve to close against, which seat has a discharge passage, substantially as herein described. 2nd. The combination, in a lubricator, of the self-closing chambered valve carrier H, *h*, cap I, *i*, attached thereto, plug J, valve *j*, collar K, spring *k* and shank k^1, as herein described. 3rd. The combination, in a lubricator, of a reservoir having a screw-threaded neck *a*, seat n^1, passage *o*, tension-nut F, *f*, jam-nut f^1, stem G, spring *g*, valve carrier H and lever L, said carrier having a valve flexibly coupled to it, for the purpose described. 4th. A lubricator, provided with one or more laterally-adjustable side pipes having independent discharge nozzles, for the purpose described. 5th. A lubricator, provided with a central discharge nozzle and one or more laterally adjustable side pipes, having independent discharge nozzles, for the purpose described. 6th. A lubricator, provided with a central discharge nozzle, and one or more laterally-adjustable side pipes, having independent discharge nozzles housed within vertically-adjustable sight chambers, for the purpose described. 7th. The combination, in a lubricator, of laterally-adjustable side pipes S^1, valve chamber T^1, discharge nozzle t^1, sight chamber P and screw-threaded nipple U, for the purpose described. 8th. The combination, in a lubricator, of sight chamber P, having flanges *q*, q^1, glasses Q, Q^1, clips R, *r*, R^1, r^1 and screws r^1, for the purpose described. 9th. A lubricator, provided with channels leading to the gage-tube sockets, and a pair of simultaneously-acting turning plugs for closing said channels, substantially as herein described. 10th. The combination, in a lubricator, of a reservoir having socket channels *b*, b^1, turning plugs D, D^1, mortise d^{11}, tenon d^{111} and stem d^{1111}, which stem projects from the lower plug D^1, as herein described.

No. 35,364. Car Coupling. (*Attelage de chars.*)

William J. Ponto, Hillsboro, North Dakota, U.S.A., 7th November, 1890; 5 years.

Claim.—1st. The draw-head B, having slots *b* and b^1, the bolt C and plate *c* connected to it, and the spring F behind the bolt, whereby the pin is held up by means mostly outside the mouth of the draw-head. 2nd. The combination, with the draw-head, having its upper pin hole provided with lateral opposite extensions, of the sliding plate *c* to uphold the pin, the pin having lateral opposite fins to fit in said extensions, and the coupling link which, when in the draw-head, is horizontally held by the said pins, which bear on its opposite side bars, substantially as specified. 3rd. In a car coupler, a coupling pin lifting rod G, jointed just above the pin, substantially in the manner and for the purposes set forth. 4th. In a car coupler, the pin-lifting rod, made in two parts G and G^1, jointed or hinged together, as described, and having, combined with the said joint or hinge, the spring-actuated piece I, as and for the purposes set forth. 5th. The combination of the jointed lifting rod G, with the coupling pin D, in the manner and for the purposes set forth, whereby, in coupling, the lower end of the rod will have some motion, and thereby tend to prevent breakage of pin or rod. 6th. The combination, with the draw-head, having the slots *b*, b^1, and provided with an upper pin-hole, having opposite lateral extensions, the bolt C, the spring F in rear of said bolt, and the sliding plate *c*, attached to the bolt of the coupling link, and the pin D, having opposite lateral fins *d*, substantially as specified. 7th. In a railroad car coupler, the combination of the rod G and coupling pin D, with the catch H on top of the car, and engaging said rod, whereby the coupling pin can be positively held up, when desired.

No. 35,365. Seed Planter. (*Semoir.*)

Jonas S. Greenleaf, Fargo, North Dakota, U.S.A., 7th November, 1890; 5 years.

Claim.—1st. In a seed planter, the plow J, attached to the underside of the hopper and adjusted by thumb screw K, the scraper L, pivoted on the side of the seed hopper, so as to have a limited movement, and kept in contact with the pin M, by spring N, in combination with the seed hopper, having an adjustable orifice for discharging the seed, and a spur wheel, the axle of which passes through the hopper and operates the agitator therein, all substantially as described.

No. 35,366. Telescope. (*Télescope.*)

William Nelson Riddle, Crowley, Texas, U. S. A., 7th November, 1890; 5 years.

Claim.—1st. In a telescope, the combination, with the main section, having the object lens at its end, of the second object lens located in the rear reduced end of said section of smaller diameter than the first lens and adjustable back and forth in the main section, substantially as and for the purposes set forth. 2nd. In a telescope, the combination, with the main section and its lens, of the second section adjustable within the first section and provided with the two lens at its inner end next to the main section, and a third lens adjustable within the section towards the other end, substantially as and for the purposes set forth. 3rd. In a telescope, the combination, with the main section and the second section adjustable therein, of the third section sliding in the second section, and provided with three lenses, one being at its inner end and two at the outer end, substantially as and for the purposes set forth. 4th. In a telescope, the combination, with the main section of the adjustable tube containing a series of partitions formed with apertures for regulating the light, as set forth, substantially as described. 5th. In a telescope, the combination, with the main section, of the adjustable tube, having a series of apertured partitions and provided with a double bell-mouthed tube, located in said tube, substantially as and for the purposes set forth. 6th. In a telescope, the combination, with the main section, of the adjustable tube having a series of apertured partitions, and the double bell-mouthed tube reversible within said partitioned tube, and having one end longer than the other, substantially as and for the purposes set forth. 7th. In a telescope, the combination, with the sections thereof, of a double bell-mouthed tube contained within the sections and having one end longer than the other, substantially as and for the purposes set forth. 8th. In a telescope, the combination, with the main section carrying the object lens, of a funnel fitted over the end of said section and having different colors painted in circular lines round its interior, as described for the purposes set forth.

No. 35,367. Apparatus to Facilitate taking Pills. (*Appareil pour faciliter le moyen de prendre des pilules.*)

Joseph Yates, Pimlico, London, England, 7th November, 1890; 5 years.

Claim.—An appliance, formed with an upper bottom, arranged to be fitted to a glass, near its inside edge, so that the pill may be washed forward on drinking water out the glass, as represented in the accompanying drawings.

No. 35,368. Picture Hook. (*Crochet d'image.*)

Joseph M. Segur, Adrian, Michigan, U.S.A., 7th November, 1890; 5 years.

Claim.—A picture hook, provided with a projection or stem adapted to engage the end of a rod or stick for lifting it to and engaging it with a picture rail or molding, substantially as described.

No. 35,369. Furnace. (*Calorifère.*)

Russell Harvey Nogar, Dundee, Michigan, U.S.A., 7th November, 1890; 5 years.

Claim.—1st. In a rotating furnace, a tubular combustion chamber, inclined or tapered, and means for rotating said furnace, substantially as described. 2nd. In a furnace, a tubular combustion chamber, inclined or tapered, supported upon rollers, of means for imparting a rotary motion to said furnace, of a front, having suitable feet or draft openings and connecting at the rear with the setting of the steam generator, substantially as described. 3rd. A tubular furnace, having means, such as the mechanism described, for rotating the same, and consisting of an outer shell of metal, an inner lining of fire-proof material, such as fire brick, and of ribs or lugs, such as I, substantially as described. 4th. A tubular furnace, having means, such as the mechanism described, for rotating the same, of a bath pan, containing a cooling fluid, into which the lower edge of the furnace dips, substantially as described. 5th. In combination, with a steam generator, a rotating tubular furnace arranged in front thereof, and inclined or tapered to give the fuel a progressive motion, an ash pit at the end of said furnace, a feed hopper mechanism, substantially as described, for shaking said hopper at intervals, a draft door, having a lip extending to the underside of the furnace, and a shoulder engaging into a recess in the boiler setting, the parts being arranged to operate as and for the purpose described.

No. 35,370. Nut Lock. (*Arrête-écrou.*)

Thomas D. Jones, Syracuse, New York, U.S.A., 7th November, 1890; 5 years.

Claim.—1st. A nut lock consisting of a perforated washer having a lip bent outward and upward in a bracing position, and resting at its bend upon the flange of a rail while the edge of the lip engages the side of a nut, substantially as shown and described, whereby a brace may be rigidly fixed between the side of a nut and a flange opposite to it, as set forth. 2nd. The combination of a rail, a fish-plate at its side, a screw-bolt through the rail and fish-plate, a nut screw-threaded upon the bolt, a flange projecting at the side of the rail nearly parallel with the bolt, and a nut lock consisting of a perforated washer placed around the bolt beneath the nut, and having a lip bent outward and upward, and forced in a bracing position between the said flange and nut, the curve of the bend resting upon the flange and the edge of the lip resting on a side or sides of the nut substantially as shown and described. 3rd. The combination of a body having a flange projecting from its face, a bolt also projecting from the said face nearly parallel with the flange, a nut screw-threaded upon the bolt, and a nut lock consisting of a perforated washer placed around the bolt beneath the nut, and having a lip bent into a bracing position, and standing rigidly fixed between the flange and the nut, substantially as shown and described.

No. 35,371. Door Lock. (*Serrure de porte.*)

Thomas Jefferson Young, North Plainfield, New Jersey, U.S.A., 7th November, 1890; 5 years.

Claim.—1st. The combination with the spindle hub latch and case adapted to be inserted in the edge of the door, of the door plates, a lock case connected with one of the door plates and having a lateral opening in the lock case for the reception of the latch case, the knob spindle passing through the door plates, locking case, latch case, and hub, and a bolt within the lock case and adapted to retain the latch when projected, substantially as set forth. 2nd. The lock plate F, lock case G and cap plate G^1, in combination with the vertically moving bolt H having a stop plate 10, the tumbler I, hung on a pivot, the said tumbler being provided with a lug engaging a lug or projection on the lock bolt retaining the said bolt when projected, the said tumbler having a tail piece or lever which is engaged by the key and a spring operating said tumbler, substantially as set forth. 3rd. The latch case A, A^1, and latch B, adapted to be inserted in the edge of the door, and having the flanges or claws 2 on the latch that projects through the latch case, in combination with the lock case adapted to be inserted into the face of the door, and having a bolt and stop plate passing behind the flange or claw of the latch when the bolt is projected and the spindle hub and spindle, substantially as set forth. 4th. The combination, with the lock case G, G^1, and the door plate F to which the lock case is connected, of a vertical bolt H having a plate 10 sliding through an opening in the case, the pivot 12 threaded internally on which the tumbler swings, the tumbler I having a lug 14 and lever 15, a lug 13 on the said bolt H, and a spring 11 which operates on the said lug 13, and the latch case and latch to be inverted through the edge of the door, the spindle hub and knob spindle, substantially as set forth.

No. 35,372. Lever and Other Handles. (*Levier et autres manches.*)

William Blakely, Dene House, Bournemouth, Hants, England, 7th November, 1890; 5 years.

Claim.—1st. In a lever or other handle, the combination, with the handle and its tang, of elastic bushings received in the ends of the handle, so as to be interposed between the handle and its tang and isolate the handle from the tang, substantially as specified. 2nd. In a lever or other handle, the combination, with the handle and its tang, of elastic bushings of conical form received in conical recesses in the ends of the handle, so as to be interposed between the handle and its tang and isolate the one from the other, the said bushings being compressible by end pressure, substantially as specified. 3rd. In a lever or other handle, the combination, with the handle and its tang, of elastic bushings of fluted or ribbed conical form received in conical recesses in the ends of the handle, so as to be interposed between the handle and its tang and isolate the one from the other, the said bushings being compressible by end pressure, and of elastic washers interposed between the ends of the handle and the abutments on the tang by which the handle and bushings are held in place, substantially as specified.

No. 35,373. Mop Wringer.

(*Essoreuse de torchon.*)

Solomon Harry Schmuch, Cleveland, Ohio, U. S. A., 7th November, 1890; 5 years.

Claim.—1st. In a mop wringer, the combination, with side bars bearing a roller, of a tilting frame pivoted to the side bars, a yoke secured to said pivoted frame, and arms pivoted to the sides of the tilting frame and carrying a roller, substantially as set forth. 2nd. In a mop wringer, in combination, tilting frame and roller and side bars, substantially as indicated, the side bars having inwardly projecting guards, the tilting frame having a yoke with depending ends adapted to engage the guard to limit the down-ward movement of the tilting frame, substantially as set forth. 3rd. In a mop wringer in combination, side bars, tilting frame and rollers, substantially as indicated, such side bars having split ends, the upper sections whereof are adapted to rest on the pail, the lower section thereof being adapted to be bent to fit different sized pails, substantially as set forth. 4th. In a mop wringer, in combination, side bars and tilting frame pivotally attached to the side bars, a stationary roller mounted on the side bars, the tilting frame being provided with roller-arms bearing a movable roller, such roller-arms and tilting frame constituting a toggle, substantially as set forth. 5th. In a mop wringer, in combination, side bars bearing a roller, a tilting frame pivoted to the side bars and arms pivoted to the tilting frame, such arms bearing a roller, the tilting frame having a yoke with depending ends provided with feet, adapted to engage and thereby limit the depression of the roller arms relative to the swinging frame, substantially as set forth.

No. 35,374. Casket Handle.

(*Poignée de cercueil.*)

James Robert Fletcher, New Haven, Connecticut, U. S. A., 7th November, 1890: 5 years.

Claim.—The herein described casket handle consisting of the handle plate A, the handle B each having hinged knuckles or lugs with the pintle secured to one part, while the companion part is slotted, and the fastening pin 8 inserted through the slot by the side of the pintle for securing the parts together, substantially as described and for the purpose specified.

No. 35,375. Road Cart. (*Désobligeante.*)

John Coefield, Franklin, Pennsylvania, U.S.A., 7th November, 1890; 5 years.

Claim.—The combination, in a two wheeled vehicle, of the axle elliptic springs thereon flat longitudinal springs C, C, and front support connected with the under part of shafts by the spiral springs E, E, whereby the horse motion is taken up at the front and rear of the body by separate springs, as shown and described.

No. 35,376. Round-a-Bout. (*Tourniquet.*)

Frank Hall, Philadelphia, Pennsylvania, U. S. A., 7th November, 1890; 5 years.

Claim.—1st. The combination of a pivotally supported cap, a ring or hoop-shaped platform, and stays attached to said cap and platform, substantially as and for the purposes set forth. 2nd. The combination of a pole, a cap, a platform encircling said pole, and guys or stays attached to said cap and platform, substantially as and for the purposes set forth. 3rd. The combination of a pole or standard, a cap supported thereon, a platform encircling said pole or standard, and guys connected with said cap and platform, substantially as and for the purposes set forth. 4th. The combination of a pivotally supported cap, a platform and stays attached to said cap and platform, substantially as and for the purposes set forth. 5th. The combination, with a pivotally supported platform of foot rests connected therewith, substantially as and for the purposes set forth. 6th. The combination of a pole or standard, a cap, a platform encircling said pole or standard, guys or stays attached to said cap and platform, and a ball bearing interposed between said cap and pole or standard, substantially as and for the purposes set forth. 7th. A round-about provided with legs pivotally united at their upper extremities, and having a platform depending therefrom and attached thereto by a universal connection, substantially as and for the purposes set forth. 8th. A round-about provided with a central post having a pin at its upper extremity, a cap mounted thereon a platform and guys or stays attached to said cap and platform, substantially as and for the purposes set forth. 9th. The combination in a round-about provided with legs pivotally attached at their upper extremities of a platform depending therefrom and means for separating and collecting or assembling said legs substantially as and for the purposes set forth. 10th. The combination with legs pivotally attached to a disc, of a platform pivotally attached to said disc by guys or stays and means for collecting or assembling and separating said legs, substantially as and for the purposes set forth. 11th. The combination of a disc, a platform suitably suspended beneath said disc, legs pivotally attached to said disc, a windlass cords or ropes attached to said legs and adapted to be wound on and off said windlass substantially as and for the purposes set forth. 12th. The combination of a pole provided with a socket, a ball mounted therein, a cap fitted onto said ball, a platform guys or stays attached to said cap and platform legs attached to said pole and means for collecting or assembling and separating said legs substantially as and for the purposes set forth. 13th. The combination of a platform, legs pivotally supported at their upper extremities, cars attached to the lower extremities of said legs, and means for collecting or assembling and separating said legs, substantially as and for the purposes set forth. 14th. The combination of a platform, legs pivotally attached and supported at their upper extremities, cars attached to said legs, radially disposed rails and means for assembling or collecting and permitting of the separation of said legs, substantially as and for the purposes set forth. 15th. The combination in a round-about of legs pivotally supported by a post, and means for separating and collecting or assembling the same, substantially as and for the purposes set forth. 16th. The combination of legs pivotally attached to a post a cap mounted on said post, a ring shaped platform encircling said legs and attached to said cap, and means for separating and assembling said legs, substantially as and for the purposes set forth. 17th. The combination of a pole provided with a ball, a disc on said pole, legs attached to said disc, a cap on said ball, a ring shaped platform encircling said legs and attached to said cap, and means for assembling or collecting and separating said legs, substantially as and for the purposes set forth. 18th. The combination of a pole provided with a ball, a collar on said pole, legs pivotally attached to said disc, a cap on said ball, a ring shaped platform encircling said legs and attached to said cap, trucks attached to said legs, tracks and means for separating and assembling or collecting said legs and trucks, substantially as and for the purposes set forth.

No. 35,377. Cash and Parcel Carrier.

(*Système de transport pour la monnaie et les paquets.*)

Ephriam Harry Plummer, Boston, Massachusetts, U. S. A., 7th November, 1890; 5 years.

Claim.—1st. The combination, with a cash or parcel carrier provided with spring actuated propelling gearing, of automatic reversing mechanism connected with said gearing, to change the direction of movement of the propelling mechanism as the carrier reaches the end of the line, substantially as described. 2nd. The combination, with a cash or parcel carrier, of spring actuated gearing located thereon, adapted to propel the same, reversing mechanism connected therewith, and a stop connected to the track adapted to be stuck by the carrier, to automatically operate the reversing mechanism as the car approaches either end of the track, substantially as described. 3rd. The combination, with a cash or parcel carrier, of a spring actuated drum located thereon, gearing connecting said drum with the track wheels, a lever engaged with said gearing, and stops on the track adapted to operate said lever to change the direction of movement of the gearing, substantially as described. 4th. In a parcel carrier car, the combination, with the bed plate, of spring actuated mechanism, substantially as described, for propelling the same, and reversing mechanism consisting of the clutch sleeve I, lever N bent as shown, lever O adapted to strike a projection on the line, and spring N^1 for assisting the movement of the lever N, substantially as described. 5th. In the herein described spring actuated car, the reversing mechanism consisting of the clutch sleeve I, and lever N, for shifting the same, lever O, adapted to strike a projection on the line and move the lever N, and spring P for imparting a quick motion to the lever O, substantially as described. 6th. In the herein described spring actuated car the reversing mechanism consisting of the clutch sleeve I, lever N, lever O, spring N^1, and spring P, substantially as described. 7th. In a cash or parcel carrier apparatus, the combination, with the line wire and a car adapted to travel thereon, of the depending guard arm S, descending from the bed plate of the car on one side of the wire, the swiveled strip R, serving as a guard on the other side, and the car wheels, one of which is fixed while the other is journaled in said strip R, substantially as described.

No. 35,378. Non-Conducting Coverings for Pipes, etc. (*Couverture non-conducteur pour tubes de chaudières et autres.*)

Hiram Montgomery Hanmore, Santa Cruz, California, U.S.A., 7th November, 1890; 5 years.

Claim.—A covering for pipes, boilers and similar articles, consisting of fossil meal, carbonate of magnesia and fibre, substantially as specified.

No. 35,379. Draw Bar for Cars.

(*Barre d'attelage pour chars.*)

George W. McGuire, Cleveland, Ohio, U.S.A., 7th November, 1890; 15 years.

Claim.—1st. In a draw-bar, the combination, with fixed buffer blocks, of spring followers movable therein, a draft and buffer spring interposed between the followers within the fixed buffer blocks, and a draw bar strap which encloses the fixed buffers, followers and spring, substantially as and for the purposes specified. 2nd. In a draw-bar, the combination, with a fixed casing, having buffer blocks at its ends, of spring followers movable in the buffer blocks of the casing, a draft spring interposed between the spring followers and within the casing, and a draw-bar strap which encloses the casing, followers and spring, substantially as and for the purposes specified. 3rd. In a draw-bar, the combination, with fixed buffer blocks, of spring followers movable therein, said followers provided on their inner heads with spring guards or guides, a buffer and draft spring interposed between the followers and within the fixed buffer blocks, and a draw-bar strap which encircles the fixed buffer blocks, followers and spring, substantially as and for the purposes specified.

No. 35,380. Set Gear for Saw Clamps.

(*Jauge de table de scierie.*)

John William Douglas Aitken, Londonderry Station, Nova Scotia, Canada, 7th November, 1890: 5 years.

Claim.—1st. The index wheel *g*, and manner of dividing the same, in combination with the palls *h* and *i*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the index wheel *g*, the palls *h*, *i*, the shaft *e*, the spur pinions *n*, *n*, and the racks *m*, *m*, with the fence *c*, substantially as and for the purpose hereinbefore set forth.

No. 35,381. Pipe Coupling. *(Joint de tuyaux.)*

Felix Louis Decarie and Peter Lord, both of Montreal, Quebec, Canada, 7th November, 1890; 5 years.

Claim.—The combination, in a pipe coupling, of the sleeve *a*, having arm *g*, and set-screw *i*, also having head *b*, provided with circular flange *d*, with sleeve a^1, having head b^1, provided with groove d^1, and packing e^1, adapted to receive the flange *d* and form a joint therewith by being pressed together by the set screw *i*, the whole substantially as described.

No. 35,382. Tap. *(Taraud.)*

James Dixon, Providence, Rhode Island, assignee of Horace Clark Bradford, Milwaukee, Wisconsin, both in U.S.A., 8th November, 1890; 5 years.

Claim.—In an adjustable tap, the combination of the collet A, provided with tap-retaining grooves C, cutting taps B located in their respective grooves C, inclosing band F surrounding said taps, tap-retaining gibs or clamping-pieces G, provided with outward projecting flanges D and adjusting screws J, operating in said inclosing band F, and engaging at their inner ends against said tap retaining clamps or gibs G, said gibs G being interposed between said enclosing band F, and the several cutting taps B, the threads of said clamps G being adapted to engage in the threads I of the cutting taps, while the outward projecting flanges D, D of said clamps engage upon the respective sides of said retaining band F, substantially as and for the purpose specified.

No. 35,383. Pipe Die. *(Filière pour tuyaux.)*

James Dixon, Providence, Rhode Island, assignee of Horace Clark Bradford, Milwaukee, Wisconsin, both in U.S.A., 8th November, 1890; 5 years.

Claim.—1st. In an adjustable pipe-die, the combination of a collet A, provided with a longitudinal central socket, and a series of longitudinal grooves H, formed in its interior walls, radial clamping bolts I, provided with retaining slots for the reception of the cutting-chasers F, cutting-chasers F, retaining clamps or gibs K located in the slots of said bolts I, and having screw-threaded bearing surfaces for the reception of the screw-threaded surfaces of the cutting chasers, and nuts L, turning on the bolts I, substantially as and for the purpose specified. 2nd. In an adjustable pipe die, the combination of a collet A, provided with a longitudinal central socket, a series of screw-threaded apertures *a*, for the reception of the reamers E and the reamer-adjusting screws G, and a series of longitudinal grooves H, for the reception of the cutting-chasers F, cutting-chasers F, reamers E, and reamer-adjusting screws G, radial clamping bolts I, provided with retaining slots for the reception of the cutting-chasers F, cutting-chasers F retaining clamps or gibs K, located in the slots of said bolts I, and having screw-threaded bearing surfaces for the reception of the screw-threaded surfaces of the cutting-chasers, and nuts L, turning on bolts I, all substantially as and for the purpose specified.

No. 35,384. Saw Set. *(Fer à contourner.)*

James Johnstone and William Johnstone, both of New York, State of New York, U.S A., 8th November, 1890; 5 years.

Claim.—1st. A saw-set, comprising two main frames pivoted to two levers and operating in opposite directions, in combination with two oppositely-arranged anvils and two punches, one punch being carried by the upper frame and the other by one of the levers, substantially as shown and described. 2nd. In a saw-set, a main frame having a bridge piece on which is mounted an anvil, in combination with a sliding anvil block, an anvil mounted thereon, a set-screw for moving the anvil block, two opposite set fingers, and means for reciprocating said fingers, substantially as described. 3rd. In a saw-set, the lever A, provided with the downwardly projecting cheek piece *a*, and the lever B, formed with the upwardly-projecting arm *b*, in combination with the main frame C, pivoted to the said cheek pieces and provided with the anvils D^1 and G, the auxiliary frame H pivoted to the lever A, the set finger E pivoted to the arm *b*, and the set finger F, held in the frame H, substantially as described. 4th. In a saw-set, the lever A, formed with the cheek pieces *a*, *a*, and the lever B, formed with the arm *b*, combined with the set-finger E, pivoted to the said arm *b*, and the main and auxiliary frames C and H pivoted to the said cheek pieces, substantially as described. 5th. In a saw-set, the combination of the main frame C, slotted at *d*, and having the bridge-piece c^1, provided with the anvil G, the movable anvil block D and the reversible anvils D^1 and G, substantially as described. 6th. In a saw-set, the main frame C, formed with the slot *d*, bridge pieces c^1, c^2, and ways d^1, in combination with the anvil block D, held in the ways d^1, the anvil G, held on the bridge piece c^1, the anvils D^1 and G, the set-finger E attached to an arm of the lever B, the auxiliary frame H attached to the lever A and the set-finger F, adjustably attached to the auxiliary frame, substantially as described. 7th. In a saw-set, the auxiliary frame H, provided with the transverse worm H^1 and rod I, in combination with the set-finger F, substantially as described. 8th. In a saw-set, the auxiliary frame H, provided with the transverse worm H^1 and rod I, in combination with the set finger F, the anvil G and the levers connected to reciprocate the auxiliary frame, substantially as described.

No. 35,385. Car Replacer.

(Appareil à remettre les chars sur la voie.)

James McGary and Frederick C. Thompson, both of East Tawas, Michigan, U.S.A., 8th November, 1890; 5 years.

Claim.—The combination, for application to the rails of a railroad track, of the detachable clips D, of hook shape at their one end or side to engage with the track rails, and having an elongated open space *b* below, opposite their hooked ends, the clip locking cams or eccentrics S, and the inclined replacing rails or bars C, pivoted at their upper ends to the clips for lateral and angular adjustment, substantially as shown and described.

No. 35,386. Heating Drum. *(Poêle sourd.)*

The Brock Heating Device Co., assignees of Arthur Wellington Brock, all of Shepherd, Michigan, U.S.A., 8th November, 1890; 5 years.

Claim.—1st. In a heating drum, the combination of the inlet pipe A, the pipe B, provided with the reversible damper I, the chamber C, provided with the inclined bottom, the removable cap, the flues E and F and chamber D, the parts being arranged to operate substantially as described. 2nd. In a heating drum, the combination of the inlet pipe A, the flue B, provided with the reversible spring controlled damper, the chamber C, provided with the inclined bottom and the removable cap, and with the partition G, of the flues E and F and chamber D, and of the circulating flue K, the parts being arranged to operate substantially as described. 3rd. In a heating drum, the combination, with the inlet pipe, of the vertical flue B, provided with the damper having the abutment *a* and the spring *b*, arranged to hold it in either one of its adjusted positions, substantially as and for the purpose described.

No. 35,387. Wire Stretcher.

(Tendeur de fil de fer.)

Charles M. Kiler and George W. Kiler, both of Indianapolis, Indiana, U.S.A., 8th November, 1890; 5 years.

Claim.—1st. A wire stretcher, comprising a casing, a sprocket-wheel having bearings in said casing, a pinion fixed to revolve with the sprocket-wheel, a sprocket-chain engaging the sprocket-wheel, and having a clamp to engage the wire to be tightened, a worm journalled in the casing and meshing with the pinion, and adapted to revolve the pinion and connected sprocket-wheel, and a hook device pivotally engaging the casing, and fence post to hold the stretcher while the wire is being drawn taut, substantially as shown and described. 2nd. In a fence wire stretcher, the two-part metallic casing A, having a hook pivotally secured to one end of the sprocket-wheel D, and pinion C, both secured to the same shaft and journalled in the casing, as shown, the worm B journalled in the casing with its axis at right angles to the axis of the pinion C, and having an angular-shaped end projected beyond the casing to be engaged by a crank or wrench, said worm meshing with the pinion and revolving it and the sprocket-wheel, and a sprocket-chain with a clamp at its end to engage the fence wire, all substantially as shown and described.

No. 35,388. Wire Fence.

(Clôture en fil de fer.)

Charles M. Kiler and George W. Kiler, both of Indianapolis, Indiana, U.S.A., 8th November, 1890; 5 years.

Claim.—1st. A wire and metal rail fence, comprising metal corner or end posts, with wire fasteners secured thereto, metal intermediate posts, having transverse holes therethrough, a tubular rail loosely extended through the holes in said posts, and connected at their ends with the corner or end posts, and wires secured to the end or corner posts and extended loosely through holes in the intermediate posts in a line with the tubular rail, substantially as described. 2nd. In a fence, the combination of the tubular corner or end posts, the tubular intermediate posts, the tubular rail, and the wires all secured together in such manner that they will be vertically central with relation to each other, substantially as described. 3rd In a fence, the combination of the tubular end posts A^1, the tubular intermediate posts A, having transverse holes therethrough, the tubular rail C extended through said holes and the wires D secured to the end posts and loosely extended through the intermediate posts with their centres vertically aligned with the rail C and posts, substantially as and for the purposes described. 4th. In a wire and tubular rail fence, the tubular posts, in combination with the caps B, having transverse holes b^3 therethrough, and the tubular rail C extended through said hole, substantially as described. 5th. The combination, with the tubular posts A of a fence, of the caps B having the reduced ends to enter the posts, and having transverse holes therethrough, and the tubular rail C extended through said holes and secured to the corner posts at its ends, substantially as described. 6th. In a wire and tubular rail fence, the tubular posts A, the caps B secured thereto and having sockets formed therein, the tubular rail C entering said sockets, and the wires D secured to the posts in such manner as to be vertically aligned with relation to the rail C and post, as set forth. 7th. A wire and tubular rail fence, comprising the tubular end posts A^1, having sockets formed thereon or secured thereto, the intermediate posts A, having transverse holes therethrough, the tubular rail C extending through said holes and resting at its ends in the sockets of the end posts, and the wires secured to the end posts and loosely extended through holes in the intermediate posts, in a vertical line with relation to the rail, substantially as described and shown. 8th. A wire and tubular rail fence, comprising posts, having holes formed through them, tubular rails either extended entirely through said holes or joined or abutted at the axial centre of said posts, so that said junction is invisible, and wires connecting said posts, substantially as described. 9th. The combination with the post, having a small hole near its upper end, of the cap B, the lower end of which has a hole to register therewith, and a pin or rivet extended into said holes to secure the two together. 10th. In combination, the tubular post having a transverse hole near its upper end, and a cap, the lower end of which is extended into the tubular post, and has air elongated transverse holes to register at slightly varying positions with the hole in the post, and a pin or rivet extended through said holes to secure said posts together.

No. 35,389. Hulling Peas. (*Battage des pois*)

Charles P. Chisholm and John A. Chisholm, both of Oakville, Ontario, Canada, 8th November, 1890; 5 years.

Claim.—1st. The improvement in the art of hulling green peas, which consists in removing the same from the pods by impact, substantially as described. 2nd. The improvement in the art of hulling green peas, which consists in carrying the filled pods to an elevated position and impacting the filled pods while falling so as to sever the connection of the two half-shells of the pods, and of the peas with the pods at one operation, substantially as described. 3rd. The process of hulling peas direct from the vine, which consists in subjecting the pea-vines with the green peas attached thereto, to the action of impact openers, whereby the connections of the peas with the pod and of the half-shells of the pod are severed at one operation. 4th. In the above described process for hulling peas direct from the vine, a machine consisting of a revolving cylinder covered with perforated rubber, or leather, a revoluble hulling drum arranged within the cylinder and longitudinal obliquely arranged impact openers upon the drum.

No. 35,390. Artificial Fuel.

(*Combustible artificiel.*)

William Bainbridge McClure, Hamline, Minnesota, Thomas Hodgson, Joseph Eugene McWilliams, John Williamson White and Edward Corning, all of St. Paul, Minnesota, U.S.A., 8th November, 1890; 15 years.

Claim.—1st. The within described composition of matter to be used as an artificial fuel, consisting of pulverized culm or coal dust, sand pulverized, burned or calcined lime dust, and melted naturally solid asphaltum having mixed with it naturally liquid asphaltum or its equivalent, substantially as specified. 2nd. The within described process of making artificial fuel, composed of coal dust, sand, pulverized calcined lime dust and asphaltums, which consists in first finely pulverizing the coal, then mixing with it, free from moisture, the sand and lime dust, then mixing the whole mass, subject to heat, with the asphaltum in a fluid state, then pressing the entire mass into blocks, and subsequently subjecting said blocks to a bath of cold water, as set forth. 3rd. In the process herein described, of making artificial fuel, pressed and molded into blocks and composed in part of a mixture of coal dust and asphaltum, setting and cooling said blocks by subjecting them, after they have been pressed, to a bath of cold water, as and for the purposes set forth.

No. 35,391. System of Transporting Goods by Electricity. (*Systeme pour transporter les marchandises par l'electricité.*)

David Gustavus Weems, Baltimore, Maryland, U.S.A., 10th November, 1890; 5 years.

Claim.—1st. In an electric railway system, the main rails, the upper electric rail, and a train of cars, the front and rear ends of which are pointed so that the apices will be below the longitudinal centre, of the car and brake mechanisms carried by the train and actuated by the turning on and cutting off of the main current, substantially as described. 2nd. In an electric railway system, a car or locomotive having an electric motor, the upper electric rail, and the lower bearing rails forming with said car, an electric circuit, and an automatic brake mechanism carried by the train, and comprising an electro-magnet energized by the main current brake rods, carrying shoes and sliding rods having armatures which are attracted when the main current is turned on and springs for applying the brakes when said current is cut off, substantially as specified. 3rd. In an electric railway system, the locomotive and cars, with their main bearing wheels and upper smooth surface guide wheels, and the arched sections of the frame having the rails secured therein, said rails having a square configuration in cross-section, and the upper rail having a tread narrower than the periphery or tread of the guide wheels, whereby said wheels may move laterally on the upper rail, substantially as herein described. 4th. An electric railway system, comprising main and upper guide rails, traveling cars provided with guide wheels engaging the latter rail, an electric connection between one of said wheels and rails, and the motor on the car brake mechanisms on said cars, actuated by the turning on and off of the main current, and a frame work having the arched sections in which the rails are laid, substantially as set forth. 5th. An electric railway system, comprising the stationary dynamos, the traveling locomotive and cars, an upper electrically changed rail, and lower bearing rails brake mechanisms on the train, actuated by the turning on and off of the current, and a means for reversing the motor on the train and driving said train in a reverse direction, substantially as set forth. 6th. In an electric railway system for mail and express packages, a series of cars having ends adapted to telescope with each other, and having the front end of the front car, and rear end of the rear car pointed, and means for reversing the motors on the car and propelling said train in reverse directions, substantially as herein described. 7th. In an electric railway system for transporting packages of mail and express, a locomotive having an electric motor and a series of cars connected therewith, said cars having ends adapted to enter or telescope with adjacent front cars, and a means operated by a secondary current to effect a reversal of the motor, whereby the train is moved in opposite directions, substantially as herein described. 8th. In an electric railway system, cars of approximately uniform diameter throughout, and provided with compressible wings, whereby the ends of the cars may enter or telescope with contiguous cars custions behind, the wings resisting their inward movement, contact plates having conductors leading from the electric rail to the brake mechanisms, and a locomotive and rear car having one end pointed, substantially as herein set forth. 9th. In an electric railway system, a train of cars and a means for effecting a reversal of the motors on the train, comprising a shifting magnet actuated by a secondary current to change its position, and thereby reverse the motors and subsequent travel of the train, substantially as specified. 10th. In an electric railway system, the main and upper electric guide rails, a locomotive, and train of attached cars, said locomotive having a motor a shifting electro-magnet and fixed armatures on the locomotive, and a secondary current connected with the magnet, and changing the position of the magnet from one armature to the other whereby the motor is reversed, substantially as and for the purpose described. 11th. In an electric railway system, a locomotive having a motor, the cars, the lower bearing rails and the upper rail to which the main current is turned off and on, a magnet carried in a housing or box on the locomotive fixed armatures in said box and connected with the main current, a secondary current for moving the magnet from one armature to the other when the main current is cut off, and a spring for returning the magnet when the secondary current is removed, substantially as herein described. 12th. In an electric railway system, the main and guide rails, a main current charging the guide rail and leading therefrom to the motor on the locomotive, a box or housing having fixed armatures and shifting magnet therein, said armature being connected with the main current, a secondary current, a removable plug in the circuit thereof for making and breaking the same, and connections from the secondary current to the magnet whereby the position of the latter is changed and the motor reversed when the main current is cut off and the secondary current established, substantially as herein described. 13th. In an electric railway system, the main and guide rails, the main and secondary currents, a locomotive having a motor and attached cars, a removable plug in the secondary circuit for making and breaking the same, fixed armatures, and a shifting magnet on the locomotive, and connected with the main and secondary currents respectively, whereby the motor is reversed when the main current is cut off, and brake mechanisms in the main current, and automatically actuated when the main current is turned on and off, substantially as and for the purpose described. 14th. In an electric railway system in which a train of cars is operated by a current from an electric rail, a series of contact points of varying resistance, and in the motor circuit, a switching lever adapted to engage therewith, a second lever connected with the first lever and a plural series of varying or adjustable stops on the line of road and in the path of the switching levers, whereby increased or reduced currents are automatically transmitted from the electric rail to the motor. 15th. In an electric railway system, the combination of a train of cars having brake mechanisms magnet on the cars for actuating the brake mechanism, the main rails or tracks on electrically charged rail, a series of adjustable stop switching levers actuated by said stops for transmitting the current from the electric rail to the train, whereby the speed of the latter is controlled and co nnections between the magnets and switching levers. 16th. The combination, with a train of cars, an electric motor connected therewith, the main rails and the electrically-charged guide rail, of a plural number of switching levers carried by the train, graduated contact points in the path of the levers for increasing or decreasing the speed of the train, and automatic brake mechanism on the train in electric connection with the guide rail, substantially as described. 17th. In an electric railway system in which a train of cars is propelled by the current from an electrically charged rail, suitable contact points of varying intensities on the train, in electric connection with the electric rail, a switching lever having a contact point adapted to move in the path of the varying contact points, whereby an increased current is transmitted to the train, a second switching lever connected with the first lever and adapted to reduce or entirely cut off the current from the train brake mechanism on the train connected with the varying contacts, and adjustable stops on the line of road for operating the levers, substantially as described. 18th. In an electric railway system in which a train of cars is operated by a current from an electric rail, a suitable motor on the locomotive, and a housing or frame having contact points N^1, O^1, P^1, with wires leading therefrom to the motor and to the brake mechanisms, a switching lever having a contact point adapted to move in the path of and to engage the contact point on the housing, a second lever connected with the first lever and suitable adjustable or varying stops on the line of road for tripping the levers, and automatically increasing or decreasing the speed of the train, substantially as described. 19th. In an electric railway system in which the train is propelled by a current from an electric rail, a mechanism for increasing and decreasing the speed of the train, comprising contact points N^1, O^1, P^1, and their connections between the electric rail and the motor on the train, a switching lever adapted to be moved into and out of contact with said points, a second lever connected with first lever and adjustable and varying stops on the line of road, and in the path of the levers, whereby when the switching lever is moved in one direction or from one contact point to another the speed of the train is increased, and when in the opposite direction the speed is decreased, substantially as herein described. 20th. In an electric railway system in which a train of cars is propelled by a current from an electric rail, said train having suitable brake mechanisms, of a mechanism for starting and stopping the train, and controlling its speed, comprising contact points of variable intensities, a switching lever having a contact point adapted to engage therewith, a second lever connected with the first lever moving with it but in an opposite direction, and stops on the line of road for tripping the levers, whereby the contact lever is moved from one point to another to vary the speed of the train, or may be moved out of engagement altogether with the varying contacts, whereby the current is cut off from the train. 21st. In an electric railway system for transporting mail, express packages, etc., the electric rail and bearing rails, the locomotive and means for conveying the current thereto, in predetermined quantities, consisting of a housing having graded contact points, the pivoted lever K, having a contact point adapted to engage therewith, a second lever, a connection between the two levers, whereby they move in unison, a guide sheave or pulley for connecting the wires leading from the graded contact points to the locomotive, and the stops on the line of road for tripping the levers, substantially as and for the purpose described. 22nd. In an electric railway system, the combination of bearing rails and upper guide rail, a locomotive having a motor in electric connection with said rail, and cars attached to the locomotive and adapted to contain mail, express packages, etc., trip levers and graded contacts on the locomotive or cars, and a series of

electrically charged stops on the line of road for tripping the levers and regulating the speed of the train, and an indicating apparatus at the stations, and connected with the stops, whereby the latter are operated, substantially as described. 23rd. In an electric railway system for transporting mail and packages, a locomotive and train of cars, the upper guide rail and the lower bearing rails in combination with an indicating apparatus at the stations, comprising drop plates and push buttons and connections between the indicating apparatus and suitable stops on the line of road, whereby the stops may be actuated from any of the stations, and the adjusted stop indicated at the remaining stations, substantially as described. 24th. In an electric railway system for transporting mail, express packages, etc., the upper and lower rails, the locomotive and train of cars, and means for conveying the current from the upper rail to the locomotive, in predetermined quantities, in combination with a series of electrically operated stops on the line of road, an indicating apparatus connected with each stop, a secondary current for effecting a preliminary movement of the stops, and connections between the upper electrically charged rail and the stops, whereby said stops are held in position by the main and secondary currents, substantially as herein described. 25th. In an electric railway system for transporting mail, express packages, etc., the upper and lower rails, the locomotive and train of cars, one or more generating plants between the terminals of the road, and adjustable stops electrically operated from said terminals and generating plant, whereby the speed of the train is regulated, substantially as described. 26th. In an electric railway system for transporting mail, express packages, etc., the combination with upper and lower rails and a locomotive having a motor and tripping levers, of a series of obstructions in the path of the levers, said obstructions comprising a suitable housing, an electro magnet and adjustable stop having an armature connected therewith, and a counterpoise for returning the stop to its normal position when the current is removed from the magnet, substantially as described. 27th. In an electric railway system, the main rails, the upper guide rail for conducting the main current arched sections of the frame in which said rails are secured, the rail secured to said section and conveying a secondary current, a locomotive having a motor and a housing with fixed magnets, a shifting magnet therein, a brush engaging the rail and conveying the secondary current to the magnet, and a removable plug for making and breaking the secondary circuit, whereby the motor is reversed when the main current is removed therefrom, substantially as herein described.

No. 35,392. Fence Post. (*Pieu de clôture.*)

John Lounsberry, Oswego, State of New York, U.S.A., 10th November, 1890; 5 years.

Claim.—The metal post A, constructed of two angular sides *b*, *c*, which form a V in cross-section throughout its length, and increasing in width in a direction toward its lower end, and having a tapering point which is also angular in cross-section, in combination with the anchor B, formed of two angular sides *d*, *e*, and having the angular loop *f* to conform to the angular sides of the post, and the inclined edges *h*, of an angle to conform to the edges *i* of the point of post, said anchor at its upper portion being of greater width than that of the post, substantially as and for the purpose set forth.

No. 35,393. Boot Jack. (*Tire-botte.*)

Rudolph Ernest Heth, Early, Iowa, U.S.A., 10th November, 1890; 5 years.

Claim.—The combined boot jack and scraper, herein shown and described, consisting of the base portion, comprising a horizontal portion formed with suitable holes, and a vertical portion terminating at its upper edge in a scraper, having thickened end portions, said vertical portion having near its lower edge an opening, with inclined walls, and inclined braces upon opposite ends of the opening, and joining the vertical and horizontal portions of the base portion, and the boot-jack, having jaws and passed through the said opening in the vertical portion, and having a bearing upon the upper and lower inclined walls thereof, and terminating in a portion secured to the horizontal portion of the base, and with shoulders which engage the rear wall of the vertical portion, substantially as and for the purpose specified.

No. 35,394. Attachment for Lamps and Lamp Wicks. (*Appareil pour lampes et mèches de lampes.*)

Alfred Ellis Harris, London, England, 10th November, 1890; 5 years.

Claim—1st. A lamp, the wick or wick-tube of which has a cap *b*, or tip of wire, wire-gauze or perforated metal, substantially as and for the purpose set forth. 2nd. A cap or tip, adapted to be applied to the wick *a*, or wick tube of a lamp, the said cap *b* or tip being made of wire, wire gauze or perforated metal, substantially as hereinbefore described. 3rd. A lamp wick *a*, one end of which has a cap *b*, or tip of wire, wire gauze or perforated metal, substantially as and for the purpose specified. 4th. A lamp wick *a*, composed of wire, wire-gauze or perforated metal, and pieces or strips of cotton sponge or other absorbent material for maintaining the interstices or perforations of the gauze or metal, full of oil, substantially as described.

No. 35,395. Process of Manufacturing Articles from Pulp. (*Procédé de fabrication d'objets de commerce de la pâte à papier.*)

David Hislop Ferguson, Montreal, Quebec, Canada, 10th November, 1890; 5 years.

Claim. 1st. The described process of manufacturing articles from pulp, consisting in, first, reducing the pulp to a fluid mass, secondly, mixing a binding material therewith, and forming the articles from the pulp so treated. 2nd. The described process of manufacturing articles from pulp, consisting in forming the article from a fluid pulp, and a binding material, heating the article to fuse the binding substance, and, finally, applying a finishing pressure, substantially as described. 3rd. In the process of manufacturing articles from pulp, first, introducing the binding substance into the fluid pulp, and incorporating it therewith before it is in any way otherwise treated, secondly, partly forming the mass by slight pressure, thirdly, toughening and fusing the binding substance by baking, and, finally, completing the artice by pressure, all as herein set forth. 4th. In the process of manufacturing articles from pulp, compressing such article, while hot, in a cold mould.

No. 35,396. Art of Producing Decorations on Wood by Pressure. (*Ornamentation sur bois par pression.*)

Anton Svejkovsky, Prague-Smichov, Bohemia, and Herman Studte, Charlottenburg, Prussia, 10th November, 1890; 5 years.

Claim.—The method for producing pictures, arabesques and other decorations or ornamentations on wood, characterized by cutting beams across or in the direction of their width into plates, and placing the plates thus obtained in a press containing two moulding plates, the lower moulding plate being provided with a matrix of the decoration to be produced, substantially as set forth.

No. 35,397. Explosive Compound.

(*Composition explosible.*)

Sergey Dark Smolianinoff, Washington, District of Columbia, U.S.A., 10th November, 1890; 5 years.

Claim.—1st. An explosive compound, consisting of a mixture of nitro-glycerine and an alcohol, substantially as described. 2nd. An explosive compound, consisting of a mixture of nitro-glycerine, and methyl alcohol, substantially as described. 3rd. The process of exploding a compound, composed of nitro-glycerine and an alcohol, by the detonation of a fulminate in or upon the same, substantially as described. 4th. The process of exploding a compound, composed of nitro-glycerine and methyl alcohol, by the detonation of a fulminate in or upon the same, substantially as described. 5th. The combination of nitro-glycerine, an alcohol, and a fulminate, substantially as and for the purposes described. 6th. The combination of nitro-glycerine, methyl alcohol, and a fulminate, substantially as and for the purposes described. 7th. An explosive compound, consisting of a mixture of nitro-glycerine, an alcohol and an absorbent, substantially as described. 8th. The process of exploding a compound, composed of nitro-glycerine, an alcohol and an absorbent by the detonation of a fulminate in or upon the same, substantially as described. 9th. The combination of nitro-glycerine, an alcohol, an absorbent, and a fulminate, substantially as and for the purposes described.

No. 35,398. Fire Hose Support.

(*Support pour boyaux d'incendie.*)

Cyrus Reed Robinson, Concord, New Hampshire, U.S.A., 10th November, 1890; 5 years.

Claim.—1st. In an apparatus for supporting one end of a fire hose and its nozzle, a rod to which are attached two or more brackets, provided with straps and buckles for securing a section of hose therein, and rods secured at opposite sides of said brackets, and bent in a manner to form handles adapted to be grasped by a fire-man in directing a stream. 2nd. In an apparatus for partially supporting one end of a fire hose and its nozzle, a rod having one end sharp and provided near its sharp end with a rigid collar, two or more brackets rigidly secured to said rod, and provided with straps and buckles for securing a section of hose therein, and rods secured at opposite sides of said brackets, and bent in a manner to form handles adapted to be grasped by a fireman in directing a stream. 3rd. The combination, with a rod formed of two detachable sections, the lower end of the lower section being formed sharp, and provided with a rigid collar, as shown, of brackets rigidly secured to the top of the upper section of said rod, provided with ears at opposite sides, having horizontal slots therein, provided with spring closing devices, one or more brackets rigidly secured to said upper section of the rod at points below its top, provided with straps and buckles, and rods secured at opposite sides of said brackets, and bent in a manner to form handles adapted to be grasped by a fire-man in directing a stream.

No. 35,399. Metallic Pipe Connection.

(*Joint de tuyau metallique.*)

Felix Louis Decarie, Peter Lord and John Lee, all of Montreal, Quebec, Canada, 10th November, 1890; 5 years.

Claim.—1st. In a metallic pipe connection, the combination of the sleeve having a conical swage end, with a nut having a conical bore, the two adapted to screw together and swage the end of the pipe to be connected therewith, the whole substantially as described. 2nd. In a metallic pipe connection, the combination of the sleeve *b*, having screwed part *c*, and conical swage end *d*, with a nut *e* fitted to the screwed part *c*, and having a conical bore *f*, the end *d* and bore *f* being adapted to swage the end of the pipe *a* to a fit, substantially as described.

No. 35,400. Dynamo Electric Generator.

(*Générateur dynamo-électrique.*)

The Brush Electric Company, assignees of Gustav Pfannkuche, all of Cleveland, Ohio, U.S.A., 10th November, 1890; 5 years.

Claim.—1st. In a dynamo-electric generator, the combination of rotating field magnets and a stationary armature, made of non-mag-

netic material, as described. 2nd. A dynamo-electric generator, consisting, essentially, of rotating field magnets and a stationary armature, the generating portions of which are exposed to the inductive action of the magnets, and the inactive and structural portions of which are beyond the inductive sphere of the same, substantially as described. 3rd. A dynamo electric generator, consisting, essentially, of annular series of rotating field magnets, and an annular series of stationary armature coils, arranged with their active portions within the field or fields or force, and with their inactive portions outside of said field or fields, substantially as described. 4th. In a dynamo electric generator, the combination of annular series of rotating field magnets, with an annular series of stationary armature coils mounted upon a non-magnetic support and wound upon insulating cores, said coils being arranged with their active portions within the field or fields of force, and with their inactive portions outside of said field or fields, substantially as described. 5th. In a dynamo electric generator, the combination of two annular series of rotating field magnets, forming an annular magnetic field of force, or an annular series of magnetic fields of force between the opposite pole faces of the magnets, with an annular series of stationary segmental armature coils wound upon non-magnetic cores, and occupying with their radial branches the magnetic field, while their inactive portions are outside of said field, substantially as described. 6th. In a dynamo electric generator, the combination of two annular magnetic fields of force, or an annular series of magnetic fields of force between the opposed pole faces, of the magnets, with a stationary annular armature support of non-magnetic metal, composed of detachable segments and located in the plane of the magnetic field, but beyond the inductive influence of the same, substantially as described. 7th. In a dynamo electric generator, the combination of two annular series of rotating field magnets, forming an annular magnetic field of force, or an annular series of magnetic fields of force between the opposed pole faces of the magnets, with a stationary annular armature support of non-magnetic metal, composed of detachable segments, and located in the plane of the magnetic field, but beyond the inductive influence of the same, and a series of segmental armature coils removably mounted in the annular support with their radial branches exposed to the action of the field, and with their peripheral portions beyond the inductive sphere of the magnets, substantially as described. 8th. In a dynamo electric machine, the combination of a series of rotating field magnets, with a series of stationary armature coils mounted on a non-magnetic support, the conductor of the armature coils being disposed in a plane parallel to the plane of rotation of the field-magnets, substantially as described. 9th. In a dynamo-electric machine, the combination of a series of rotating field magnets, with a series of stationary armature coils mounted on a non-magnetic support, the conductor of the armature coils being disposed in a plane parallel to the plane of rotation of the field magnets, and the outer portion of the coils being faced with insulating material, substantially as set forth. 10th. In a dynamo-electric machine, the combination of a series of rotating field magnets, with a series of stationary armature coils mounted on a support located outside of the field of force, substantially as set forth. 11th. In a dynamo-electric machine, the combination of a series of rotating field magnets, with a series of stationary armature coils mounted on a non-magnetic support located outside of the field of force, substantially as set forth. 12th. In a dynamo-electric machine, the combination of a series of rotating field magnets, with a stationary supporting frame encircling the field of force, and armature coils removably secured thereto, substantially as set forth 13th. In a dynamo-electric machine, the combination with a series of rotating field magnets, of a series of stationary armature coils, mounted on a non-magnetic support, the inner ends of said coils arranged to encircle but one of contact with the shaft of the field magnets, substantially as set forth. 14th. In a dynamo-electric machine, an armature, consisting in the combination, with a supporting frame, of a series of radially-detachable coils, secured at their outer ends to said frame, substantially as set forth. 15th. In a dynamo-electric machine, an armature, comprising a supporting frame, and a series of armature coils connected together by interlocking plates, and secured at their outer ends to said supporting frame, substantially as set forth. 16th. In a dynamo-electric machine, an armature, comprising a supporting frame, a series of armature coils provided with tongue, and groove plates for connecting together the adjacent coils, said coils being secured at their outer ends to the supporting frame, substantially as set forth. 17th. In a dynamo-electric machine, the combination, with a support, of a series of radially-disposed armature coils connected with said support, said armature coils mounted on interlocking supports, substantially as set forth. 18th. In a dynamo-electric machine, an armature, composed of a series of armature coils, each having a plate of insulating material, secured to its side, which plates are furnished with interlocking tongues and grooves, substantially as set forth. 19th. In a dynamo electric machine, the combination of rotating field magnets, with a stationary annular support, of non-magnetic metal surrounding the field of force, and provided with equally spaced slots, and armature coils removably seated in said slots, and extending into the field of force, substantially as described. 20th. In a dynamo electric generator, the combination of rotating field magnets, with a stationary annular armature support of non-magnetic metal surrounding the field of force and provided with equally spaced slots, armature coils clamped at their inactive ends between non-magnetic plates seated in said slots, and interlocking spacing plates of insulating material between the coils, substantially as described. 21st. In a dynamo electric generator, the combination of field magnets carried by a rotating shaft, with an annular armature support of non-magnetic metal concentric to but not in contact with the shaft, and composed of two semi-circular sections detachably secured together upon the line of a diameter, whereby the armature may be removed from the machine without disturbing the shaft, substantially as described. 22nd In a dynamo electric generator, the combination of field magnets carried by a rotating shaft, and a series of armature coils mounted upon the two semi-circular detachable sections of an annular support of non-magnetic material, each semi-circular section being movable upon guides at right angles to said shaft, substantially as described. 23rd. In a dynamo electric machine, a stationary armature composed of a series of segmental coils removably seated in an annular skeleton support, of non-magnetic metal composed of flanged plates parallel to each other, with bridge pieces extending between them, whereby the support is divided into a number of equally spaced seats for the coils, substantially as described. 24th. In a dynamo electric machine, the combination of parallel annular series of rotating field magnets, with an armature composed of a series of segmental coils removably seated in a stationary annular skeleton support of non-magnetic metal in the plane of but beyond the inductive influence of the magnetic field of force, said support consisting of flanged plates arranged parallel to each other with bridge pieces extending between them, whereby the support is divided into a number of equally spaced seats for the coils, substantially as described. 25th. In a dynamo electric machine, an armature provided with coils wound upon cores composed of silicious or other equivalent material, substantially as set forth. 26th. In a dynamo electric machine, an armature provided with coils wound upon cores of insulating material, said coils being provided with interlocking plates composed of silicious or equivalent material, substantially as set forth.

No. 35,401. Composition for Food and Method of Preparing the Same.

(Composition de nourriture et manière de la preparer.)

Aktiebolaget Lactoserin, Stockholm, assignee of Albert W. Rehnstaom, Malhammer, Rekarne, both of Sweden, 10th November, 1890; 5 years.

Claim.—1st. Mode of preparing a food or ingredients in food for people or domestic animals, consisting in separating milk by coagulation in its constituents caseine and whey, then evaporate a greater or smaller part of this whey separately, and when reduced in volume add and mix the same well in the caseine that is kept in readiness, evaporated and finely pulverized, and finally during continued evaporation bring the whole to dryness and in pulver form. 2nd. A food or ingredient in food prepared of milk, which by coagulation has been separated in its constituents caseine and whey, whereafter the whey (more or less thereof) has been evaporated, and in some reduced volume added to the before precipitated caseine, whereafter the whole during continued evaporation has been brought to dryness and pulverized.

No. 35,402. Skate. (*Patin.*)

George Charles Bateman and Charles William McKee, both of Halifax, Nova Scotia, Canada, 11th November, 1890; 5 years.

Claim.—1st. The combination of the runner blade, the extensible clamp sustained thereby, provided with racks and movable bodily on a central vertical axis, and the central operating pinion provided with the opposite delay surfaces. 2nd. The combination of the runner blade, the toe plate rigidly secured thereto, the extensible clamp overlying said plate, movable thereon around a vertical axis, and provided with racks, and the central operating pinion provided with opposite delay surfaces. 3rd. The combination of the inner blade, the rigid plate provided with curved slots and recesses communicating with the slots, the extensible clamp, movable on a central vertical axis, the enclosing case provided with the headed pins to enter the recesses and move in the slots, and suitable mechanism for operating the clamp. 4th. The combination of the runner blade, the extensible clamp sustained thereby and movable on a vertical axis, a locking device to prevent the clamp from moving on its axis, and suitable means for operating the clamp. 5th. In a skate the combination of the runner blade, the heel plate, fixed thereto and provided with the vertical flange, the movable flanged plate Q, provided with the rack, and the lever provided with the toothed segment to engage the rack, whereby the said lever may be moved to disengage the segment from the rack and admit of the adjustment of the movable plate to heels of different sizes. 6th. In a skate, the combination of the runner blade, the fixed slotted heel plate provided with the vertical flanges, the sliding toothed plate Q, provided with the vertical flange *r*, extending through the slot in the heel plate, and the lever provided with the toothed segment to engage the rack. 7th. A skate consisting of a blade, to which is rigidly attached a toe plate, by means of downturned forks and a standard, a standard having teeth round its upper face projecting over said toe plate, said teeth being only on its opposite sides, toe clamps the plates of which have toothed racks on their inner edges, adapted to be engaged by the teeth of said standard, a cover plate covering racks in the said clamps, and having buttons sliding in slots in said toe plate, said cover pivoted to the said standard, a spring stop to limit the movement of said cover plate and clamps, a heel plate having forks and a standard to secure it to the blade, stationary clamps, a sliding clamp or heel cutter having a toothed rack, a lever pivoted to said standard, having projecting teeth engaging the toothed rack, a stop to limit the movement of said lever, a hook and teeth to hold the lever in position, substantially as shown and described. 8th. In a skate, the combination, with the blade or lever A, toe plate B, the standard C, having teeth D, on the front and rear sides of the upper surface of the toe clamps E, E, having toothed racks *g*, the cover plate H, stop L, and spring thumb plate M, substantially as shown and described. 9th. In a skate, the combination of the blade A, heel plate N, stationary clamps O, forks *n*, slots *o*, standard P, sliding plate Q, cutting edge *r*, arms R and S, slot *s*, button T, toothed rack U, lever W, having teeth V, segment *w*, catch *m*, teeth *q*, and stop *l*, substantially as shown and described.

No. 35,403. Cover for Kitchen Utensils.

(Couvercle pour ustensiles de cuisine.)

James Wellsley Murray and James Edward Murray, both of St. George, New Brunswiek, Canada, 11th November, 1890; 5 years.

Claim.—The combination, with a cover for cooking utensils, of endwise movable rods applied thereto, having their outer ends turn-

ed downward to clasp the utensil, and their inner ends turned upward to form handles, and springs which engage and normally press the rods inward, substantially as shown and described.

No. 35,404. Anti-rust Pans, Pails, Cans, etc.

(*Bassin, seau, boîte metallique, etc., à l'épreuve de la rouille.*)

Reuben M. Reed, Newark, New York, U.S.A., 12th November, 1890; 5 years.

Claim.—1st. A pail formed with parallel folds extending across the bottom thereof, and a fold extending up the side of the pail from each of the ends of the respective folds across the bottom, a strip of metal held by said folds across the bottom, and strips of metal held by the adjacent folds, at the sides of the pail, said strips of metal having their respective visible faces flush with the adjacent inner surfaces of the pail, substantially as shown. 2nd. A pail formed with parallel folds across the bottom thereof, and a strip of metal held by said folds the edges of the strip being depressed, substantially as shown. 3rd. A pail formed with parallel folds across the bottom thereof, and a strip of metal held in said folds, the upper surface of said strip of metal and the upper surface of said pail bottom being in the same plane, substantially as described.

No, 35,405. Brush. (*Brosse.*)

McClintock Young, Frederick, Maryland, U. S. A., 12th November, 1890; 5 years.

Claim.—1st. In a brush, the block or body having holes therein, the tufts seated in said holes and the transverse fastening strips, each passing through a series of tufts and provided with a series of teeth or projections extending down within the respective holes, and bearing at their ends upon the tufts therein, whereby the teeth are caused to hold the tufts down firmly in place. 2nd. In a brush, the combination of the stock or body having rows of holes therein, folded tufts seated in said holes, and transverse fastening strips, each extending through the holes or bights of a row of tufts, and each provided with a series of teeth or projections entering the respective holes and bearing upon the tufts therein, and also bearing firmly against the side walls of the holes. 3rd. In combination with the brush block having the rows of holes therein, the folded tufts seated in said holes, and the fastening strips, each provided with a series of teeth adapted to enter the holes, and each notched at the lower end to straddle or embrace the tuft within the hole. 4th. A brush block or body, provided with a series of holes, and the shallow connecting grooves, in combination with the folded tufts and the fastening strips, said strips seated within, and substantially flush, with the block, and each having a series of teeth bearing upon and within the bight of the respective tufts.

No. 35,406. Air Engine. (*Machine à air.*)

James Atkins Woodbury, Joshua Merrill, George Patten, and Edward Franklin Woodbury, all of Boston, Massachusetts, U.S.A., 12th November, 1890; 5 years.

Claim.—1st. An air engine, in which the temperature of the same mass of air is alternately raised and lowered, having a reverser provided with a hot and cold chamber, each of which is directly connected with a working cylinder, substantially as and for the purposes set forth. 2nd. In an air engine, in which the temperature of the same mass of air is alternately raised and lowered, the reverser side as 8, provided with the regenerator space formed between the regenerator cylinder reverser heater and displacer cylinder, within which is placed the regenerator, in combination with the tubular cooler having the cooling tubes, and provided with the cooler cover, substantially as described. 3rd. In an air engine, in which the temperature of the same mass of air is alternately raised and lowered, having the reverser side as 8, the combination, with the tubular cooler having the cooling tubes, and provided with the cooler cover, of the regenerator composed of wire cloth and placed within an annularly constructed space at or near the inner surface of the outer shell of the heater, substantially as and for the purpose set forth. 4th. In an air engine, the combination, with reverser heater provided with an annular regenerator space at or near the inner surface of the outer shell, of the cooler provided with the annular tube, and water space having the cooling tubes, and provided with the cooler cover, substantially as described. 5th. In an air engine, the combination of the reverser heater, a wire cloth regenerator the tubular cooler, and cooler cover provided with the connecting pipe by means of which the cold chamber is directly connected with the working cylinder, substantially as and for the purpose set forth. 6th. In an air engine, the combination, with the reverser heater, of the cooler provided with the annular tube, and water space and cooler cover, and having the cooling tubes, and the cold chamber within which the displacer piston reciprocates, substantially as described. 7th. In an air engine, having a reverser side as 8, the tubular cooler having the cooling tubes, and provided with the cooler cover, within which cooler the displacer piston reciprocates, provided with the displacer cylinder portion cast on said cooler, said portion being adapted to receive within the displacer piston, substantially as described. 8th. In an air engine having a reverser side as 8, the tubular cooler having the cooling tubes and provided with the cooler cover within which cooler the displacer piston reciprocates, provided with displacer cylinder portion, in combination with displacer cylinder, (adapted to receive within it the displacer piston) fastened to said displacer cylinder portion, substantially as and for the purpose set forth. 9th. In an air engine having a reverser side as 8, the combination, with the cooler having the cooling tubes and provided with the displacer cylinder, and cooler cover, of the regenerator wound on said displacer cylinder, composed of wire cloth, substantially as described. 10th. In an air engine, having a reverser side as 8, the cooler provided with displacer cylinder which is provided with a series of regenerator pins as 37, and 38, in combination with the regenerator composed of wire cloth, and wound on said displacer cylinder, and between said series of regenerator pins, substantially as described. 11th. An air engine, in which the temperature of the same mass of air is alternately raised and lowered, having the reversers each of which is provided with a hot and cold chamber, when each of said chambers is directly connected with the working cylinders, substantially as described. 12th. In an air engine, in which the temperature of the same mass of air is alternately raised and lowered, the combination of two reversers and two double acting working cylinders with a regenerator composed of wire cloth, said cylinders being directly connected by means of connecting pipes as shown, substantially as described. 13th. In an air engine, in which the temperature of the same mass of air is alternately raised and lowered, having a reverser provided with a hot and cold chamber, each of which is directly connected with a double acting working cylinder, in combination with a regenerator, substantially as described. 14th. In an air engine, in which the temperature of the same mass of air is alternately raised and lowered, having a reverser provided with a heater regenerator cylinder, a wire cloth regenerator, and a tubular cooler having the cooling tubes, and provided with the cooler cover so constructed and arranged as to provide for annular port having straight or nearly straight sides, and extending from the cooler to the bottom of the heater, so that the air may have a direct and a free passage to and from the hot and cold chambers, substantially as described.

No. 35,407. Knockdown Furniture.

(*Meuble pliant.*)

Arthur White, Sheboygan, Wisconsin, U.S.A., 12th November, 1890; 5 years.

Claim.—1st. Knockdown furniture, made with front and back portions, provided with dovetail-shaped recesses, combined with cross-bars, having dovetail-shaped end tenons adapted to said recesses, substantially as herein set forth. 2nd. In knockdown furniture, the combination, with a front A, and back B, of opposing recesses G, H, in said parts, said recesses G, having a contracted dovetail-shaped lower portion g^1, and the inclined recesses H, having a contracted and dovetail-shape at the lower portion, and cross-bars F, having dovetail end tenons *f*, fitting said recesses, substantially as herein set forth.

No. 35,408. Construction of Sewers or Conduits. (*Construction des égouts ou conduits.*)

Percival Walter St. George, of Montreal, Quebec, Canada, 12th November, 1890; 5 years.

Claim.—1st. In a sewer, the combination of the following elements: forming an oval in cross-section, the invert A, with hollowed skew-backs, side sections with curved lower edges fitting into skew-backs, and strengthening socket joints formed by flanges B^2 on top, and top arch C resting in such socket joints, all as herein set forth. 2nd. The combination, with the invert A and arched top C, of curved sides B, B, having flanges B^2, and curved lower edges fitting into skew backs, one or more lengths of such sides formed with openings E, and rim B^3, in combination with a drain pipe, all as and for the purposes set forth.

No. 35,409. Automatic Passenger Register.

(*Registre automatique pour passagers.*)

Adrian Gajardo, Valparaiso, Province of Valparaiso, Chili, 12th November, 1890; 15 years.

Claim.—1st. A passenger register, containing two stepping plates connected with opposite poles of a battery or batteries registering mechanism and a wire or instrument to be carried by the conductor or other official for connecting said stepping plates and preventing the operation of the registering mechanism, substantially as described. 2nd. A registering instrument, containing two stepping plates, connected to batteries, a magnet included in the circuit, and connected with the registering mechanism, and means for rendering said registering mechanism inoperative, substantially as described. 3rd. A registering instrument, constructed with two stepping plates, batteries, having wires connecting them with said plates, registering mechanism, and an electro-magnet included within the circuit to cause and to prevent the operation of the registering mechanism, accordingly as said plates are electrically disconnected or connected, substantially as described. 4th. A passenger register, constructed with doors or gates, and having suitable mechanism connected therewith, and operated thereby, when opened, batteries having wires connecting their poles with two stepping plates, and an electro-magnet connected with said registering mechanism for allowing the gates or doors to be opened without registering when said stepping plates are electrically connected and the circuit completed, substantially as described. 5th. A passenger register, constructed with a sliding electro-magnet, suitable registering mechanism and gates adapted, when opened, to move said magnet and operate said register, substantially as described. 6th. A passenger register, containing and constructed with a sliding electro-magnet, provided with an armature, suitable register, batteries and wires for sending a current through said magnet, gates arranged, when opened, to move said magnet and operate said register, and means for closing the circuit and raising said armature, and allowing the gates to be opened without registering, substantially as described. 7th. A passenger register, constructed with gates and foot plates, the former connected with suitable registering mechanism and adapted to operate the same, when opened, batteries connected with said plates, and a wire or other device to connect said plates and allow said gates to be opened without registering, substantially as described. 8th. A passenger register, constructed with gates secured to rock-shafts, registering mechanism operated by said shafts,

batteries connected with stopping plates, and to an electro-magnet connected with said registering mechanism, and a wire or other device for connecting said plates and completing the circuit, whereby the gates may be opened without registering, substantially as described. 9th. A passenger register, constructed with rock-shafts, having gates or doors secured thereto, an electro-magnet secured to suitable registering mechanism, and a sliding plate secured to said shafts for moving said magnet, and operating said registering mechanism, substantially as described. 10th. A passenger register, constructed with rock-shafts, having gates or doors secured thereto, a sliding magnet adapted to be moved by a sliding plate connected with said shafts when the gates are opened, registering mechanism secured to the magnet, stepping plates connected to batteries, and a wire or other device for connecting said plates and raising the armature of the magnet, whereby the latter will remain stationary when the gates are opened, substantially as described. 11th. In a passenger register, the combination, with rock-shafts having gates or doors secured thereto, of a sliding electro-magnet connected with suitable registering mechanism, and a sliding plate secured to said shafts for moving said magnet horizontally when the shafts are rotated, substantially as described. 12th. In a passenger register the combination, with rock-shafts, having gates or doors secured thereto, of a sliding electro-magnet connected with suitable registering mechanism, an armature secured to a bell crank, and a sliding plate secured to said rock-shafts, adapted to strike said crank, move the magnet and operate the registering mechanism, substantially as described. 13th. In a passenger register, the combination, with rock-shafts having doors or gates secured thereto, of batteries and electro-magnets connected therewith, said magnets being provided with armatures, and attached to bell crank levers, stepping plates also connected with said batteries, registering mechanism connected with said magnets, a sliding plate attached to said rock-shafts for moving said magnets, and operating the registering mechanism, and a wire or other device for completing the circuit through said plates and raising said bell crank, allowing the magnets and registering mechanism to remain stationary when the gates are opened. 14th. In a passenger register, the combination, with the doors or gates secured to rock-shafts, of electro-magnets connected to suitable registering mechanism and to batteries, stepping plates also secured to the batteries, armatures secured to bell-crank levers, the horizontal arms of which are raised when the circuit is completed and lowered when the circuit is broken, of sliding plates secured to said rock-shafts and adapted to strike the horizontal arms of said bell-cranks when lowered, and to slide below the same when they are raised, and a wire or other device for connecting said stepping plates to complete the circuit and allow the gates to be opened without registering. 15th. In an automatic passenger register, the combination, with gates secured to rock-shafts, of sliding electro-magnets N, the bell-crank levers n, armature n^2, suitable registering mechanism connected to said magnet, and adapted to be operated when the latter is moved horizontally, and means secured to said rock-shafts for moving said magnets when the gates are opened, substantially as described. 16th. In an automatic passenger register, the combination, with gates F and rock-shafts C^1, sliding electro-magnets N, bell crank n and the sliding plate m^4 connected to said rock-shafts, substantially as and for the purpose described. 17th. In an automatic passenger register, the combination, with the gates F and rock-shafts C^1, of the sliding electro-magnets N, bell-crank n, crank arms M secured to rock-shafts, sliding plates m^4 and the connecting rods m^3, all constructed and arranged to operate in the manner and for the purpose described. 18th. In an automatic passenger register, the combination, with the gates F, rock-shafts C^1, of the electro-magnets N, secured to suitable registering mechanism, means connected with said rock-shafts for moving said magnets and operating said registering mechanism, batteries connected to said magnets, and two stepping plates E, E^1, E^1, armature n^2, bell crank n, and means for connecting said stepping plates, all arranged and operated in the manner and for the purpose described. 19th. In an automatic passenger register, the combination, with gates F, secured to rock-shafts, of the batteries E^1, E^2, E^3, E^4, connected to each other, and two stepping plates E, E, E^1, E^1, electro-magnets N connected to suitable registering mechanism adapted to be operated thereby, auxiliary gates H, and a bar or rod for connecting the rock-shafts for the purpose of causing the gates to open simultaneously. 20th. In an automatic passenger register, the combination, with gates F, secured to rock-shafts C^1, of auxiliary gates H connected to said rock-shafts, spring J and chains K, arranged to operate in the manner and for the purpose set forth. 21st. In an automatic passenger register, the combination, with gates F, secured to rock-shafts C^1, the latter having also secured to said rock-shafts C^1, within the bearings G, substantially as set forth. 22nd. In an automatic passenger register, registering mechanism constructed with a suitable train of ratchet wheels, contained between plates o, o^1, a sliding plate o, provided with a cam slot o^9, disk o^7, ratchet r, pawl r^2 and dog r^4, constructed and arranged, substantially as set forth. 23rd. In an automatic passenger register, registering mechanism constructed with a train of ratchets contained between two plates, a sliding plate having secured thereto suitable mechanism for operating said train of wheels when the sliding plate is moved, and a sliding electro-magnet secured to said sliding plate, and adapted, when moved, to operate said registering mechanism, substantially as described. 24th. In an automatic passenger register, the combination, with suitable registering mechanism, of a sliding plate indirectly connected with said mechanism and adapted to operate the same, a sliding electro-magnet connected by a lever to said sliding plate, and adapted, when moved, to operate the latter, and registering mechanism, substantially as described. 25th. An automatic passenger register, constructed with gates and suitable registering mechanism operated by said gates, a magnet for rendering inoperative said registering mechanism, a circuit including said magnet, and an electric bell contained in the circuit, and arranged to be sounded when the gates are opened without registering, substantially as described. 26th. An automatic passenger register, constructed with gates connected with suitable registering mechanism, batteries connected with said registering mechanism, a sliding electro-magnet adapted, when moved, to operate said registering mechanism and simultaneously complete the circuit to a second register, causing the same to register simultaneously with the said former registering mechanism. 27th. In an automatic passenger register, the combination, with a suitable frame, of the sliding magnet N, connected with batteries and having a plate 41 secured thereto, yielding pins 32 connected with said batteries, and with an electro-magnet 35, a register 40, having its operating lever 37 secured to the armature 35, of said magnet 35, and adapted to be operated by means of the said magnet N, causing the circuit to be completed through said plate 41, substantially as hereinbefore described.

No. 35,410. Clothes Wringer.

(*Essoreuse à linge.*)

George Branum Dowswell, Hamilton, Ontario, Canada, 12th November, 1890; 5 years.

Claim.—1st. In a clothes wringing machine, the face plate H attached to the face board G, in combination with the drop table arms E, turnst levers I and tighteners F, as described. 2nd. The cam Q, lever R and slot S, in combination with the top rail A, wood springs B, B, and metallic springs C to compress and relax the rolls D, D, as described, all operating and constructed substantially as herein set forth.

No. 35,411. Wire Fence.

(*Clôture en fil de fer.*)

David William Weiser, Dupont, Ohio, U.S.A., 12th November, 1890; 5 years.

Claim.—1st. In a fence, the posts made of rods, and provided with lips near their tops, in combination with rails having down-turned flanges embracing the sides of the post and resting on lips formed by cuts in the post, said lips being swaged upon the flanges, substantially as set forth. 2nd. In a fence, a cylindrical post provided with a crescent-shaped groove, a line wire resting on a seat midway between the ends of the groove, and bound by wires that also rest in the same groove at its end and I on each side of the post, the several wires being held by the lip of the groove compressed upon them, substantially as set forth. 3rd. In a fence, a line-wire resting in a seat formed by an oblique groove, the extremities of which are one above and the other below said line-wire, and bound by a wire resting in said groove on two sides of the post, both above and below the line-wire, substantially as set forth.

No. 35,412. Sash Lock. (*Arrête-croisée.*)

Henry Bridges Hebert, New York, State of New York, U.S.A., 12th November, 1890; 5 years.

Claim.—1st. In a sash lock, the combination of the part consisting of the box-like section and a removable bottom plate, a bolt movable parallel with the sash rails, and having a head movable through an opening in the side wall of said section, and having a guide connection with the section, a lever pivoted between its ends and loosely engaging with the bolt, a spring for forcing the bolt outward, lateral extensions on the box-like section forming a pocket, and a part constructed to engage with the bolt within the pocket, substantially as specified. 2nd. The combination of the box-like part, having the lateral extensions forming a pocket, a bolt movable in said pocket, and the part constructed to enter said pocket and engaging the bolt, substantially as specified. 3rd. In a sash lock, the combination, with one part, and a movable bolt therein, having an inclined head, of another part having a vertical portion provided with a hole, and having an inclined surface above said hole, and the said part having a plate extending under the first-named part and head of the bolt, substantially as specified.

No. 35,413. Horse Shoe Vise.

(*Etau pour fers à cheval.*)

John McIntyre McAdam, Pakenham, Ontario, Canada, 12th November, 1890; 5 years.

Claim.—A reversible horse shoe vise, consisting of standards B, B, provided with jaw C, having bevelled side for winter and straight side for summer, and movable jaw D, pivoted through standards by king bolt F, and having foot-rest E, substantially as and for the purposes hereinbefore set forth.

No. 35,414. Door Check and Bolt.

(*Arrête-porte et écrou.*)

Valentin C. Trabold, Newark, New Jersey, U.S.A., 12th November, 1890; 5 years.

Claim.—In a door bolt or fastener, the combination, with a hasp having cam-shaped ears for pivotally securing the same to a hasp-plate on the door-frame, of a bolt-plate arranged on a bolt-plate and extending up therefrom, and within the slot in said hasp, said cam-shaped ears on the hasp being adapted to engage with the upper surface of said hasp-plate, when the said is thrown out of holding engagement with the bolt, and thereby acting as a stop, and holding the said hasp at a right angle to the hasp-plate and the door-frame, as and for the purposes set forth.

No. 35,415. Looping Attachment for Knitting Machines. (*Appareil à brides de boutonnières pour machines à tricoter.*)

Richard Anthony Gage, Pawtucket, Rhode Island, U.S.A., 12th November, 1890; 5 years.

Claim.—1st. The combination of knitting needles, a feed wheel provided with leaves, a looping wheel provided with pins, and means

as described for supporting the looping wheel, the leaves and pins of the said wheels co-operating as described with the needles, without springing any of them, to carry a thread intermittently to the front of some and back of others, substantially as specified. 2nd. The combination of knitting needles, a feed wheel, a looping wheel provided with pins to carry a thread into predetermined spaces of the feed wheel, and means as described for supporting the looping wheel. 3rd. The combination of the thread guide, a feed wheel provided with leaves, a looping wheel provided with pins, and means as described for supporting the looping wheel, the needles, leaves, and pins, simultaneously co-operating, substantially as described, to weave an extra thread into the fabric without springing any part of the needles. 4th. The combination of knitting needles, a feed wheel provided with leaves notched on the periphery, a looping-wheel provided with pins whose points extend below the tops of the needles and carry the yarn or thread into the spaces between the leaves of the feed wheel, when in their circuit, said pins pass between the beards of the needles and the center of the wheel A, and means for supporting the looping wheel, substantially as specified. 5th. The combination, with the knitting needles of a circular knitting machine, of a looping attachment for introducing an extra thread into the fabric, the same comprising a feed wheel provided with notched radial leaves, a wheel provided with pins adapted to carry a thread into predetermined spaces between the leaves of the feed wheel, whereby the thread becomes woven into the fabric and forms loops for napping on one side thereof, and means as described for supporting the looping wheel, substantially as specified. 6th. In combination, substantially as specified, knitting needles, a thread guide a feed wheel provided with radial leaves in mesh with the needles, a looping wheel provided with pins which mesh with the leaves of the feed wheel at the time the leaves mesh with the needles, and constructed and combined to interweave an extra thread into the fabric without springing any of the needles, and means as described, for supporting the looping wheel.

No. 35,416. Last. *(Forme.)*

John Condell, New York, state of New York, U. S. A., 12th November, 1890; 5 years.

Claim.—1st. A last, corresponding as nearly as may be to the natural shape of the human foot, which it is intended to fit by constructing it with the curved bottom or sole a^{111}, and edge a^6, the rounding jointed curve a^4, at the heel, and the curve a^5, at the hollow of the foot, substantially as set forth. 2nd. In a last, the combination of the body A, having dowels, the block B, joining the foot by a square joint a^1, and having dowel holes corresponding to said dowels, the dowels A^1, A^{11}, in the block joint disposed at an angle to each other, the countersinks a, b, in the body and block, and the screw eyes C, in said countersinks, substantially as set forth. 3rd. In a last, the combination of the body A, adapted to receive a block, and having the rounded bottom or sole a^{111}, and edge a^6, the rounded heel a^4, and the hollow curve a^5, the dowels A^1, A^{11}, in the block joint disposed at an angle to each other, the countersink a, over the heel and the screw eye C, in said countersink, the last block B, fitting said body and having dowel holes corresponding to said dowels, and the countersink b, and screw eye C, in said countersink, substantially as set forth.

No. 35,417. Swivel. *(Emérillon.)*

Oneida Community, Kenwood, state of New York, U. S. A., (assignees of Harry Eugene Kelley, Niagara Falls, New York, U.S.A., 13th November, 1890; 5 years.

Claim —1st. A swivel composed of an open ended strap or link, an eye or collar permanently secured transversely between the ends of the strap or link, and a loop swiveled in said eye, substantially as set forth. 2nd. The combination, with a link or strap having its ends provided with openings, of an eye or collar having lugs secured in the openings of the link and a loop swiveled in said eye, substantially as set forth. 3rd. The combination, with a link or strap having its ends provided with openings, of an eye or collar having lugs secured in the openings of the link, by upsetting the ends of the lugs and a loop swiveled in said eye, substantially as set forth. 4th. The combination, with a link or strap having its ends provided with openings, of a divided eye or collar having lugs secured in the openings of the link and a loop swiveled in said eye, substantially as set forth. 5th. The combination, with a link or strap having its ends provided with openings, of a divided eye or collar having lugs secured in the openings of the link, and a loop having its headed ends doubled against each other and swiveled in the eye, substantially as set forth.

No. 35,418. Apparatus for Vaporizing and Burning Hydrocarbon Oils.

(Foyer à hydrocarbures.)

John L. Styron, Newark, Ohio, and Erskin M. Parmelee, Dansville, New York, both of U.S.A., 13th November, 1890; 5 years.

Claim.—In an apparatus for vaporizing and burning hydro-carbon oils, the oil-vaporizer consisting of the hollow end frames F, F^1, each divided into two chambers by suitable division plates, pipes H, I, J, connecting the end plates together and co mmunicating with the respective chambers in the end plates, forming a continuous zigzag vaporizing and heating chamber, a burner-pipe connected to the final chamber in the end plate and extended beneath the series of connecting pipes, in combination with a suitable oil-supply, the drip-pan and surrounding jacket, substantially as described.

No. 35,419. Signal Lamp. *(Lampe à signaux.)*

George Wells Smith and James B. Hendricks, both of Union City, Indiana, U.S.A., 13th November, 1890; 5 years.

Claim.—1st. In a signal lantern, the combination of the lantern frame, a revolving cylindrical casing extending through the base of the same, a lamp arranged in the said cylindrical casing, and a shell attached to the upper end of the latter and having one or more spirals therein for the emission of light, substantially as set forth. 2nd. In a signal lantern, the combination of the lantern frame, the cylindrical casing extending through the base of the same and having a beveled gear wheel attached to its lower end, a shaft arranged transversely below said casing, a sleeve mounted adjustably upon said shaft and having pinions adapted to alternately engage the beveled wheel upon the lower end of the revolving casing, mechanism for transmitting motion to the said shaft, the lamp mounted in the cylindrical casing, and the shell supported upon the latter and having spirals therein for the emission of light, substantially as set forth. 3rd. In a signal-lantern, the combination of a vertical revolving casing carrying a lamp, and a shell having spirals therein for the emission of light, hangers or brackets arranged adjacent to said revolving casing, a shaft mounted in the said hangers and composed of two parts or sections connected by a universal joint, a sleeve mounted adjustably upon the said shaft and provided with pinions facing in opposite directions and adapted to alternately engage the bevel-gear-wheel upon the lower end of the vertically revolving casing, and mechanism for operating the said shaft, substantially as set forth. 4th. In a signal lantern, the combination of a vertical revolving casing carrying a lamp, and a shell having spirals therein for the emission of light, a cap at the lower end of said casing having a central downwardly-extending spindle, and a hinged bracket having a step or bearing for the said spindle, substantially as and for the purpose set forth. 5th. In a signal lantern, the combination of a vertical revolving casing having a lamp, and a shell surrounding the latter and having spirals therein for the emission of light, a cap at the lower end of said casing having a downwardly-extending spindle, a hinged bracket having a step or bearing for said spindle, a transversely-arranged shaft composed of two parts or sections jointed universally and having an adjustable sleeve provided with pinions adapted to alternately engage a beveled gear wheel upon the lower end of the revolving casing, and mechanism for operating or transmitting motion to the said shaft, substantially as and for the purpose set forth. 6th. In a signal lantern, the combination with a revolving casing carrying a shell having spirals therein for the emission of light, and having at its lower end an interior annular flange, of a lamp the sides of which are provided with spring catches having their lower ends extended inwardly through slots formed in a flange which extends downwardly from the bottom of said lamp and connected by means of a cord or chain, whereby the said spring catches may be simultaneously operated to release the lamp from the casing, substantially as set forth. 7th. The combination of the lantern frame, the revolving casing having an interior annular flange at its lower end and provided with a shell having spirals therein for the emission of light attached to its upper end, a lamp provided with spring catches to retain it in the said revolving shell, and a cord connecting the inner ends of said spring catches, a cap at the lower end of the revolving casing having a downwardly-extending spindle, a hinged bracket having a step or bearing for the said spindle, and mechanism for operating the said revolving casing in either direction, substantially as and for the purpose set forth. 8th. A signal lantern having a revolving shell surrounding the light, and having spirals therein for the emission of light, in combination with reflecting shutters hinged to diagonally opposite corners of the lantern frame, substantially as and for the purpose set forth. 9th. The combination of the lantern frame, the revolving casing carrying the lamp, and the shell having spirals therein for the emission of light, a cap attached to the upper end of said shell and having an upwardly extending escape tube, and a tube extending upwardly from the top of the lantern case and affording a bearing for the said escape tube, substantially as and for the purpose set forth. 10th. The combination of the lantern frame, the revolving casing extending through the base of the same and having at its lower end a cap provided with a spindle which is stepped or journaled in a hinged bracket, a lamp arranged within the revolving casing, a shell attached to the upper end of the latter and having spirals therein for the emission of light, a cap mounted upon the upper end of said shell and having an upwardly-extending escape tube, a tube extending upwardly from the top of the lantern frame and affording a bearing for the said escape tube, and mechanism for operating the revolving casing and its attachments in either direction, substantially as and for the purpose set forth. 11th. In a signal lantern, the combination with a lantern frame, of a revolving casing extending downwardly through the base of the same, suitable mechanism for supporting and operating said revolving casing, a lamp arranged detachably within said revolving casing, a shell attached to the upper end of the latter and having spirals therein for the emission of light and reflecting shutters hinged at diagonally opposite corners of the lantern frame and provided with operating rods extending downwardly through the base and provided with handles, by means of which they may be adjusted and manipulated, substantially as and for the purpose set forth.

No. 35,420. Woven Wire Mattresses.

(Sommier en fil de fer tissé.)

William S. Seymour, Philadelphia, Pennsylvania, U. S. A., and Elmer H. Grey, Boston, Massachusetts, U. S. A., 13th November, 1890; 5 years.

Claim.—1st. In a woven wire mattress, the combination, with a woven wire fabric, of perpendicular springs, the terminal coils of said springs being connected with said fabric and being under lateral tension, whereby the tendency of the coils to expand keeps the fabric taut. 2nd. In a woven wire mattress, the combination, with a woven wire fabric, of extra wire cables intertwined therewith, and perpendicular springs whose terminal coils are held in a state of lateral tension between adjacent cables, the distance between the cables being less than the diameter of the terminal coils when not under tension. 3rd. In a woven wire mattress, the combination, with perpendicular springs, of a woven wire fabric for the top of the mattress, and a woven wire fabric for the bottom of the mattress, the terminal coils of said springs at top and bottom being connected

with said fabrics under a state of lateral tension, whereby both sides of the mattress are kept taut and the mattress is reversible. 4th. In a woven wire mattress, the combination, with a woven wire fabric, of extra wire cables intertwined therewith, said cables being located beneath the surface of the fabric, and perpendicular springs whose terminal coils are held in a state of lateral tension between adjacent cables, the distance between the cables being less than the diameter of the terminal coils when not under tension. 5th. A woven wire mattress consisting of an assemblage of perpendicular springs, and an exterior covering of woven wire fabric for the top, bottom, and sides of the mattress, the terminal coils of the springs engaging with the fabric at top and bottom.

No. 35,421. Waggon Tongue. (*Timon de wagon.*)

James T. Ketchledge and Albert Barber, both of Tunkhammock, Pennsylvania, U.S.A., 13th November, 1890; 5 years.

Claim.—The combination, with the curved thill-irons provided with sleeves, of the tongue, the cross-bar, the brace-rods secured to the tongue and the cross bar and having their ends extending around the rear of the cross-bar and threaded, the curved stay-irons having perforated ends, each of said stay-irons having one of its ends bolted to the cross-bar and its other end receiving the threaded end of the brace-rod, and nuts for securing the stay-irons to the brace-rods, substantially as described.

No. 35,422. Detachable Chair Back.

(*Dossier mobile pour chaises.*)

John Henry Haulenback, Cleveland, Ohio, U.S.A., and A. Cushman Bishop, Detroit, Michigan, U.S.A., 13th November, 1890; 5 years.

Claim.—In a detachable seat back, the combination, with the clamps, of the spring supports B, secured in the clamps, the cross bar C, having elongated slots therein, clamping-bolts E, passing through the slots and clamping-bars F, through which the bolt passes, substantially as described.

No. 35,423. Hame Tug. (*Mancelle de collier.*)

William Ellsworth Cady, Northville, Michigan, U.S.A., assignee of Ledru Rollin Webster, Holly, Michigan, U.S.A., 13th November, 1890; 5 years.

Claim—A hame tug, composed of a front section or loop, provided with a hame clip, and a rear section hinged thereto at the front end, and provided at the rear end with a suitable trace buckle, said rear section consisting of a bar of wood, a metallic strap sunk into the bar and bent around the ends thereof to form eyes for engaging the front end with the cross-bar, of a link which hinges it to the front section and for engaging the shank of the trace buckle at the rear end of rivets securing the metallic strap to the bar of loops secured in notches of the bar by the metallic strap, of rivets securing the metallic strap to the wooden bar, and a lining in each eye of said strap, all substantially as described.

No. 35,424. Cartridge Loading Machine.

(*Machine à charger les cartouches.*)

Elliott S. Rice, Englewood, Illinois, assignee of Charles S. Hisey, Aurora, Indiana, both of U.S.A., 13th November, 1890; 5 years.

Claim.—1st. In a cartridge loading machine, the combination, with an endless band provided with a series of shell holders, of separate appliances for successively supplying successive portions of the charge to the shells, arranged over and in line with said band, and mechanism for giving the band intermittent motion and operating the charging apparatus, as and for the purpose set forth. 2nd. In a cartridge loading machine, the combination of an articulated endless band, provided with a series of shell holders, as described, prismatic rollers supporting said band, separate appliances for successively supplying successive portions of the charge to the shells, and cartridge ejecting appliances arranged over and in line with said endless band, and mechanism for giving said band intermittent motion and operating said charging and cartridge-ejecting appliances, substantially as shown and described. 3rd. In a cartridge loading machine, the combination, with a supporting frame, of prismatic rollers, an endless band provided with shell holders, supported by said rollers, charging appliances arranged over and in line with the band, a driving shaft supported on the frame and connected with one of the belt-supporting rollers and the charging appliances, so as to give intermittent motion to the band and operate the charging appliances successively, substantially as shown and described. 4th. In a cartridge loading machine, the combination of an endless band provided with shell holders, devices for supplying the charge in successive portions to the shell, and cartridge ejecting devices arranged above and in line with said band, a common bed-plate supporting all of said devices, and a common shaft connected with said band, so as to give intermittent motion thereto and connected with the charging and cartridge-ejecting devices, and operating the same in connection with said band, as and for the purposes set forth. 5th. The combination of the supporting frame, provided with the bed plate, the endless band provided with cartridge holders mounted on supports located beneath said plate, the cartridge loading and ejecting devices above and in line with said band, and a driving shaft connected with the endless band and giving intermittent motion thereto and connected with the cartridge loading and ejecting devices, and operating the same in connection with said band, as and for the purposes set forth. 6th. The combination in a machine for loading cartridges, of separate appliances for successively supplying successive portions of the charge to the shells, and a crimper arranged in a right line with a carrier provided with shell holders below and in line with the charging appliances, and crimper and mechanism for intermittently moving the carrier and operating the crimper and charging appliances, substantially as described. 7th. In a machine for loading cartridges, the combination, with charging appliances, including a powder holder, a wad supply, a shot holder, another wad supply arranged in a right line and in the order named, with a shell carrier provided with shell holders below and movable in line with the charging appliances, substantially as described. 8th. In a machine for loading cartridges, the combination, with charging appliances, including a powder holder, a wad supply, a shot holder, another wad supply arranged in a right line and in the order named, with a shell carrier provided with shell holders below and in line with the charging appliances, and mechanism for intermittently moving the carrier and operating the charging appliances, substantially as described. 9th. The combination in a cartridge loading machine, of a frame, a shell carrier having intermittent motion supported thereby, consisting of an endless belt provided with shell holders, charging appliances, including a powder supply, a wad feeder cutter and inserter, a shot supply, a second wad feeder cutter and inserter, a crimper and an ejector, said appliances being arranged over and in line with the carrier belt, and a distance apart, equivalent to a single movement of the carrier, and operative mechanism for said carrier and charging appliances, whereby each shell is brought by single movements of the carrier successively from one charging appliance to another, substantially as described. 10th. The combination, in a machine for loading cartridges with powder and shot, of a shell carrier having intermittent motion, consisting of an endless belt, provided with shell holders, a powder supply, a wad supply, a shot supply and a second wad supply, said parts being arranged over and in line with the carrier and in the order named, and the powder supply being provided with a regulator, whereby the amount of powder in each charge is regulated, substantially as shown and described. 11th. The combination in a machine for loading cartridges with powder and shot, of a shell carrier, having intermittent motion, consisting of an endless belt provided with shell holders, a powder supply, a wad supply, a shot supply and a second wad supply, said parts being arranged over and in line with the carrier and in the order named, and the powder supply and shot supply being each provided with regulators, whereby the amount of powder and shot in each charge is regulated, substantially as shown and described. 12th. The combination in a cartridge loading machine, of a shell carrier having intermittent motion, consisting of an endless belt provided with shell holders, charging appliances consisting of a powder supply, a wad supply, a felt supply, a second wad supply, a shot supply and another wad supply, said appliances being arranged over and in a line with the shell carrier and in the order named, and constructed and operating substantially as shown and described. 13th. The combination in a cartridge loading machine, of a shell carrier having intermittent motion, consisting of an endless belt provided with shell holders, charging appliances consisting of a powder supply, a wad suppply, a felt supply, a second wad supply, a shot supply and another wad supply, said appliances being arranged over and in line with the shell carrier and in the order named, and mechanism conneeted with the shell carrier, so as to give intermittent motion thereto, and with the charging appliances so as to operate the same in connection with the shell carrier, substantially as shown and described. 14th. The combination in a cartridge loading machine, of a frame, a shell carrier having intermittent motion supported thereby, consisting of an endless belt provided with shell holders, charging appliances, consisting of a powder supply, a wad feeder, cutter and inserter, a shot supply, a second wad feeder, cutter and inserter, a crimper and an ejector, said appliances being arranged over and in line with said carrier and in the order named, and mechanism connected therewith and with the carrier for operating the same, substantially as shown and described. 15th. The combination in a cartridge loading machine of a frame, a shell carrier having intermittent motion supported thereby, consisting of an endless belt provided with shell holders, charging appliances, consisting of a powder supply, a wad feeder, cutter and inserter, a shot supply, a second wad feeder, cutter and inserter, a crimper and an ejector, said appliances being arranged over and in line with said carrier and in the order named, and mechanism connected therewith and with the carrier for operating the same, whereby a shell is presented to each of the charging appliances, and a charged shell ejected at each successive movement of the carrier, substantially as shown and described. 16th. The combination in a machine for loading cartridges, of a shell carrier provided with shell holders, and a shell guide for conducting shells and delivering them to the inner side of the shell carrier and stop for the shell, substantially as described. 17th. The combination in a machine for loading cartridges of a shell carrier provided with shell holders, and means for feeding shells to said holders, consisting of a tube, as a^1, in connection with a strap b^1, c^1, the rails e^1, e^1, said parts being sustained by the posts d^1, substantially as shown and described. 18th. The combination in a machine for loading cartridges, of a shell carrier consisting of an endless belt, provided with a series of shell holders, charging appliances, including a powder supply, wad feeders and cutters, a shot supply and a second wad feeder and cutter, said parts being arranged in line and in the order named, a driving shaft operatively connected with the shell carrier and the charging appliances, substantially as shown and described. 19th. The combination in a machine for loading cartridges with powder and shot, of a shell-carrier, consisting of an endless belt, provided with shell holders and charging appliances, including a powder supply, wad suppliers, feeders and cutters, a shot supply, another wad supply, feeder and cutter, a crimper and an ejector, said appliances being arranged in the order named, and mechanism connected with a driving shaft and with a shell carrier, so as to give intermittent motion thereto, and with the charging appliances, so as to operate the same in connection with the carrier, substantially as shown and described. 20th. In a machine for loading cartridges, the combination with a wad feeder, of a wad cutter and an inserter operating at different points along the line of feed, substantially as described. 21st. In a machine for loading cartridges, the device for intermittently cutting out the wads, consisting of a punch a^3 attached to the tool carrier A, and a mandril b^3, with a head c^3 held in the bow or strap e^3, said mandril and head being held up by the spring d^3, so that when the punch a^3 has cut out a wad the latter will again push up into the wad strip by the piston f^3,

substantially as and for the purposes set forth. 22nd. In a machine for loading cartridges, the combination, with a shell carrier, of a wad feeder having its line of feed at an angle to the path of the carrier, a wad cutter and a wad inserter, the said cutter and inserter operating at different points along the line of feed, substantially as described. 23rd. The combination in a machine for loading cartridges, of a wad feeder, a wad cutter, a wad stamp and a wad inserter, said cutter, stamp and inserter operating at different points along the line of feed, substantially as described. 24th. In a machine for loading cartridges, the combination, with the devices for cutting out and inserting the wads into the shell, of a stamp for impressing or printing the number of the charge on the wad situated between the cutter and inserter, whereby the stamp is so arranged that the wad cut out of the strip is impressed with the number of the charge before it is inserted into the shell, substantially as and for the purpose set forth. 25th. The combination in a machine for loading cartridges with powder and shot, of a shell carrier, powder and shot supply, and wad feeders, consisting of the shaft I, the rollers M and M^1 and the guide rollers N in connection with the operating mechanism, substantially as shown and described. 26th. In a cartridge loading machine, the combination, with a shell carrier having a right line movement, of a series of wad-feeding devices, in line with the path of the shell carrier, said feeding devices having a common operating shaft, substantially as described. 27th. In a cartridge loading machine, the combination, with a shell carrier, consisting of an endless belt provided with shell holders, of a series of wad feeders located parallel with said belt, said feeders having a feed movement at right angles to the belt, and a common operating shaft, substantially as described. 28th. In a machine for loading cartridges with powder and shot, a wad supply cutter and inserter, consisting of the shafts I and N^1, provided with rollers M and M^1 and the roller N mounted on a shaft N^1, the tool carrier A, with the punch a^3 attached thereto, the mandril b^3, with a head c^3, said mandril and head being held up by the spring d^3 and the piston h^3 attached to the tool carrier A, whereby the wad is inserted into the cartridge, substantially as shown and described. 29th. In a machine for loading cartridges with powder and shot, the combination, with a cartridge carrier and powder supply, of a wad cutter and inserter, consisting of the tool carrier A, provided with the tools g^3, a^3, f^3 and h^3, and the parts c^3, b^3 and d^3, supported by the band e^3, substantially as shown and described. 30th. In a machine for loading cartridges with powder and shot, a crimper, consisting of the wheel e^3, provided with a shaft b^3, and grooved head c^3, said wheel e^3 being geared to the driving shaft, and operating substantially as shown and described. 31st. In a machine for loading cartridges, the combination, with a shell carrier and powder and shot supply, of means for feeding wad strips, consisting of the eccentric G, geared to the driving shaft, the rod H connected with said eccentric, the shaft I provided with rollers M and the rollers N^1, the shaft I and the rod H being connected as and for the purposes set forth. 32nd. The combination with the shell carrier, provided with shell holders, of means for feeding the shells into the holders, consisting of the supports d^1, the plates e^1 attached thereto, the bands or strips b^1 and c^1 and the tube a^1, combined as and for the purposes set forth. 33rd. In a machine for loading cartridges, a wad cutter, consisting of the guide c^3 and the headed bolt b^3, provided with the spring d^3 supported by the frame E and e^3, and the hollow mandril, provided with a spring g^3 and head f^3, constructed and combined as shown and described. 34th. In a machine for loading cartridges, a wad cutter and means for forcing the same into the cartridge, consisting of the casting e^3, containing the headed bolt b^3, provided with the spring d^3, said parts being supported by the band e^3, and a hollow mandril, provided with a spring g^3 and movable head f^3, and the piston or mandrel h^3 attached to the tool carrier A, substantially as shown and described. 35th. In a cartridge loading machine, wad punching device, consisting of a punch, a movable sleeve surrounding said punch, a support for the wad strip or material provided with a yielding part beneath the punch of the same size as the punch, substantially as described. 36th. In a cartridge loading machine, the combination, with the shell carrier, of the constantly revolving crimper and the tool holder, substantially as described. 37th. In a cartridge loading machine, the combination, with the shell carrier, of the constantly revolving crimper, its supporting spring and the tool carrier, substantially as described.

No. 35,425. Snap Hook. (*Crochet à ressort.*)

Oneida Community, Kenwood, New York, assignee of Harry Eugene Kelley, Niagara Falls, New York, all of U.S.A., 13th November, 1890; 5 years.

Claim.—1st. The improved tubular snap-hook, composed of two separate strips of sheet metal, corrugated in cross-section throughout the main portions of their lengths, and terminating with transversely straight end portions, said strips being disposed with their concave sides facing each other and united by rivets through the flat end portions, and bent longitudinally into the hook shape at one end and terminated with an integral straight and transversely flat shank at the opposite end, and a spring plate rigidly secured to said shank and bearing with its free end on the inner side of the end of the hook, all constructed and combined substantially as described and shown. 2nd. As an improved article of manufacture, a snap hook body composed of two strips of sheet metal rigidly united and formed with transverse grooves in the adjacent sides of the shank, a wire loop passing through said grooves, and a rivet passing through the said metal strips, between the enclosed wire loop and the end of the snap hook shank and the snap attached to said shank, as set forth. 3rd. The within described snap hook body, composed of two strips of sheet metal, corrugated in cross-section throughout the main portions of their lengths, and terminated with transversely straight end portions, said strips being rigidly united with their concave sides facing each other, and having the adjacent sides of the end portions of the shank formed with transverse grooves, curved at their centres from the end of the shank, a wire link passing through the said grooves and a rivet passing through the metal strips between the curved central portions of the aforesaid grooves and end of the shank, and the snap attached to said shank, substantially as described and shown.

No. 35,426. Wiring Structure for Electric Lights. (*Disposition des fils conducteurs pour lampes électriques*).

Edward Hibberd Johnson and Edwin Trueman Greenfield, both of New York, N.Y, U. S. A.; 18th November, 1890; 5 years.

Claim.—1st. In house-wiring for electric light, the combination of a pipe of insulating material, a pair of wires insulated from each other and placed in close proximity to each other within said pipe, and each forming one side of an electric lighting circuit, and a safety catch interpolated in said circuit, substantially as set forth. 2nd. In house-wiring for electric light, the combination, with the building or structure, of a system of insulating pipes extending throughout the same, and comprising main and branch pipes, a pair of wires in each pipe insulated from each other and placed in close proximity to each other, and each forming one side of an electric lighting circuit, and safety catches interpolated in the circuit, substantially as set forth. 3rd. In house-wiring for electric light, the combination of a pipe of insulating material, a pair of insulated wires twisted together within said pipe, each wire forming one side of an electric lighting circuit, and a safety catch interpolated in said circuit, substantially as set forth. 4th. In house-wiring for electric light, the combination, with the building or structure, of a system of pipes extending throughout the structure, comprising main pipes, branch pipes extending from said main pipes continuously to all points where outlets are required, junction boxes connecting the branch pipes to the main pipes, a pair of wires placed loosely in each pipe, such wires being placed in close proximity to each other and insulated from each other, and each forming one side of the electric lighting circuit and safety catches in the junction boxes connecting the wires of main and branch circuits, substantially as set forth. 5th. The fishing-wire having, in combination, a core of wire and a flexible wire coiled spirally on said core, substantially as set forth.

No. 35,427. Compound of Nickel and Carbonic Oxide and Process of Manufacturing the Same. (*Composé de nickel et d'oxyde de carbone, et procédé de fabrication*).

Ludwig Mond, Winnington Hall, Northwick, Chester, England; 18th November, 1890; 5 years.

Claim.—1st. As a new article of manufacture, nickel-carbon-oxide, being a compound of nickel and carbon monoxide of the formula NiC^4O^4, a liquid boiling at about 43° C, under atmospheric pressure, but very volatile in the presence of other gases at ordinary temperature. 2nd. The method of manufacturing nickel-carbon-oxide, which consists in exposing an ore or oxide of nickel to the reducing action of carbon monoxide hydrogen, or a hydro-carbon at the required temperature, cooling the reduced ore and treating it with carbon monoxide. 3rd. The method of manufacturing nickel-carbon-oxide, which consists in exposing finely divided nickel to carbon monoxide at suitable temperatures, or near ordinary atmospheric temperatures. 4th. The method of manufacturing nickel-carbon-oxide, which consists in heating oxalate of nickel out of contact with air till reduction takes place, cooling and treating with carbon monoxide, substantially as described. 5th. The method of manufacturing nickel-carbon-oxide, which consists in exposing finely comminuted nickel to a current of gas containing carbon monoxide, but free from uncombined oxygen and halogens, and condensing the product, substantially as described. 6th. In the process of obtaining nickel-carbon-oxide, exposing a largely extended surface of nickel to carbon monoxide, and when the action becomes sluggish or ceases heating the nickel to the required temperature in a current of hydrogen carbon monoxide or hydro-carbon, and after cooling treating it with carbon monoxide as before.

No. 35,428. Manufacture of Nickel. (*Fabrication du nickel*).

Ludwig Mond, Winnington Hall, Northwick, Chester, England; 18th November, 1890; 5 years.

Claim.—1st. The process of separating metallic nickel from other substances, which consists in reducing the ores of nickel with gaseous fuel and without fusion, and treating the reduced ore at a suitable temperature, as described, with carbonic oxide, thus obtaining nickel-carbon-oxide, and then depositing the nickel from this compound by means of heat. 2nd. The process of separating metallic nickel from other substances, which consists in heating a mixture of oxalate of nickel with other substances, out of contact with air or in a reducing atmosphere, till reduction takes place, then treating the reduced nickel at a suitable temperature, as described, with carbonic oxide, thus obtaining nickel-carbon-oxide, and then depositing the nickel from this compound by means of heat. 3rd. The process of separating metallic nickel from other substances, which consists in treating materials containing metallic nickel at a suitable temperature, as described, with carbonic oxide, thus obtaining the nickel as a volatile compound called nickel-carbon-oxide, and then depositing the nickel from this compound by means of heat. 4th. In the process of separating metallic nickel by means of carbonic oxide, revivifying the finely comminuted nickel by heating to about 350° C, in a current of hydrogen carbon monoxide or hydro-carbon when action becomes sluggish, and again cooling and treating with carbonic oxide. 5th. In the process of separating metallic nickel from other bodies by means of carbonic oxide, forming the compound nickel-carbon-oxide, and heating the same, whereby the nickel is separated. 6th. The process of obtaining nickel from nickel-carbon-oxide, which consists in heating the same out of contact with air, substantially as described.

No. 35,429. Making Sheets, Stereotypes, Casts, and Coatings of Nickel.

(*Fabrication de feuilles, caractéres stereotypes, moules, et enduits de nickel*).

Ludwig Mond, Winnington Hall, Northwick, Chester, England; 18th November, 1890; 5 years.

Claim.—1st. The process of nickel-plating, which consists in heating the article to be plated, and bringing it in contact with nickel-carbon-oxide in the liquid, or in the gaseous state. 2nd. The process of obtaining stereotype casts or copies of engraved surfaces or patterns in relief, which consists in exposing the surface to be copied in a heated condition to nickel-carbon-oxide, and separating the nickel coating from the matrix. 3rd. The process of obtaining sheet nickel, which consists in exposing a heated surface to nickel-carbon-oxide and separating the nickel from the said surface. 4th. The process of obtaining a nickel tube, which consists in exposing a suitable core coated with graphite or other suitable substance in a heated state to nickel-carbon-oxide, and extracting the nickel tube formed from the core. 5th. The employment in the foregoing processes of solutions of nickel-carbon-oxide or liquid or gaseous mixtures containing the same.

No. 35,430. Combined Shirt and Vest Suspender.

(*Bretelles pour chemises et gilets combinés*).

John Thomas Brodnax, New Orleans, Louisiana, U. S. A., 18th November, 1890; 5 years.

Claim.—1st. The combination of an under garment and suspenders attached thereto at each side of its front portion, and also to the shoulder and back portions, a series of slides which are adapted for attachment to said suspenders; a cord passing through the said slides, and devices for connecting the cord with trousers, the same consisting of slides applied to the cord, and hooks, or their equivalents, attached to the ends of said cords, as shown and described. 2nd. The combination, with the cord and slides applied thereto for connection respectively with the trousers and suspenders attached to a shirt, of a clamp buckle which serves to take up, or lengthen, said cord, as shown and described, for the purpose specified. 3rd. The combination of the clamp buckle, formed of two toothed spring-actuated jaws, having button loops attached, with the cord 5; slides through which the latter passes, suspenders 1, 1, and an under garment, to which the suspenders are secured; the buckle being applied to the ends of the cord; as and for the purpose specified. 4th. The combination, with the under garment and suspenders attached thereto; slides 4, connected with the suspenders; the cord 5, and slides 10; of the elastic tabs, connected with said slides 10, as shown and described. 5th. The combination, with an under garment and suspenders attached thereto, and converging on the back of the elastic extension 14; slide 4, attached to part 14; a cord 5, and slides and hook for connection with trousers, as shown and described. 6th. The combination with the under garment, the suspenders attached thereto and converging at the back, the extension slides 4, cord 5, slides and hooks, of the elastic suspending device, consisting of an elastic bar and slides attached to its ends, as shown and described. 7th. An under garment, having a reinforcement extending from the shoulder down both sides of the front, the same consisting of a piece of fabric stitched along its side edges to the said under garment and left free at all other points, thereby forming a passage for suspenders; as shown and described. 8th. An under garment having a reinforce extending from the shoulder down both sides of the front, the same consisting of a piece of fabric stitched along its side edges, on lines diverging downwards, as shown and described, for the purpose specified. 9th. The combination, with a shirt, or a reinforcement applied to its front on both sides of the bosom, and each consisting of a piece of fabric which is stitched to the side edges of said bosom and extending laterally to the arm holes, and stitched along its outer edge from the shoulder to its lower end (near the bottom of the bosom), as shown and described. 10th. The combination, with an under garment, of reinforcements applied to the front, on each side, and the yoke hereinbefore described, which is applied to the back of said shirt and extends across the shoulders, narrowing thence downward to its termination near the middle of the back of the shirt, the said reinforcements and yoke being stitched along their side edges, and left free or unattached to the body of the garment at other points, as shown and described. 11th. The combination, with a dress shirt, of the front reinforcements, and the yoke applied to the back, the same consisting of pieces of fabric which are united at the shoulder and stitched to the body of the shirt along lines converging from the bottom outward, thereby forming passages for the suspenders which are narrowest on the shoulder, and gradually widen from thence downward, as shown and described. 12th. The combination with an under garment, having reinforcements applied on each side of its front, and stitched to the body of the garment along their side edges only, of suspenders which extend through, and are thus concealed in the passages thus formed; and suitable attachments on the ends of said suspenders for connecting them with trousers, as specified. 13th. The combination, with an under garment, having reinforcements consisting of pieces of fabric stitched to the same along both their side edges, of buttons and button holes arranged at the lower ends of the reinforcements, as shown and described. 14th. The combination, with an under garment, having reinforcements consisting of pieces of fabric stitched to the same along their side edges, and provided with button holes, of buttons attached to the body of the under garment, and suspenders arranged in the passages formed between the said reinforcements and body of the garment; and the diverging straps or cord attachments of said suspenders, between which the buttons serve to secure the reinforcements, as and for the purpose specified.

No. 35,431. Process of Manufacturing Metallic Cross-Bars and Rails.

(*Procedé de fabrication des traverses et rails metalliques*).

William Henderson, Chicago, Illinois, U. S. A.; 18th November, 1890; 5 years.

Claim.—1st. The herein described process of manufacturing cross-bars, rails, and fastenings for window sashes, consisting first in passing the strips of metal through a die or dies, giving the bar the desired conformation or shape, then cutting or sawing the formed strips into proper lengths, then notching the ends of the strips, and then passing the notched strips through a device for bending the same into suitable shape or curve ready for use, substantially as and for the purpose set forth. 2nd. The herein described process of manufacturing metallic cross-bars, rails, and fastenings for window sashes, consisting first in drawing the strips of metal through a die or dies, making the proper conformation or shape, then placing the strips horizontally against a revolving circular saw and cutting them to proper lengths, then notching the ends of the formed strips by placing them longitudinally against a series of revolving discs, then passing the notched strips through a series of rollers, thus bending them to a proper curve ready for use, substantially as shown and described and for the purpose set forth. 3rd. The herein described process of manufacturing metallic cross-bars, rails, and fastenings for window sashes, consisting, first in passing strips of metal through a die or dies forming a bar or cap of desired conformation, then placing the cap on the rib of the bar and cutting them into proper lengths, then notching the ends of the strips, then passing the notched strips through a device for bending the same to a desired curve, then removing the adjustable cap and clipping the ends of the rib of the bar at a desired angle, substantially as shown and described and for the purpose set forth. 4th. The herein described process of manufacturing hollow metallic cross-bars, rails, and fastenings for window sashes, consisting, first in forming a metallic bar and cap in separate pieces, then adjusting the cap on the rib or web of the bar, then bending, cutting and notching the same as a whole, then removing the adjustable cap and cutting the ends of the web or rib of the bar, substantially as and for the purpose specified. 5th. The herein described process of manufacturing metallic cross-bars, rails, and fastenings for window sashes, consisting, first in forming a bar and cap integral, then cutting, bending, and notching the same, and then sawing and cutting it longitudinally, substantially as and for the purpose specified.

No. 35,432. Vehicle Pole Tip.

(*Embout de timon de voiture.*)

Charles Henry Randall, Newark Valley, New York, U. S. A., 19th November, 1890; 5 years.

Claim.—1st. A pole tip, consisting of the body portion formed with longitudinal openings for the passage of the latch, and with interior shoulder *g*, the pivoted latch working through said opening and formed with steps *d* and *e*, and the flat spring within the chamber at the outer end of the casting independent of both the casting and the latch and bent at its center which bears against the latch, substantially as and for the purpose specified. 2nd. The pole tip described, consisting of the body portion formed with longitudinal opening and interior shoulder *g*, having inclined wall *h*, the latch pivoted within the casting and working in the longitudinal opening therein, and formed with two steps *d* and *e*, upon different planes, and the flat spring D, arranged within the casting substantially parallel with the latch and bearing thereon, at its center only, and at one end bearing against the shoulder *g*, and its other end curved to form a rounded bearing on the upper wall of the chamber of the casting, substantially as shown and described and for the purpose specified.

No. 35,433. Lacing Hook for Boots, Shoes, Gloves, etc.

(*Agrafe de lacet pour chaussures, gants, etc.*)

Henry Havelock Cummings, Malden, Massachusetts, U.S.A., 19th November, 1890; 5 years.

Claim.—The method of forming a hollow-pointed shank of a lacing hook, consisting in cutting partially into the periphery of a metal blank and overturning a portion thereof, shaping the same to constitute the hollow point, and grooving the portion not overturned, to thereby form of it a hook, substantially as described.

No. 35,434. Automatic Air Compressor.

(*Compresseur automatique à air.*)

John William Eloheims, Red Jacket, Michigan, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. The combination, with the storage reservoir and supports, of the oscillating and vertically-movable cylinder, the tubular axis and the piston actuated by the movement of said cylinder, and controlling the movement of air through said axis, as set forth. 2nd. The combination, with the oscillatory and vertically-movable cylinder, of the cylinder G, the piston therein actuated by the movement of the first-mentioned cylinder, the tubular axis having communication with the cylinder G, and the flap-valves in the axis and piston, substantially as specified. 3rd. The combination, with the framing, the depending frame, the vertically-movable cylinder, the rotary tubular axis, and the flap-valves in said axis, of the piston actuated by the vertically-movable cylinder, and the cylinder G, with which the axis communicates, and the storage-reservoir also having communication with the tubular axis, substantially as specified. 4th. In a device for the purpose described, the combination with the framing, the storage-reservoir supported thereby, the tubular axis rotatably held in bearings in the framing, the cylinder G, and

depending frame carried by the axis of the connection between the axis and storage-reservoir, the flap-valves in said axis, the cylinder H, provided with a piston-rod, and anti-friction rollers vertically movable on the vertical portions of the depending frame, and the piston carried by the piston-rod and working in the cylinder G, and provided with a flap-valve, substantially as and for the purpose specified.

No. 35,435. Combined Squeezer and Strainer. (*Pressoir et couloir combinés.*)

George Gamlen, Scipioville, New York, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. In a combined squeezer and strainer, a body portion mounted upon supporting legs, and comprising a bottom plate, side plates or walls of segmental form at their top, connected to the bottom plate, a rear plate or wall also connected thereto, a transverse vertical plate or wall adjacent to the front of the machine, and perforated, an additional plate or wall forwardly of and parallel with said part, and disposed apart therefrom to create a passage-way, a perforated "compressor" (or pressing-plate) mounted transversely within the operating chamber, and pivotally secured at its bottom to the machine frame, and at its top portion to a carrying-rod disposed lineally therewith, and having protruding extremities lying movably adjacent to the segmental top of the chamber's side walls, said rod extremities at or near their termination being journaled in bearings adapted to longitudinal travel lineally with the body-sides by means of link-belts secured thereto, which pass to and around sprockets mounted upon the front and rear of the machine, and means for manipulating a sprocket or sprockets by the hand, or otherwise, in combination, substantially as described. 2nd. In a combined squeezer and strainer, a body portion mounted upon suitable supporting legs, and comprising an inclined bottom, segmental side-pieces provided with a segmental longitudinal slot, side plates extending therefrom to the inclined bottom, a rear vertical wall connected to said inclined bottom, front chamber wall comprising a transversely disposed perforated vertical plate having or perforated corrugated plate attached thereto rearwardly, a vertical passage forwardly thereof created by a transversely disposed vertical plate secured a distance from the aforenamed chamber wall, the said plate being curved horizontally at its lower portion and creating a shelf extension thereat, a compressor mounted within the operating chamber proper of the apparatus, and comprising a main supporting plate, suitably perforated, with a perforated corrugated plate secured to its front face, said main or supporting plate being pivotally secured at its lower extremity to a horizontal rod or axle, and at its upper extremity to a horizontal carrying-rod having protruding extremities lying movably within the slot of the respective segmental side-pieces of the body, and thence outwardly journaled in travelling boxes adapted to movement longitudinally with the body by means of link-belts connected thereto and passing to and around sprockets journaled at both the front and rear portions of the body of the machine, and an operating handle for imparting motion to a sprocket or sprockets, in combination, substantially as described and for the purposes specified.

No. 35,436. Wrench. (*Clé à écrou.*)

Friedrich Wilhelm Kasch, Austin, Texas, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. A wrench, comprising a main shank having a jaw on its upper end or head, and provided at one side of its head with a swinging longitudinally-adjustable auxiliary shank having a jaw at its upper end, and an elongated longitudinally-extending rotary handle, having a screw-connection at its upper or inner end with the lower end of said auxiliary shank, and extending at its outer or swinging end down below the head and alongside of the handle portion of the main shank, and adapted to be grasped simultaneously by the same hand grasping the main handle to open the jaws when pressed toward the main shank, and to adjust the space between the jaws when rotated, substantially as set forth. 2nd. A wrench, consisting in a main shank having a jaw at its upper end, and a handle at its lower end, a sleeve pivoted to the main shank, a spring pressing it away therefrom, a sliding shank mounted in said sleeve and provided at its upper end with a jaw, and an elongated rotary handle having a screw-connection with the sliding jaw for adjusting it longitudinally and extending downward below the lower ends of the sleeve, and sliding jaw alongside of the main handle, both of said handles being adapted to be simultaneously grasped by a single hand of the operator, substantially as set forth. 3rd. A wrench, consisting in the main shank having a jaw at its upper end, and a handle at its lower end, a sleeve hinged to the said shank to swing toward and away therefrom, a longitudinally-adjustable shank having a jaw at its upper end extending down through the sleeve, and having a threaded lower portion, and a rotary internally-threaded handle into which said threaded portion extends, said rotary handle extending down alongside of the main handle and serving the twofold purpose of adjusting the adjustable shank longitudinally to set the space between the jaws, and of rocking the said shank to open the jaws and release the article gripped, substantially as set forth. 4th. A wrench, consisting in the main shank having a jaw at its upper end, and a handle at its lower end, a sleeve hinged to said shank to swing toward and away therefrom, a tubular handle connected at its upper end with the lower end of the sleeve to rotate thereon, and provided with internal threads at said upper end and extending downward alongside of the main handle, and a longitudinally-adjustable shank extending down through the sleeve into the said handle threaded to engage the handle-threads, and provided at its upper end with a jaw, and a spring pressing the sleeve away from the main shank and throwing the movable jaw toward the fixed or main shank jaw, substantially as set forth. 5th. The herein-described wrench, consisting in the main shank having a jaw at its upper end, and a handle at its lower end, a sleeve hinged to said shank open at its ends and closed on all sides, a tubular handle closed at its lower end connected at its upper internally-threaded end with the lower end of the sleeve to rotate thereon, a spring pressing the sleeve away from the main shank, and an adjustable shank extending down through the sleeve into the said handle and having exterior threads engaging the handle threads, the said rotary handle extending down alongside of the main handle, substantially as set forth.

No. 35,437. Weeding Machine. (*Extirpateur.*)

Ambrose L. Saddlemyre, Knox, New York, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. The combination, with the longitudinal shaft F, inclined forwardly and downwardly, and actuated by gears, pinion H, secured to said shaft, shaft I, provided with gear I', set at an angle with shaft F, and inclining outwardly and upwardly, of the adjustable-secured hub *b*, on shaft I, and the series of blades and cutters *a*, *a*, arranged relatively oblique to the direction of the axis of hub *b*, with their cutting-edges inclined relatively inwardly and toward shaft I, substantially as and for the purposes set forth. 2nd. The combination, with gear D, revolved by the drive wheel shaft F, provided with pinions G and H, of the shaft I, provided with pinion I', and set at an angle to the inclined shaft F, and inclined upwardly and outwardly from the axis of pinion I', and the series of cutters and blades connected with the central hub *b*, adjustably secured to shaft I, and having their cutting-edges made from one side edge to the other inclined in relation to the axis of said shaft, substantially as and for the purposes set forth. 3rd. The combination, with the frame A, mounted on drive wheels, and the gear mechanism described, of the hinged brackets having within them bearings E, E', the suppleme tal bearings *e*, and the shaft of the revolving hoe, substantially as and for the purposes set forth.

No. 35,438. Pulsating Electric Generator. (*Générateur électrique à pulsation.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U. S. A., 19th November, 1890; 5 years.

Claim.—1st. The combination, with a sectional commutator and a source of electric currents, of a set or sets of brushes constantly moved about said commutator towards and away from the points of maximum and zero electro motive force, and suitable working circuits supplied from said brushes and in which the potential is caused to constantly rise and fall by the action of the moving brushes. 2nd. The combination, with a sectional commutator and a source of electric currents, of a set or sets of stationary brushes upon the commutator, a set or sets of brushes constantly moved about said commutator to and from the stationary brushes, and suitable working circuits supplied from said commutator brushes, and in which the potential is caused to constantly rise and fall by the action of the moving brushes. 3rd. The combination of an electric machine of the continuous current type, provided with collecting and distributing commutator brushes upon the commutator thereof, and means for constantly changing the potential between the said collecting and distributing brushes, and thereby changing the continuous into a pulsating or intermittent current in a closed working circuit. 4th. An electric generator having a sectional armature and commutator, and a set of stationary brushes therefor, an additional brush or brushes constantly moving upon said commutator to raise and lower the potential in the working circuits of the machine. 5th. An electric generator having a sectional armature and a sectional commutator, a set or sets of stationary brushes upon said commutator, and a set or sets of brushes capable of constantly being moved upon the sectional commutator toward and away from the points of maximum, and zero electro motive force. 6th. A system of generating and distributing currents of rising and falling potential, consisting of a dynamo electric generator having one or more sets of stationary brushes upon the commutator thereof, one or more brushes constantly moving about the commutator to and from the stationary brushes, and connections between the working circuit or circuits, and the stationary and moving brushes. 7th. An electric generator of the continuous current type, having an armature and commutator, two or more main brushes upon the commutator, and one or more brushes capable of constantly revolving upon the commutators in order to produce constantly recurring changes of potential between the main and revolving brushes, and connections from main and revolving brushes to working circuits. 8th. An electric generator having an armature and commutator therefor, two main stationary brushes, one or more brushes capable of constantly moving around the commutator, and working circuits and translating devices between said brushes, and actuated by the recurring rise and fall of current in said working circuits. 9th. The combination, with a generator or armature of the continuous current type, of working circuits therefor, and connections between one side of each circuit and the commutator brushes, and an additional commutator brush or brushes connected to the other sides of said working circuit, and means for constantly moving the auxiliary brush or brushes upon the commutator to produce a rising and falling of potential in the working circuit. 10th. The combination, with a generator or armature of the continuous current type, of working circuits therefor and connections between one side of each circuit and the main commutator brushes, and an additional commutator brush or brushes connected to the other sides of said working circuit, and means for constantly rotating the auxiliary brush or brushes continuously around the commutator to raise and lower the potential successively in the several circuits. 11th. A pulsating current generator, having an armature with sectional winding and a sectional commutator therefor, one or more sets of stationary brushes upon the revolving commutator, and one or more constantly moving brushes upon said commutator in order to vary the potential between the stationary and the moving brushes, and proper circuits from said brushes to the working circuit or circuits. 12th. A system of producing electric currents of succeeding rising and falling waves, consisting of an electric machine capable of producing a potential between its stationary brushes or collectors, and a travelling constantly moving brush or brushes adapted to be moved between the main brushes of

the machine upon the sectional commutators of the same so as to produce a difference in potential between the stationary and the moving brushes, and proper connections between the stationary and moving brushes and the working circuit. 13th. The combination, with a source of pulsating or rising and falling currents, of an electro magnetic reciprocating engine having a motor coil or coils, and a magnetic piston moved within the coil or coils in synchronism with the rise and fall of energy therein. 14th. The combination, with a source of pulsating or rising and falling currents, of two working circuits connected therewith, an electro dynamic reciprocating engine having two motor coils, one in each working circuit, and means for regulating the flow of currents in the respective coils. 15th. The combination, with a source of pulsating or rising and falling currents, of a reciprocating electro magnetic engine having at opposite ends thereof motor coils of different capacities energized in alternation, and two circuits extending between the source of current and said motor coils, whereby either the forward or backward stroke may be made to preponderate in power. 16th. The combination, with a sectional commutator and a source of continuous currents, of a set or sets of stationary brushes upon the commutator, a set or sets of brushes moved about said commutator to and from the stationary brushes, two working circuits connected to said commutator brushes and including the motor coils of an electro magnetic reciprocating engine, said coils being of different conductive capacity and in which the potential is caused to rise and fall by the action of the moving brushes. 17th. The combination, with a sectional commutator and a source of continuous currents, of a set or sets of brushes arranged to be constantly moved about the commutator, and driving gear connected to a suitable source of power for continuously moving said brushes about said commutator, and thereby varying the potential of currents transmitted therethrough to suitable working conductors. 18th. The combination, with a sectional commutator and a source of continuous currents, of a set or sets of stationary brushes upon the commutator, a set or sets of brushes arranged to be constantly moved about said commutator to and from the stationary brushes, and driving gear connected to a suitable source of power for continuously moving the movable brushes about the commutator. 19th. The combination, with a sectional commutator and a source of continuous currents, of a set or sets of stationary brushes upon the commutator, a set or sets of brushes arranged to be movable about said commutator to and from the stationary brushes, a wheel or bearing moving concentrically with the commutator and arranged to actuate the the moving brush or brushes, a counter shaft and mechanical connections extending from the counter shaft to the counter shaft, and from the counter shaft to the support of the moving brush or brushes. 20th. The combination, with a source of pulsating or rising and falling currents of relatively high potential, of an electro magnetic reciprocating engine having a motor coil or coils, and a magnetic piston moved within the coil or coils in synchronism with the rise and fall of energy therein, and tension reducing devices in circuit with the said motor coils and the supply circuit.

No. 35,439. Caster. (*Roulette de meuble.*)

William Artemus Wright, Ayer, Massachusetts, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. In a caster, the yielding ferrule C, made with the slits *a*, *a*, convex in form, encircling a caster-socket, combined with the recess O, O, of said socket within which it is sprung longitudinally, and adapted by its own spring or tension when applied to an article of furniture to hold the same in place, substantially as set forth. 2nd. In a caster, the yielding ferrule C, convex in form, sprung within the recess O, O, of a caster-socket, provided with the point or finger H, extending through the aperture E, of the caster-socket, in combination, with the groove D, of the caster-shank A, in which it is adapted to lie so that the caster is held in place, substantially as set forth.

No. 35,440. Lighting Device.

(*Appareil d'eclairage.*)

Louis Alexander Roberts, Carbondale, and Thomas Henry Watts, Scranton, both of Pennsylvania, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. In a lighting device for lamps, the combination, with the holders for the igniters, of the rod to which they are secured, mounted in bearings on the lamp and movable toward and from the igniting point of the wick, substantially as described. 2nd. In a lighting device for lamps, the combination, with the holder for the igniters, of the rod to which they are secured, mounted in bearings and movable longitudinally to bring said holders in proximity with the igniting point of the wick, substantially as described. 3rd. In a lighting device for lamps, the combination, with the holders for the ignitors, of the rotary and longitudinally movable rod to which they are secured, mounted in bearings on the lamp, substantially as described. 4th. In a lighting device, the combination, with the oil pot and the tube secured thereto, of the rod passing through said tube, the ignitor holders on the upper end of said rod, and the vertically movable handle on the bottom, whereby said rod is capable of a rotary and longitudinal movement to bring the lighter-holders in proximity with the wick, and a friction surface in proximity to the wick, substantially as described. 5th. In a lighting device, the combination, with the longitudinally movable rod mounted in bearings and carrying the ignitors, of the lock for holding said rod retracted, substantially as described. 6th. In a lighting device for lamps, the combination, with a rotatable and vertically movable holder for the igniter, of an inclined friction surface for simultaneously igniting and raising the ignitor when the holder is rotated, substantially as described. 7th. In a lighting device for lamps, the combination, with a rotatable and vertically movable holder for the ignitor, of an inclined friction surface with which the igniter co-operates and the spring for retracting the holder, when raised, substantially as described. 8th. In a lighting device for lamps, the combination, with a rotatable and vertically movable holder for the ignitor, of a double inclined friction surface for co-operating with the igniter, substantially as described. 9th. In a lighting device for lamps, the combination of the rotatable holder, its rods, the retracting spring applied to said rod, and the inclined friction surface, substantially as described. 10th. In a lighting device for lamps, the combination with the vertical rod, of the ignitor-holder consisting of the plate having a central aperture and provided with the arms and struck-up sockets, substantially as described. 11th. In a lighting device for lamps, the vertical rod, the holder at the upper end of the same, the ring or handle at the lower end thereof, the volute or conical retracting spring in combination with the inclined friction surface, substantially as described.

No. 35,441. Awning Frame.

(*Ca lre pour auvents.*)

Charles T. Ward, New Haven, Connecticut, U.S.A., 19th November, 1890; 5 years.

Claim.—The herein described portable frame for awnings, consisting of the top rod A, and base-rod F, each provided with adjusting-screws at the respective ends, combined with sockets P, hung to the base-rod F, the outer rod K, and the side rods L, L, detachably connected at their outer ends to the said rod K, said rods L, L, provided at their inner ends with adjusting-screws adapted to set in said sockets P, all substantially as and for the purpose described.

No. 35,442. Vehicle Running Gear.

(*Train de voiture.*)

Samuel W. Sharpe, Osage, Minnesota, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. The combination, with the front and rear axles and wheels, of the rear reach, the plate secured to the forward end thereof, and slotted as described, the front reach pivotally connected with the front axle and with the front hounds, and the front hounds carrying a roller working in the slot of the plate in the rear reach, substantially as shown and described, and for the purpose specified. 2nd. The combination, with the front and rear axles, wheels, and reaches, and hounds, of the pin pivotally connecting the rear end of the forward reach with the forward end of the rear hounds, the slotted plate in the rear hounds, and the roller and guide bars in the front hounds, substantially as shown and described.

No. 35,443. Thresher and Fanning Mill.

(*Machine à battre et à cribler.*)

Thomas Nicole, Isle Verte, Province of Quebec, Canada, 19th November, 1890; 5 years.

Claim.—1st. In a threshing machine, a fanning and screening apparatus so constructed that it may be detached from the thresher and used independently for cleaning grain, substantially as herein shewn and described. 2nd. A threshing machine having fanning and screening mechanism so arranged and constructed that it may be removed from the thresher, and used separately as a hand power fanning mill, substantially as shewn and described. 3rd. In a threshing machine, in which the cleaning mechanism is removable for use as an independent machine, the second beater H, placed at the tail end of the carrier, and provided with two rows of spirally set teeth, substantially as shewn and described.

No. 35,444. Roof Screw. (*Vis pour toitures.*)

Daniel B. Corley, Abilene, Texas, U. S. A., 19th November, 1890; 15 years.

Claim.—As a new article of manufacture, a screw consisting of a threaded shank having an integral head, an enlarged collar or flange on said shank below the head thereon, and an elastic cushion on the shank, immediately below the enlarged collar or flange, for the purpose described, substantially as set forth.

No. 35,445. Coin Operated Apparatus for Vending Cigars, etc. (*Appareil actionné par une pièce de monnaie pour la vente des cigares, etc.*)

Henry Schmidt, Montreal, Quebec, Canada, 19th, November, 1890; 5 years.

Claim.—1st. The combination, with the case 1, having a coin slot 5, and tube 14, and a discharge aperture 3, of a box 8, to contain the articles to be vended, a rocking trough 10, a pull handle to rock said trough, a pivoted yoke 13, engaging the trough and provided with a foot *b*, closing the coin tube and operated by impact of the coin to release the trough, whereby said trough when rocked discharges the article to be vended, and releases the coin from the coin tube, as set forth. 2nd. The combination of the rock trough 10, having an eccentric *c*, at one end, a pull handle 6, to rock said trough, a yoke 13, engaging and disengaging the trough and provided with a foot *b*, and a coin tube 14, intermittently closed by said foot, and operated by the pull handle to release the coin and discharge the article to be vended, as set forth. 3rd. The combination, with the case 1, rock trough 14, pull handle 6, yoke 13, and coin tube 14, of the removable cigar-containing box 8, having a removable end *f*, and hinged side *e*, as set forth.

No. 35,446. Soap Powder Canister. (*Canastre pour savon en poudre.*)

Frederick S. Fairchild, Bridgeport, Connecticut, U.S.A., 19th November, 1890; 5 years.

Claim.—1st. In a device of the character described the combination with the cylindric canister having a bracket and provided

with openings in its lower end of the shaft journaled in and extended lengthwise of the canister, the perforated cut-off plate secured to said shaft, and against the outer surface of the perforated end of the canister, the spiral spring arranged around the shaft and adapted to hold the cut-off plate normally closed, and the agitators secured to the shaft and adapted to stir the contents simultaneously with the movement of the cut-off, substantially as specified. 2nd. The combination in a device of the character described, with the canister having a perforated bottom of the movable perforated cut-off plate, the spring-actuated shaft secured to and moved by said cut-off plate, the agitators 11 for stirring the mass in the canister, and the downwardly turned agitators 10, arranged one for each opening and in close proximity thereto, whereby at each movement of the plate a stirring of material is effected immediately over each opening, substantially as set forth. 3rd. In a device of the character described, the combination with the canister having perforations in its bottom for the escape of its contents, of means, as a bracket, for securing it to the wall, and a perforated cut-off plate pivoted to the bottom of the canister and movable with reference to the openings therein, substantially as specified. 4th. In a device of the character described, the combination with the canister having perforations in its bottom, and means for its attachment to the wall or other stationary object of the perforated and spring-actuated cut-off plate pivoted to the bottom of the canister, and stops secured on said canisters whereby the movement of the plate is limited, substantially as set forth. 5th. In a device of the character described, the combination with the canister having perforations in its bottom for the escape of the contents, and the bracket for the support of the canister of the perforated and spring-actuated cut-off plate arranged against and adapted to move across the bottom of the canister, and a plurality of agitators arranged within the canister and operated by the cut-off plate, as described. 6th. In a device of the character described, the combination with the canister having perforations for the escape of the contents of the shaft journaled in the bottom of the canister, the perforated cut-off plate having a handle and secured to the lower end of the shaft, the agitators projecting from said shaft within the canister, and a spring secured to said shaft and against whose action the rotation of said shaft is effected, substantially as and for the purpose specified. 7th. In a device of the character described, the combination with the canister having perforations for the escape of its contents of the spring-actuated shaft journaled in and extending lengthwise of said canister the perforated cut-off plate secured to said shaft against the outer surface of the canister, and a series of agitators secured to said shaft and having their ends turned downward into close proximity to the openings in the canister, substantially as specified.

No. 35,447. Wire Fence. (*Clôture en fil de fer*).

John, Peter, and Peter W. Sommers, all of Tremont, Illinois, U. S. A., 19th November, 1890; 5 years.

Claim.—1st. In a woven wire fence the combination of the continuous cable C, the horizontally parallel frame wires D, D^{I}, D^{II}, D^{III}, D^{IIII}, E, forming the frame work on which the key stone meshes comprising the netting are woven, the continuous wire H, twisted with the frame wires at the intersecting points into the short cables, by means of which the said meshes are firmly retained in their original shape, all substantially as described and set forth.

No. 35,448. Castor for Pepper, etc. (*Poivrier, etc.*)

John Beazley, New Barnet, Hertfordshire, England; 19th November, 1890; 5 years.

Claim.—1st. The combination with a pepper castor or other receptacle for containing pulverulent material having a perforated top for sprinkling the pepper, etc., the use of a valve, disc or cover closing an opening or perforations in a partition beneath the perforated top, such valve or disc being kept closed by spring action and opened against such spring action by a lever stem or push, substantially as described. 2nd. The pepper castor or receptacle A, with perforated top having valve or slide C, with spring action closing openings in diaphragm B, below such perforated tops, and opened by lever or push C^{I}, as herein described with reference to the accompanying drawings.

No. 35,449. Air and Steam Injector for Furnaces, etc. (*Injecteur à air et vapeur pour chaudières, etc.*)

Salyer Reed Earle, Belleville, Ontario, Canada, 20th November, 1890; 5 years.

Claim.—1st. In a steam and air comingled injector, the tapering tube 1, neck 2, and flaring mouth or outlet 6, of oval or elliptical shape throughout in cross section, the larger end of said tube closed and provided with a series of perforations peripherally in combination with a steam pipe or pipes entering the closed end of the tube, as set forth for the purpose described. 2nd. The tapering injecting tube 1, having the larger end closed by a cap and provided with a series of peripheral perforations 5, and a straight neck 2, provided with a flange 3, and a flaring mouth or discharge section 6, having a flange coinciding with the flange 3, and bolted thereto, said sections of elliptical or oval form throughout in cross section, as set forth for the purpose described. 3rd. In an air and steam injector, the combination of the tapering tube 1, closed at the larger end and having peripheral perforations 5, of a steam pipe 8, entering said tube through the closed end and branch pipes connected to said pipe to discharge a series of jets of steam in a distributed manner into the injector tube; for the purposes set forth. 4th. The tapering tube 1, closed at the larger end and provided with peripheral air perforations 5, and having a hood 12, surrounding the larger end of the tube and provided with doors 13, enclosing the air perforations 5, as and for the purposes set forth.

No. 35,450. Shuttle Guard for Looms.

(*Garde-travette pour métiers mécaniques*).

Thomas Jefferson Benson, Augusta, Georgia, U.S.A., 20th November, 1890; 5 years.

Claim.—1st. The combination with the hand-rail and the shell-washers applied to opposite sides of each end thereof of a shuttle-guard rod, its holding bolts and the nuts applied to the said bolts. 2nd. The combination with the hand-rail and the shell-washers applied to opposite sides of each end thereof of a shuttle-guard rod, the eyebolts having flanges as described, the nuts on the guard-rod on opposite sides of the eyes of the bolts and the nuts on the bolts. 3rd. The combination with the hand rail and clamping-bolts of the guard-rod formed with rests at the ends thereof, as described, and the steadying-sockets applied to the said rod at such rests. 4th. The combination with the hand-rail and clamping bolts of the guard-rod formed with rests at the ends thereof, as decribed, and the steadying-sockets formed with the tubular portions extending out from the face of the hand-rail and with the lateral clamping portions receiving the said rests. 5th. The combination with the hand-rail and the eyebolts and their nuts of the guard-rod bent to form rests at the ends thereof, as described, the nuts for holding the said rods to the eyebolts and the steading-sockets formed with the tubular portions extending out from the hand-rail, and with the lateral clamping portions receiving the said rests.

No. 35,451. Tuck Folder for Sewing Machines. (*Machine à coudre faisant les plis*).

Lucy Jane Pearsall, Fort Edward, New York, U. S. A., 20th November, 1890; 5 years.

Claim.—1st. In a tuck-folder for sewing machines a main bar A made of a single flat plate and having a continuous longitudinal slot *a* extending from end to end thereof in combination with a plate or guide B arranged at right angles to said main bar, and on which the main bar is adjustable, longitudinally means for clamping said main bar to the plate or guide at any desired longitudinal adjustment, a sheath at the inner end of the plate or guide for detachably connecting said plate and main bar to the presser-foot of a sewing machine, and gages adjustably connected to the main bar on opposite sides of the plate or guide, substantially as described for the purpose set forth.

No. 35,452. Churn. (*Baratte.*)

John W. Coyne and George Allen Shannon, both of Ridgetown, Ontario, Canada, 20th November, 1890; 5 years.

Claim.—1st. In a churn the combination of the supporting frame a bracketed bearing E, thereon a platform D, on said bearing a tub or churn body A, upon the said platform a central well M, in the tub radial dashers N, N, N, N, on said well A, shaft P, stationarily secured within the bracketed bearing E, a second shaft R, attached by means of a socket to the said shaft P, and extending through the well to above the level of the sides of the tub a cross-bar T, at the top of the shaft R, and the depending blades V V, extending from the sides of the tub to near the edges of the dashers N, N, N, N, substantially as and for the purpose hereinbefore set forth. 2nd. In a churn the combination of a rotary platform D, the churn body secured thereto central radial dashers N, N, N, N, secured to said churn body and the stationary dashers extending to, at or near the edges of said radial dashers, substantially as and for the purpose hereinbefore set forth. 3rd. In a churn the combination with the churn body A, and means for rotating the same of the central well M, extending to or near the level of the top of the sides of said churn body the radial dashers N, N, N, N, the shaft R, extending within said well the socket Q, at the bottom of said shaft R, engaging the bearing C, on the stationary shaft P, the cross-bar T, and the blades V, V, substantially as and for the purpose hereinbefore set forth. 4th. In a churn the combination with the churn body A, of the stationary blades V, V, secured independently of said churn body at the sides thereof and the radial dashers N, N, N, N, centrally secured to the churn body and carried thereby, substantially as and for the purpose hereinbefore set forth.

No. 35,453. Holdback for Vehicles. (*Ragot de limonière*).

George Lyman Hydorn, Lacona, New York, U. S. A., 20th November, 1890; 5 years.

Claim.—1st. A holdback constructed from a single piece of wire bent to form a point 1, thence curved outwardly, thence bent to form a shoulder 3, thence extending back and a cross-bar across the arms adjacent to the shoulder secured by a screw, and a screw through the eye upon the rear end of the arms, in combination as set forth.

No. 35,454. Railway Crossing Signal.

(*Signaux pour passages de chemin de fer.*)

W. J. Butler, Woodstock, Ontario, Canada, 20th November, 1890; 5 years.

Claim.—1st. In a device of the character described, the combination with an upper and lower angle lever, the longer member of the lower angle lever being adapted for engagement with the wheels of a passing train, and a pitman connection between the two angle levers, of a gong or bell, a striking lever, a trip lever engaging the striking lever, and a connection between the trip lever and the upper angle lever, substantially as shown and described. 2nd. In a device of the character described, the combination, with an upper

and lower angle lever, the longer member of the lower angle lever being provided at one end with a crank arm adapted to be engaged by the wheels of a passing train, and a connecting rod uniting the two angle levers, of a signal device, a trip lever adapted for engagement with the signal device, a cable provided with a take-up, connecting the upper angle lever and the trip lever, and a return spring also connected with the trip lever, substantially as and for the purpose specified. 3rd. In a device of the character described, the combination with an upper and lower angle lever and a connecting rod uniting the same, one extremity of the lower lever being adapted for engagement with the wheels of a passing train, and guide devices connected with the lower lever of a bell or gong, a spring-controlled striking lever, a trip lever engaging the striking lever at one end, a cable, provided with a take-up attached to the opposite end of the trip lever and the upper angle lever, and a return spring connected with the trip lever at a point opposite its connection with the cable, substantially as and for the purpose specified. 4th. In a device of the character described, the combination, with an upper and lower angle lever and a connecting rod uniting the same, one extremity of the lower lever being adapted for engagement with the wheels of a passing train, and guide devices connected with the lower lever of a bell or gong, a spring-controlled striking lever, a trip lever, the tongue of which engages with the striking lever at one end, a cable, provided with a take-up attached to the opposite end of the trip lever and the upper angle lever, and a return spring connected with the trip lever at a point opposite its connection with the cable by a chain and a take-up substantially as and for the purpose specified. 5th. In a device of the character described, the combination, with a main lever, one end of which is adapted for engagement with the wheels of a passing train, guide devices engaging with the lever, a shorter lever arranged at a right angle to the main lever and connected with one extremity thereof, and an elbow lever, the horizontal member whereof is connected with the shorter lever, of a gong or bell, a spring-controlled striking lever fulcrumed near the gong or bell, a trip lever fulcrumed below the striking lever and adapted for engagement therewith, a cable provided with a turnbuckle connecting one end of the trip lever with the elbow lever, and a return spring connected with the trip lever at a point opposite to its connection with the cable, by a chain and take-up, as and for the purpose specified.

No. 35,455. Pulsating Current System.

(*Système de courant à pulsation.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 20th November, 1890; 5 years.

Claim.—1st. The combination, with a source of pulsating or intermittent electric currents, of a line circuit, a reciprocating electric engine, an inductional transformer, having its primary coils in circuit with the source and its secondary coils connected to the working circuits of the said reciprocating engine. 2nd. The combination, with a source of pulsating or intermittent electric currents of a line circuit, a reciprocating electric engine having a motor coil or coils, an inductional transformer, having the primary coil or coils in the line circuit, and its secondary coil or coils connected to the motor coil or coils of the engine. 3rd. The combination, with a source of pulsating or intermittent currents, of a duplex circuit receiving alternate phases, a reciprocating electric engine, having a plurality of motor coils, a duplex converter, having primary coils in circuit with both the main circuits, and secondary coils connected to the motor coils of the engine and arranged to supply current thereto in alternation. 4th. The combination, with a source of pulsating or rising and falling currents, of a reciprocating electro-magnetic engine, having a plurality of motor coils, two circuits extending between the source of current and the motor coils, and connections between the conductors of one circuit and the majority of said motor coils, and between the conductors of the other circuit and the remainder thereof.

No. 35,456. Converting Continuous into Pulsating Electric Currents.

(*Transformation de courant électrique continu en courant à pulsation.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 20th November, 1890; 5 years.

Claim.—1st. In a system of converting continuous into pulsating electric currents, the combination of a source of continuous currents and a current distributer in circuit therewith, one or more working circuits arranged to receive current from the current distributor, and means for causing the continuous current supplied thereto to rise and fall in the working circuit or circuits connected therewith, said means comprising a commutator brush or brushes connected to the said working circuit or circuits, and arranged to be constantly moved about the commutator of the current distributer towards and away from the points of maximum and zero potential, and at the desired rate of speed. 2nd. In a system of converting continuous into pulsating electric currents, the combination of a source of continuous currents and a current distributer in circuit therewith, said current distributer comprising a revolving armature provided with a sectional commutator, and having stationary commutator brushes connected to the source of continuous current, and an additional commutator brush arranged to be moved around the commutator between the points of maximum and zero potential upon said commutator, working circuits and connections between said working circuits and the stationary and moving commutator brushes, whereby the currents supplied to said working circuits are caused to rise and fall. 3rd. The combination, with a source of continuous currents, one or more working circuits, and a current distributor receiving the said continuous current, and supplying the same to the working circuit or circuits as currents having a defined rise and fall of any desired rate, said current distributor comprising a rotating armature and sectional commutator, and a set or sets of brushes constantly moving about said commutator at any desired speed towards and away from the points of maximum and zero electro motive force, and connections between said brush or brushes and the working circuits. 4th. The combination, with a source of continuous currents, of a current distributer comprising an armature and commutator of the continuous current type, a stationary set of brushes upon said commutator, connections between said brushes and one or more working circuits, one or more brushes arranged to move around said commutator and also connected to the working circuits, whereby the supply current is distributed to the working circuits, and the potential therein caused to rise and fall constantly by the action of the moving brush or brushes. 5th. The combination, with a source of continuous currents of one or more working circuits and means for distributing said continuous current to the said working circuit or circuits, and for causing the potential thereof to constantly rise and fall, comprising an electro dynamic motor of the continuous current type, connections between the source of continuous current and the main commutator brushes of the motor and between the working circuits and said brushes, and one or more additional brushes arranged to be moved about the commutator of the motor and connected to the working circuit or circuits, whereby the pulsating effect is produced upon the continuous supply current.

No. 35,457. Multiple Current Pulsating Generator. (*Générateur de courant multiple à pulsation.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 20th November, 1890; 5 years.

Claim.—1st. The combination, with a source of continuous current, of main stationary brushes and circuit connections extending therefrom, auxiliary connections extending to a plurality of separate working circuits, and a moving brush for each circuit, said brushes travelling about the commutator and acting to vary the potential in the several circuits connected thereto. 2nd. The combination, with a source of continuous current, a sectional commutator and main stationary brushes, a plurality of separate working circuits extending therefrom, translating devices connected therewith, additional circuit connections extending from the translating circuits, and a number of moving commutator brushes arranged to constantly travel around the commutator, one of said moving brushes being provided for and connected to the additional conductor of each translating circuit. 3rd. A system of generating and distributing currents, of rising and falling potential, consisting of a dynamo electric generator or armature of the continuous current type, having one or more sets of stationary brushes upon the commutator thereof, a plurality of auxiliary brushes constantly moving about the commutator to and from the stationary brushes and at different rates of speed, and connections between a plurality of working circuits and the stationary and moving brushes, whereby the current is caused to rise and fall at unequal rates of speed in the different circuits. 4th. A system of generating and distributing currents, of rising and falling potential, comprising a sectional armature and a sectional commutator, a set of stationary brushes upon said commutator, and a plurality of brushes, and means for constantly moving said brushes upon the sectional commutator towards and away from the points of maximum and zero electro motive force and a plurality of separate working circuits connected to the stationary and moving brushes, and in which the potential is caused to rise and fall in accordance with the rate of movement of the travelling brushes. 5th. A system of generating and distributing currents of rising and falling potential, consisting of a sectional armature and a sectional commutator, a set of stationary brushes upon said commutator, and a plurality of movable brushes, each brush being provided with separate means for moving the same about the commutator towards and away from the points of maximum and zero electro motive force, and working circuits, connected respectively to the stationary and to the moving brushes, whereby the potential is caused to rise and fall in each working circuit in accordance with the rate of movement of each travelling brush. 6th. The combination, with a source of continuous current, a sectional commutator, stationary brushes therefor and working circuits extending from said brushes, of translating devices in said circuits, additional connections extending from the translating circuit to additional brushes upon the commutator, and means for constantly moving the additional brushes around the commutator towards and away from the diameter of commutation, singly or together, and thereby constantly varying the potential in the translating circuits.

No. 35,458. Alternate Current Pulsating System. (*Système de courant alternatif à pulsation.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 20th November, 1890, 5 years.

Claim.—1st. The combination, with an electric machine of the continuous current type, of working conductors and means for changing the continuous current into pulsatory or defined currents of alternating polarity, and supplying the same direct to the said working conductors, said means comprising commutator brushes arranged to be constantly moved around the commutator towards and away from the points of maximum and zero electro motive force, and connections between said distributing brushes and the working conductors, whereby said conductors are supplied wholly from said brushes. 2nd. The combination, with an electric machine of the continuous current type, provided with a set of distributing commutator brushes upon the commutator thereof, means for constantly moving the distributing brushes around said commutator, and working circuits connected to said moviug brushes only and supplied therethrough with currents of alternating polarity. 3rd. The combination, with a sectional commutator and a source of electric currents, of a set of brushes constantly moved about said commutator towards and away from the points of maximum and zero electro-motive force, and suitable working circuits wholly supplied from said moving brushes, and direct acting driving connections between

the axis of the commutator and the moving brushes. 4th. The combination of an electric generator of the continuous current type, a set of stationary brushes therefor, and connections between the stationary brushes and the field magnet coils for exciting the same, a set of brushes arranged to be constantly moved about the commutator, and working conductors connected to said moving brushes, and supplied thereby with currents of alternating polarity. 5th. The combination, with an electric machine of the continuous current type, provided with distributing commutator brushes arranged to move about the commutator thereof, working conductors connected to said moving brushes and supplied with currents of alternating polarity, and driving connections between the moving commutator brushes and the moving commutator brushes and the moving part of the electric machine, whereby the said brushes may be moved at a rate of speed relative to that of the commutator for determining the rate of phase in the working conductors, 6th. The combination of an armature rotating in a field of force and a sectional commutator therefor, and a set or sets of brushes arranged to be constantly moved about said commutator to and from the points of maximum and zero potential, and driving gear connected to and actuated by the armature shaft for continuously moving the said movable brushes about the commutator. 7th. The combination of an armature rotating in a field of force and having a sectional commutator, a set or sets of brushes arranged to be movable about said commutator to and from the points of maximum and zero potential, a wheel or gearing moving concentrically with, but independent of, the commutator, and arranged to carry the moving brush or brushes, a counter-shaft and mechanical connections extending from the commutator shaft to the said counter-shaft, and from the counter-shaft to the support of the moving brush or brushes.

No. 35,459. Alternating Current Electric Reciprocating Engine. (*Machine électrique pour courant alternatif à mouvement reciproque.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 20th November, 1890; 5 years.

Claim.—1st. In a system of electro-magnetic reciprocating engines, a source of electricity giving defined phases of current in a closed circuit, engines having motor coils placed in said circuit and energized by the said defined currents, and a magnetic piston or plunger placed under the influence of the said coils, substantially as described. 2nd. A reciprocating electric engine system, comprising an engine having two or more motor coils, and a magnetic piston adapted for reciprocation within said coils, an electric generator adapted to produce rising and falling defined electric impulses, and circuit connections between the motor coils and generator, whereby electric impulses are supplied to the motor coils in alternation, substantially as described. 3rd. An electro-magnetic reciprocating engine, comprising a solenoid or solenoids composed of one or more coils, and in circuit with a source of electricity, giving defined phases of current, and a magnetic piston under the influence of the coils and arranged to be reciprocated thereby, in accordance with the current phases sent through the coils of the engine, substantially as described. 4th. An electro-magnetic reciprocating engine, comprising a coil or coils in circuit, with a source of alternating or defined electric currents, a piston arranged to move longitudinally within the said coil or coils under the influence of the phases of the supply current, and a tool holding piston-rod attached to the piston, substantially as described. 5th. An electro-magnetic reciprocating engine, comprising an actuating coil or coils in circuit with a source of alternating or intermittent currents, a non-magnetic lining or tube within the coil or coils, and a piston adapted to be reciprocated within the interior tube under the influence of alternating phases of current circulating in the motor coils, substantially as described. 6th. An electro-magnetic reciprocating engine, comprising a motor coil or coils in circuit with a source of alternating or defined electric currents, and an iron plunger adapted to be reciprocated within the coil or coils under the influence of the alternating currents, the mass of said plunger being laminated or sub-divided, substantially as described. 7th. In an electro-magnetic reciprocat-engine, a motor-helix in circuit with a source of alternating or defined electric currents, a plunger attached to the tool-holding devices adapted to be reciprocated within the helix under the influence of and in accordance with the phases of current circulating therein, a series of terminals extending from the coils of the helix, and a movable contact for adjusting the length of the stroke of the plunger by cutting out a greater or less portion of the motor-helix, substantially as described. 8th. In an electro-magnetic reciprocating engine, a motor-helix in circuit with a source of alternating or defined electric currents, a piston attached to the tool-holding devices and adapted to be reciprocated within the helix under the influence of and in accordance with defined currents circulating therein, a series of terminals extending from the coils of the helix, and movable contacts for cutting out a greater or less portion of the motor-helix, whereby the length of the stroke may be adjusted and whereby also the operative position of the plunger may be determined, substantially as described. 9th. In a reciprocating electric engine, the combination of motor coils in circuit with a source of defined electric currents, a piston arranged within said coils and actuated alternately thereby, and a circuit changing device arranged and operating to connect the supply-circuit alternately with the said coils at the zero point between the current phases, substantially as described. 10th. In a reciprocating electro-magnetic engine, the combination of motor coils, a piston moving within said coils under the influence of current flowing therethrough in alternation, a circuit-closing plunger, a solenoid for imparting reciprocating motion thereto, said solenoid being of less length than the plunger, and two sets of main and auxiliary contacts at opposite ends of the path of the circuit-closing plunger, said sets of main and auxiliary contacts being electrically connected to the outer terminals of the motor coils respectively, substantially as described. 11th. In a reciprocating electro-magnetic engine, the combination, with motor coils and a magnetically actuated piston arranged to be moved back and forth within the said coils by the influence of currents circulating in said coils in alternation, of a reciprocating circuit-changing device comprising a solenoid, an iron plunger therefor of a length exceeding that of the solenoid, main contacts located at opposite ends of the path of the plunger and electrically connected to the motor coils respectively, and auxiliary contacts located between the inner extremities of the main contacts and the solenoid, but separated therefrom, whereby the extremity of either end of the plunger will be out of contact with one of the main contacts when in its opposite position, substantially as described. 12th. In a reciprocating electro-magnetic engine, the combination, with motor coils and a magnetically actuated piston moving within said coils, of a circuit-changing device for directing the supply-current through said coils in alternation, comprising a solenoid, a reciprocating plunger, contacts representing the motor coils and located in the path of the plunger, and an adjustable resistance for regulating the speed of the circuit-changing device, substantially as described. 13th. In a reciprocating electro-magnetic engine, the combination of a source of intermittent or defined currents, motor coils, and a piston arranged to be reciprocated within said coils by the passage of said currents therethrough in alternation, and a circuit-changing device comprising a solenoid in circuit with said intermittent currents and having a reciprocatiug plunger arranged to close the main circuit upon the motor coils in alternation, said plunger and piston operating simultaneously and completing their respective movements during each phase of current, substantially as described. 14th. In a reciprocating electro-magnetic engine, the combination of motor coils, a piston moving in said coils, and a circuit-changing device comprising a solenoid, a reciprocating plunger therefor, and tubular contacts arranged to receive the ends of the plunger, the diameter of said tubes being adjusted to retard the free escape of air and form an air cushion to absorb the momentum of the plunger, substantially as described. 15th. In a reciprocating electro-magnetic engine, the combination with a motor coil or coils and a magnetically-actuated piston moving in said coils under the influence of currents flowing therethrough, of an inductional transformer in circuit therewith for producing defined currents of alternating polarity, an electro-dynamic motor mechanically connected to circuit-changing devices in said transformer for controlling the flow of the primary current therethrough, and means for regulating the speed of the motor, and thereby controlling the action of the transformer, substantially as described. 16th. In a reciprocating electro-magnetic engine, the combination, with a motor coil or coils and a magnetically-actuated piston moving in said coils under the influence of currents flowing therethrough, of a source of currents flowing therethrough, of a source of continuous current, an inductional transformer for producing defined currents of alternating polarity, an electro-dynamic motor mechanically connected to circuit-changing devices in said transformer for controlling the flow of the primary current therethrough, and an adjustable resistance for regulating the speed of the motor and thereby controlling the action of the transformer, substantially as described. 17th. The combination, with an electro-magnetic reciprocating engine, of a source of continuous current, an inductional transformer comprising primary and secondary coils, a commutator, the sections of which are connected to the continuations of the coils of the primary circuit, rotatably mounted commutator brushes in circuit with the source of continuous current, and an electro-dynamic motor connected to and acting to rotate the brushes upon the commutator to distribute the primary current and render the secondary coils active, substantially as described.

No. 35,460. Reciprocating Electric Engine System. (*Système de machine électrique à mouvement reciproque.*)

Charles Joseph Van Depoele, Lynn, Massachusetts, U.S.A., 20th November, 1890; 5 years.

Claim—1st. An electro-magnetic reciprocating engine system comprising a generator adapted to produce independent current phases, a reciprocating electro-magnetic engine having two or more motor coils, and independent circuits extending between the coil or coils and the generator, substantially as described. 2nd. An electro-magnetic reciprocating engine having two or more sets of motor coils, and a movable core adapted to be reciprocated by the alternate action of said coils thereon, a generator producing two or more independent currents, and separate closed supply-circuits for supplying motive currents to the said motor coils, substantially as described. 3rd. In an electro-magnetic reciprocating engine system, a reciprocating engine comprising two or more motor coils, a generator adapted to produce currert of different phases corresponding to the desired speed of reciprocation, and separate circuit connections between the generator and the said motor coils for energizing the same in alternation to produce reciprocatory movement of the piston, substantially as described. 4th. In a reciprocating electric engine system, an electric generator for producing defined electric impulses, comprising an armature divided into four or more parts, each connected to a separate insulated collector, a reciprocating electric engine or engines, each having a plurality of motor coils, and separate supply conductors extending between the separate portions of the generating armature, and connecting the same with the motor coils of the engine, substantially as described. 5th. In a reciprocating electric engine system, an electric generator for producing defined electric impulses comprising an armature divided into four or more parts, each connected to a separate insulated collector-ring, a suitable field of force within which said armature may be rotated, a reciprocating electric engine or engines, each having a plurality of motor coils, and separate supply-conductors extending between the separate portions of the generating armature, and connecting the same with the motor coils of the engine, substantially as described. 6th. An electro-magnetic reciprocating engine, comprising motor coils, an iron core adapted to be reciprocated therein, and a magnetic cylinder enveloping the coil or coils, the mass of said cylinder being sub-divided, substantially as described. 7th. An electro-magnetic reciprocating engine, having motor coils and a movable core adapted to be reciprocated therein, and iron heads at each end of the coil or coils, the mass of the iron in said heads be-

ing sub-divided, substantially as described. 8th. In a reciprocating electric engine system, an electric generator for producing defined electric impulses, comprising a magnetic core, a primary coil thereon, a secondary inductive relation to the primary, an electric engine or engines, and separate supply-conductors extending between different portions of the secondary coils of the generator and coil or coils of the electric engine or engines, and means for supplying continuous current to different parts of the primary coils, comprising a rotating circuit-making device, and means for adjusting and determining the rate of movement thereof, substantially as described.

No. 35,461. Process for Purifying Brine.

(*Procédé pour purifier la saumure.*)

The National Salt and Chemical Co., New York, State of New York (assignees of Mauricio Manuel Monsanto, Hoboken, New Jersey), all of U.S.A., 20th November, 1890; 5 years.

Claim.—1st. In the manufacture of salt, the process, substantially as herein described, of purifying brines by introducing therein tri-sodium phosphate in sufficient quantity to decompose and precipitate the impurities in the brine, and in then separating the purified brine from the precipitate by decantation or filtration, as set forth. 2nd. In the manufacture of salt, the process, substantially as herein described, of purifying brines by introducing therein tri-sodium phosphate to decompose and precipitate the impurities in the brine, as set forth.

No. 35,462. Boiler. (*Chaudière.*)

Robert J. Read (assignee of Robert Read), both of Toronto, Ontario, Canada, 20th November, 1890; 5 years.

Claim.—1st. A vertical water section, constructed with a water leg at the back, and the body of the section directly over the fire pot, substantially as and for the purpose described. 2nd. A vertical water section, constructed with a water leg at the back, and the body of the section directly over the fire pot, having a top and a base chamber fitted with a flow, and a return pipe, substantially as and for the purpose set forth. 3rd. Two or more vertical water sections, each constructed with a water leg at the back, and the body of the sections directly over the fire pot, and having a top and a base chamber provided with ports fitted with male and female collars, coupled together by means of bolts passing from section to section, and held by suitable bridges formed in the end sections, substantially as and for the purpose set forth. 4th. The vertical water sections, constructed with a water leg at the back, and the body of the section directly over the fire pot, and having top and base chambers provided with ports fitted with flow and return pipes combined with the bolts *d*, bridges *c*, smoke flues G, and spaces F, substantially as and for the purpose set forth. 5th. The vertical water sections, each constructed with a water leg at the back, and the body of the section directly over the fire pot, having top and base chambers provided with ports fitted with flow and return pipes combined with the male collars *g*, female collars g^1, bolts *d*, bridges *c*, smoke flues G, and spaces F, between said bodies, substantially as and for the purposes set forth. 6th. A fire pot, consisting of a rectangular frame fitted to receive a circular fire basket and grate bars, and placed upon slides extending from the front to the rear of the ash pit, and having no permanent obstruction across the ash pit opening, substantially as and for the purpose set forth. 7th. An automatic damper, consisting of a dome O, having a diaphragm *o*, the plunger o^1, weight lever P, pivot frame *p*, chain p^1, damper *q*, and U-shaped circulating tube Q, inserted in side section, substantially as and for the purposes set forth.

No. 35,463. Hot Air Furnace.

(*Calorifère à air.*)

Francis M. Campbell and Henry Frederick Langenburg, both of St. Louis, Missouri, U.S.A., 20th November, 1890; 5 years.

Claim.—1st. In a furnace, the combination, with hot air chamber having an air inlet in one side near its bottom, of the combustion chamber situated eccentrically within the hot air chamber and adjacent to the side thereof, opposite that having the air inlet, the flues B, B^1, extending from the inner side of the combustion chamber near the top thereof, the descending flues C, C^1, communicating at top with the flues B, B^1, respectively, the chamber D communicating with the lower ends of the flues C, C^1, and the ascending flue E, rising centrally from the chamber between the flues B, B^1, substantially as specified. 2nd. The combination, with the hot air chamber having the air inlet in one side near its bottom, of the combustion chamber situated eccentrically within the hot air chamber near the side opposite that having the air inlet, the chamber D, immediately above the air inlet and provided with the air ports d^1, d^1, at its lateral extensions, the flues B, C, and B^1, C^1, respectively connecting the said lateral extensions with the upper portion of the combustion chamber, and the ascending flue rising from the chamber D, midway between the flues C, C^1, substantially as specified. 3rd. In a furnace, the combination, with the hot air chamber and the combustion chamber situated eccentrically therein, of the flues B, B^1, extending from the top of the combustion chamber, the descending flues C, C^1, of large diameter communicating respectively with the flues B, B^1, the heating chamber D, communicating with the lower ends of the flues C, C^1, and the ascending flue E, rising from the chamber D, between the flues C, C^1, and of much smaller diameter than the latter flues, as and for the purposes set forth.

No. 35,464. Process of Making Tires.

(*Procédé pour faire les bandages.*)

The Gendron Manufacturing Co., Toronto, Ontario, Canada, asignees of Peter Gendron, Toledo, Ohio, U.S.A., 20th November, 1890; 5 years.

Claim.—1st. The herein described process of making tires, which consists in first forming a metal band into substantially circular shape of lesser diameter than the finished tire, then expanding the tire gradually upon an enlarging former, substantially as described. 2nd. The herein described process of making tires, which consists in first forming a metal band into substantially circular shape of lesser diameter than the finished tire, then expanding it upon an enlarging former, substantially as described, then rolling the front and rear edges into parallelism, substantially as described. 3rd. The herein described process of making tires, which consists in first forming metal band into substantially circular shape of lesser diameter than the finished tire, then expanding it upon an enlarging form, then in expanding the tire by rolling the face thereof, substantially as described.

No. 35,465. Folding Machine. (*Machine pour plier le papier.*)

Joseph Charles Fowler and Edward Anderson Henkle, both of Washington, D.C., U.S.A., 20th November, 1890; 5 years.

Claim.—1st. The combination, with a perfecting-press, of a web-forming shell, upon which the perfected web is received, and over which it is drawn as it comes from the press, said shell comprising a flat receiving-surface passing gradually into a convex surface and terminating in an angular end to form a central bend in the moving web, and an upright frame supporting the shell, and having an angular opening into which the angular end of the shell extends, and arranged to provide a space between it and the edge of the angular opening for the passage of the web, substantially as described. 2nd. The combination, with a perfecting-press, of a web-former consisting of a shell or body having a surface which passes by regular graduations from flat to convex, and thence to an angular form, a frame surrounding the angular portion, but leaving space for the passage of the web between the frame and former, and elastic compressors mounted upon said frame directly in front of the angular back of the former, between which the central portion of the web passes as the latter leaves the web-former, substantially as described. 3rd. The combination, with a perfecting-press, of a web-former having a surface passing from flat to angular by successive graduations, a frame surrounding the angular extremity of said web-former, between which and said frame the continuous web passes, elastic compressors mounted on said frame in line with the angular back of the web-former, a spine or support for the folded web in front of the web-former, and means for drawing the web over the latter and advancing it over said spine, substantially as described. 4th. The combination, with a perfecting-press, of a web-former having a surface passing by successive graduations from flat to angular, a frame surrounding, and having an inner surface parallel with the angular extremity of the web-former, elastic compressors arranged in front of the angular extremity of the former, a spine or support upon which the folded web is received as it leaves the compressors, continuously revolving drawing-rolls advancing the folded web upon the spine and having a surface speed greater than the speed of the web, perforators operating upon the web at stated intervals, and separating rolls traveling at a higher surface-speed than the perforators, and separating the web along the lines of perforation, said perforators and separators being arranged at intervals along the spine and acting upon the web, as it is supported and advanced thereon, substantially as described. 5th. The combination, with a perfecting press, of a web-former having a surface which passes from flat to angular by imperceptible graduations, a frame surrounding the angular portion of said web-former, elastic compressors carried by said frame, and between which the crease or fold in the web is formed, drawing or feeding rolls which advance the web and also perfect the fold therein, a pair of perforators acting on the web at intervals and gripping the same during a partial revolution, a pair of separators running at a surface speed somewhat in excess of the perforators, and a pair of advancing rolls by which the separate sheets are thrown upon an inserter-section of a spine, upon which the folded web is supported during its movement, substantially as described. 6th. The combination, with a perfecting press, of a web-former, elastic compressors acting upon the web as it comes from the former, a spine or support upon which the folded web is received at it comes from the compressors, means for successively perforating and separating the web and accelerating the advance of the separated sheets, an inserting section of the spine upon which the sheets are thrown successively, a stile or gate preventing exit from the inserting section, save at stated intervals, intermittently operating delivery-rolls which withdraw the signature from the inserting section, and a belt-carrier receiving the signatures, substantially as described. 7th. The combination, with a perfecting press, of the web-former, the elastic compressors, the drawing and folding rolls, the perforators, one of which has a section increased in diameter, the separators traveling at a higher surface speed than the perforators, and gripping the web during a part of each revolution, a pair of rubber accelerating-rolls having a portion of the peripheral surface removed from each, a spine or support for the folded web, along which the several parts are arranged at intervals, said spine having an inserting section arranged below the level of the preceding portion, a pair of cone adjusters revolving one upon each side of said section, and an elastic striker or finger revolving above and in the vertical plane of the inserting section, substantially as described. 8th. The combination, with a perfecting-press, of a web-former, a spine connected to a suitable support adjacent thereto, upon which spine the folded web is carried, and feed-rolls arranged on opposite sides of the spine and engaging the folded edge of the web at a point where the edge of the spine is cut away to permit the rolls to meet, substantially as described. 9th. The combination, with a perfecting press, of a web-former, a spine connected to a suitable support adjacent to said former, and rolls drawing and advancing the folded web thereon during its perforation and separation, said spine being provided with an inserting-section and having spreaders immediately preceding said section to open the folded sheets, substantially as described. 10th. The combination, with a perfecting-press, of a web-former, a spine receiving the web therefrom, compressors forming the fold therein as the web comes from the former, perforators, feed-rolls, and separators, the latter traveling at increased speed, acting upon the web

successively as it is advanced on the spine, a pair of accelerating rolls throwing the separate sheets, which are opened by spreaders upon the spine, upon an inserting section and against a stile having one or more exit openings, a pair of delivery-rolls, one of which is movable toward and from the other, and means for revolving the stile and throwing the delivery rolls into engagement as the exit-opening in the stile comes opposite the inserting-section, substantially as described. 11th. The combination, with a perfecting-press and with a web-former, of a spine upon which the folded web is received and advanced, drawing and creasing rolls acting upon and perfecting the fold of the web, perforators, one of which is adjustable and has a section of increased diameter extending over an arc on the perforator, rubber feed-rolls advancing the web upon the spine, separators travelling at an increased speed, one of which is adjustable at top and bottom independently, accelerating rolls having portions of their peripheries removed, a pair of delivery rolls one of which is movable toward and from the other, a revolving stile having an exit opening, a carrier-belt, and means for throwing the delivery-rolls together and giving alternately an advance movement to the delivery belt, substantially as described. 12th. The combination, with the inserting-section of the spine and with the intermittently-operating delivery rolls, of the deflector-plate arranged in front of the inserting section, the carrier-belt moving beneath, and knocker-arms revolving above the deflector-plate, substantially as described. 13th. The combination, with a perfecting-press and with a spine or similar support, of a web-former, devices for drawing and feeding, perforating, advancing, and separating the folded web while supported on the spine, accelerating-rolls throwing the sheets on an inserting section of the spine, delivery rolls acting at intervals on the signature, a stile having one or more openings for the removal of the signature, a carrier-belt having a crank operating the movable delivery-roll, a sleeve on said shaft having an arm advancing the belt-carrier, and a press-gear having cains actuating the shaft and sleeve successively, substantially as decribed. 14th. The stile or gate herein shown and described, the same consisting of a metallic disk having one or more exit openings formed in the edge, in combination with the inserting section of the spine, substantially as described. 15th. The combination, with a perfecting-press, of a web-former 5, a frame 8, surrounding the angular end thereof and a spine 14, connected to a bracket carried by said frame, substantially as described. 16th. The combination, with a perfecting-press, of a web-former 5, a frame 8, a spine 14, elastic compressor 15, and drawing rolls 16, advancing the web as it comes from the former upon the spine, substantially as described.

No. 35,466. Printing Machine. (*Machine à imprimer*).

Joseph Charles Fowler and Edward Anderson Henkle, both of Washington, District of Columbia, U. S. A., 20th November, 1890; 5 years.

Claim.—1st. In a printing-press, the combination with a rectangular bed of a positively driven inking-frame having continuous movement, and form-rollers mounted upon said inking frame and having uniform contact successively with the four plane surfaces of the rectangular bed, substantially as described. 2nd. In a printing-press, the combination, with a rectangular-bed having constant rotation of an inking-frame carrying form-rollers at both ends and rotating at double speed relatively to the bed, and an inking-table of substantially cylindrical form, with which said rollers have contact during a portion of each revolution of the inking frame, substantially as described. 3rd. In a printing-press, the combination, with a rotary rectangular bed, of an inking-frame rotating on a central shaft, inking rollers journaled in the ends of said frame, an inking table of substantially cylindrical form rigidly mounted upon said shaft and having an ink pocket or fount formed in the upper portion thereof, a font roller journalled in said font, with its periphery in the cylindrical plane of the ink-table, and means for giving said font-roller an intermittent rotation, and for rotating the rectangular bed and inking-frame in the same direction, the latter being driven at double the speed of the former, substantially as described. 4th. In a printing-press, the combination with a rectangular bed of an inking frame centrally journaled and having inking rollers mounted in the ends thereof, an inking table having cylindrical form and provided with a pocket or font roller revolving in said font, and having a ratchet on the shaft of said roller, an eccentric mounted on the shaft of the inking frame, and a ring running on said eccentric and having a pawl rigid thereon which engages with the ratchet of the font-roller, substantially as described. 5th. In a printing-press, the combination, with a rectangular bed and with a continuously rotating inking-frame having form-rollers journaled in its ends, of a cylindrical ink-table rigidly mounted on said shaft between the ends of the said frame and having a pocket or font in its upper part, a font-roller journaled to revolve in said pocket and having a ratchet on its shaft, an eccentric on the shaft of the inking-frame, a ring running on said eccentric and having a pawl rigid thereon, with its nose engaging the ratchet of the font-roller, a second pawl pivoted upon said ring, and a spring connecting the same to the pawl on the opposite side of the ratchet, substantially as described. 6th. In a printing-press operating upon a continuous web, the combination, with the printing mechanism, of a spool resting upon the surface of the paper in the roll and carried by arms pivotally mounted on a shaft driven by the machine, said shaft having gears by which rotation is given said spool in a direction opposite to the feed of the paper through a shaft journaled in one of the pivoted arms and having a gear meshing with a gear on the spool, substantially as described. 7th. In a printing-press, the combination, with the printing mechanism, of a pair of arms pivotally mounted upon a shaft of said mechanism, a spool journaled in the ends of said arms and having a miter-gear in its shaft, and a counter-shaft carrying a miter meshing with that on the spool-shaft and driven by the shaft on which the arms carrying said spool are mounted, substantially as described. 8th. In a printing-press, the combination, with a rectangular bed having continuous revolution, of a frame mounted upon a central axis and carrying inking-rollers upon opposite sides of said axis, and gearing driving said frame in the same general direction of rotation as the bed, and at double the speed of the latter, whereby said inking-rollers sweep the flat faces of the square bed with substantially uniform contact, substantially as described.

No. 35,467. Pulley. (*Poulie*).

Charles F. Henderson, Owosso, Michigan, U.S.A., 21st November, 1890; 5 years.

Claim.—1st. The hereinbefore described method of treating pulleys, preparatory to providing the same with a facing of leather or similar material, which consists in first removing all grease from the surface of the pulley to which the facing is to be affixed, and secondly, after the pulley has been so treated and dried, coating it with a thin film of the juice of onions or garlic, substantially as and for the purpose herein shown and set forth. 2nd. The hereinbefore described process of affixing a facing or covering of leather or equivalent material to the rim of a pulley, which consists in first removing all grease from the face of the rim to which the leather is to be applied, secondly, thoroughly drying the rim to remove all moisture, thirdly covering the dried rim with a thin film or coating of the expressed juice of onions or garlic, and fourthly winding one or more facing-strips of leather or similar material covered with adhesive cement around the rim of the pulley so treated, substantially as and for the purpose herein shown and set forth.

No. 35,468. New or Improved Manufacture of Periodides of Phenols and Salicylic Acid. (*Fabrication des proto-iodures de phénol et d'acide de salicylique*).

Joseph Messinger and George Vortmann, both of Aix-la-Chapelle, Germany, 21st November, 1890; 10 years.

Claim.—1st. The process for the manufacture of new iodine substitution products of phenol, cresol, resorcine, thymol, beta, napthol, phenolcarboseyacids, viz: salicylic acid and cresol carboxy acids, which contain iodine in place of the hydrogen of the hydroxyl group, (*a*) by treating these bodies in an alkaline solution with a watery solution of iodine in alkaline iodides, (*b*) by treating these bodies in an alkaline solution, in the presence of iodine, with agents which liberate the bound iodine, viz: chloride of lime, chlorine, or alkaline hypochlorites. 2nd The new iodine substitution products, such as can be manufactured by the processes hereinbefore described and claimed.

No. 35,469. Lawn Cleaner.

(*Nettoyeur de pelouse.*)

Charles Bailey, Winnipeg, Manitoba, Canada, 21st November, 1890; 5 years.

Claim.—1st. In a lawn-cleaner, the combination, of the rectangular frame 10, provided with the pocket 12, at the rear, the shaft 14, journaled in the rear part of the frame, the drive wheels 13, mounted on the shaft, the pulley 15, mounted upon the shaft adjacent to one of the wheels and having a toothed periphery, pawls 17, pivoted to the drive-wheel and engaging the said pulley, the rake-head 18, journaled in the frame in front of the shaft 14, the pulley 20, on the rake-head, the belt 21, passing around said pulleys, and the receptacle 22, having a transverse opening in its bottom, substantially as herein shown and described. 2nd. In a lawn-cleaner, the combination, with the supporting-frame mounted on wheels and a rake-head journaled in said frame, of the receptacle 22, having a transverse opening in its bottom, and provided with the handles 27 and 28, and the rearwardly-projecting bars 26, the said receptacle fitting within the frame and supported by the handle 27 and bars 26, substantially as herein shown and described.

No. 35,470. Door Check. (*Arrête-porte.*)

William Shipsey, San Luis Obispo, California, U. S. A., 21st November, 1890; 5 years.

Claim.—The improved door-stop herein described, the same consisting of an oblong block having a transverse recess forming opposite front and rear shoulders, the latter shoulder having an inner inclined face, said stop in rear of the rear shoulder and at each side of its longitudinal center provided with a screw receiving opening, substantially as specified.

No. 35,471. Rocking Chair. (*Fauteuil à bascule.*)

George Franklin Hall, Newark, New Jersey, U.S.A., 21st November, 1890; 5 years.

Claim.—1st. The combination, with a supporting frame having bearings therein, of a seat also provided with bearings suspended below the level of the bearings in the supporting frame links connecting the said bearings, and provided with studs and one or more sleeves applied to said studs, for the purposes set forth. 2nd. The combination, with a base frame *c*, and supporting frame *d*, provided with bearings d^1, and d^2, of a chair seat provided with bearings b^1, and b^2, suspended below the level of the bearings d^1, and d^2, links *e*, connecting said bearings, and means connected with said bearings to lock the chair seat in any desirable position, substantially as and for the purposes set forth. 3rd. The combination, with a base and supporting frame *d*, provided with the bearings d^1, and d^2, of a chair seat provided with the bearings b^1, and b^2, the links *e*, connecting the bearings and provided with the studs e^1, and e^2, and one or more sleeves *f*, applied to one or more of the studs e^2, and provided with studs f^2, as and for the purposes set forth. 4th. The combination, with a base and supporting frame *d*, provided with the bearings d^1,

and d^2, of a chair seat provided with the bearings b^1, and b^2, suspended below the level of the bearings d^1, and d^2, the links e, connecting the bearings and provided with the studs e^1, and e^2, the rods r, connecting the links in pairs, and one or more sleeves f, applied to the studs e^2, and provided with stu ls f^2, as and for the purposes set forth. 5th. The combination, with a base frame c, and supporting frame d, provided with bearings d^1, and d^2, of a chair seat provided with bearings b^1, an l b^2, suspended below the level of the bearings d^1, and d^2, the links e, connecting the bearings and provided with the studs e^1, and e^2, a sleeve f, applied to one of the studs e^2, and provided with perforated ear h, and arm l, as described, a stationary curved rod m, secured at its ends to the frame d, and base c, concentric with the bearing d^2, and passing through the aperture in the ear h, and means for turning the arm l, as and for the purposes set forth. 6th. The combination, with a base frame c, and supporting frame d, provided with the bearings d^1, and d^2, of a chair seat provided with the bearings b^1, and b^2, suspended below the level of the bearings d^1, and d^2, the links e, connecting the bearings and provided with the studs e^1, and e^2, a sleeve f, applied to one of the studs e^2, and provided with perforated ear h, and arm l, as described, a stationary curved rod m, secured at its ends to the frame d, and base c, concentric with the bearing d^2, and passing through the aperture in the ear h, the lever p, pivoted to the chair seat, and a link connecting the lever p, with the arm l, the whole arranged and operated as and for the purpose set forth. 7th. The combination, with the base frame c, and supporting frame d, provided with the bearings d^1, and d^2, of a chair seat provided with the bearings b^1, and b^2, suspended below the level of the bearings d^1, and d^2, the links e, connected with the bearings and provided with the studs e^1, and e^2, a sleeve f, mounted upon the stud e^2, and provided with a perforated ear h, and arm l, as described, a stationary curved rod m, secured at its ends to the frame d, and base c, concentric with the path of the stud when the chair is in motion, and means for raising and depressing the arm l, as and for the purposes set forth.

No. 35,472. Building Block.

(*Bloc de construction.*)

James Sylvester Goodwin, Emerald, Wisconsin, U. S. A., 21st November, 1890; 5 years.

Claim.—As an improved article of manufacture, the building block herein shown and described, consisting of a timber A, of a width equal to the thickness of the wall to be constructed, the outer face of said timber being grooved at B, and beveled or rabbeted at C, in imitation of brick-work, the inner face provided with inwardly inclined longitudinal grooves D, and the half-grooves E, one at each edge, and the upper and lower faces provided with the longitudinal grooves F, adapted to receive the connecting strips G, substantially as and for the purpose described.

No. 35,473. Horse Shoe. (*Fer à cheval.*)

Joseph C. Higgins, New Brunswick, New Jersey, U.S.A., 21st November, 1890; 5 years.

Claim.—1st. The combination, with the shoe having a vertical socket and an oblique aperture extending through the lower edge, of a socket, and upwardly through the outer edge of the shoe, of the removable calk having a base bearing against the shoe, and a shank fitted in and completely filling said socket, the calk being provided with a side recess at the junction of its base and shank, thereby forming a shoulder on the same side with and above the lower end of said aperture, and the locking nail in said aperture with its outer end clinched on the edge of the shoe, and its head rigid in said recess below said shoulder, as set forth. 2nd. The combination, with a horse shoe having a vertical socket, of a calk having a shank fitted in said socket, said calk and shank being formed of two vertical sections for the purpose set forth, fitted together to form a single calk, substantially as described. 3rd. The combination, with a horse shoe having a vertical socket, of a conical calk having a base bearing against the shoe, a shank fitted in said socket, and a side recess at the junction of base and shank, said calk being centrally and vertically divided through said recess into separate similar sections for the purpose set forth, and the single locking pin fixed to the shoe with its head fitted in said recess, and securing the calk, as set forth. 4th. The combination, with a horse shoe having a vertical calk socket, of a conical calk having a base, a shank fitted in said socket and pivoted on one side with a recess at the junction of base and shank, and on the diametrically opposite side having its base shaped to form a double wedge shaped recess, said calk being vertically divided centrally through said two recesses into similar separate sections, and the fixed locking pin having its head fitted in said side recess, as set forth.

No. 35,474. Station Indicator.

(*Indicateur de station.*)

John Robert Meadowcroft, Montreal, Quebec, Canada, 21st November, 1890; 5 years.

Claim.—1st. In a station indicator, the combination, with a series of cards arranged in consecutive order and loosely bound together at one edge, and having non-registering notches in another edge, of a sliding bar having lugs projecting in front of said cards for retaining and releasing the cards successively, and means for operating said bar, as set forth. 2nd. Station indicator cards or plates, having their bottom edges bent outwards as shown, and for the purpose set forth. 3rd. In a station indicator of the kind described, the combination, with the back board of the casing, of pins rigidly secured to such back board, staples hollowed to fit over such pins, and a locking device for securing such staples in place. 4th. The combination, with the sliding bar G, having the arm G^3, of a signal bell of the Russell & Erwin type having an operating rod, the movement of which by said arm will cause the bell to sound, as set forth. 5th. In a station indicator, the combination, with a series of cards arranged in consecutive order loosely bound together at one edge, and non-registering in parts, of a locking bar for retaining and releasing the cards successively, and means for operating said bar.

No. 35,475. Rotary Steam Engine.

(*Machine à vapeur rotative.*)

Joseph Henry Dow and William Chisholm, Sr., both of Cleveland, Ohio, U.S.A., 21st November, 1890: 5 years.

Claim.—1st. In a rotary steam engine, the combination, with stationary discs, with steam chamber located between the discs and opposing rotating wheels located outside the discs, the wheels being mounted on the engine shaft, substantially as indicated, of engine shaft, inner and outer mutually engaging rings, the inner ring being mounted on the engine shaft and the outer ring extending into and dividing the eduction of the steam chamber, the outer ring being adjustable on the inner ring in the direction endwise of the shaft, substantially as set forth. 2nd. The combination, with a rotary engine of the variety indicated having stationary discs and revolving disc, the latter being mounted on the engine shaft, and comprising inner and outer rings having a screw threaded engagement with each other, a screw threaded radial hole in the outer ring, a screw threaded member located at the bottom of such hole, the screw threads thereof, corresponding and meshing with the screw threads of the inner ring, a set screw for tightening such screw threaded member against the screw threaded periphery of the inner ring, substantially as set forth. 3rd. The combination, with a rotary engine of the variety indicated, having stationary discs and intervening rotating disc, the latter being mounted on the engine shaft and comprising preferably inner and outer mutually engaging rings, the latter extending into the steam chamber and leaving annular spaces or ports between the ring and stationary discs, of lateral holes or ports in open relation with the steam chamber and discharging into the annular spaces between the ring and opposing discs, substantially as set forth 4th. In rotary steam engine of the variety indicated, the combination, with stationary discs and intervening rotating disc, with annular spaces or ports between the opposing faces of the discs, of a series of lateral holes or ports leading from the steam chamber, and d scharging into such annular spaces or ports, substantially as set forth. 5th. In rotary steam engine of the variety indicated, the combination, with stationary discs enclosing the steam chamber, intervening rotating disc, the latter extending into and dividing the eduction of the steam chamber, annular spaces or ports located between the opposing faces of the discs, of lateral holes or ports leading from the steam chamber and discharging into such annular spaces, a series of grooves substantially as indicated between and around such lateral ports leaving flat margins around the ports next the annular steam spaces aforesaid, substantially as set forth. 6th. The combination, with rotary steam engine and engine shaft, of journal box having a bearing at the centre, substantially as indicated, whereby the end sections of the journal box are adapted to vibrate in unison with any vibration of the engine shaft, substantially as set forth. 7th. In rotary steam engine of the variety indicated, in combination, with engine shaft, a sleeve mounted on the shaft and engaging the latter only at the central section of the sleeve, of rotating wheels mounted on the end or overhanging sections of such sleeve, substantially as set forth.

No. 35,476. Metallic Folding Roof Ladder.

(*Echelle métallique et pliante pour toitures.*)

J. L. D. Gauthier, John F. Learned and George N. Gamsby, all of Cookshire, Quebec, Canada, 21st November, 1890; 5 years.

Claim.—1st. The combination of the sections B, B, with lugs or standards C, C, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of lugs or standards C, C, with iron tubular rungs D, D, substantially as and for the purpose hereinbefore set forth. 3rd. The combination of rivetted sections B, B, with rivets E, E, substantially as and for the purpose hereinbefore set forth.

No. 35,477. Velocipede. (*Vélocipède.*)

Charles E, McGlinchey and Frank Brady, both of Chicago, Illinois, U.S.A., 21st November, 1890; 5 years.

Claim.—1st. The combination, with a wheel loosely supported on its shaft, of gripping mechanism comprising a plate rigidly secured to the shaft, and carrying a wedge block yieldingly connected with the plate to have a limited play, and a cam rigid with the plate and confining the wedge block against an internal peripheral surface of the wheel, and operating by the rotation of the shaft in one direction to wedge the block and rotate the wheel, and by the stoppage of the shaft to release its engagement with the wedge block, substantially as described. 2nd. In a bicycle, the combination, with the wheel A, pedals, front fork and backbone, of gripping mechanism, substantially as described, between the pedal crank and wheel, effecting by rotation of the pedal in the positive direction engagement thereof, with the wheel to revolve the latter and effecting by stoppage of the pedals rotation release of the wheel, and gripping mechanism, substantially as described, between the front fork and pedal crank, and actuated by the rise of the backbone to produce engagement between the front fork and pedal crank, whereby the wheel may revolve in the positive direction while the pedal is at rest, and a rise of the backbone will produce immediate engagement of the pedal crank, substantially as and for the purpose set forth.

No. 35,478. Low Water Alarm. (*Indicateur d'eau à sonnerie.*)

Frederick Leadbeater, Detroit, Michigan, U.S.A., 22nd November, 1890; 5 years.

Claim.—1st. In a low water alarm, a thermostat having a portion extending into the boiler at the low water point, and an electric

alarm circuit adapted to be closed by said thermostat when acted on by the heat of the steam, substantially as described. 2nd. A low water alarm, comprising a blind nipple, extending into the boiler at or near the danger line, a vertical tube connecting with said nipple, an expansible liquid in said nipple and tube, and an electric alarm circuit normally broken, and adapted to be closed by the expansion of said liquid, substantially as described. 3rd. A low water alarm, comprising a blind nipple having a screw threaded stem adapted to enter the aperture prepared for a try cock in a water column, and a thermostat adapted to close an electric alarm circuit upon the application of steam heat to said nipple, substantially as described. 4th. In a low water alarm comprising an electric alarm circuit normally open, a thermostat for closing said circuit consisting of the blind nipple C, extending within the boiler at or near the water line and containing mercury, and a non-conducting tube having the ends of the alarm circuit secured at the top, substantially as described.

No. 35,479. Can Handle. (*Anse de bidon*).

John H. Heisey and Thomas Oliver, both of Monticello, Iowa, U.S.A., 22nd November, 1890; 5 years.

Claim.—1st. A can, having a central band and the handle-securing plate herein described, the same being provided with a transverse recess upon its rear side, and below the same with a transverse groove, a handle mounted loosely in the groove, rivets passed through the plate at each side of the band, and a protuberance projecting from the exterior of the plate opposite said band and above the handle, substantially as specified. 3rd. A can provided with an encircling band, a handle-securing plate 4, secured over the band and having an abutment or protuberance 12, extending laterally from the plate in line with the band, substantially as specified.

No. 35,480. Cant Hook. (*Renard*).

Thomas Jefferson Thompson and Morgan H. Williams, both of Leadville, Colorado, U.S.A., 22nd November, 1890; 5 years.

Claim.—1st. In a cant-hook, the combination of a handle portion provided with a ferrule having an elongated slot, a reciprocating bar operating in said slot and having teeth adapted to engage the log, a rack at one end of the bar, a pivoted hook, and a toothed sector formed at the base of said hook and arranged by said rack, substantially as described. 2nd. The combination of a handle portion, a ferrule provided with a longitudinal slot, a reciprocating rack within said slot, a pair of lugs located upon the opposite sides of the slot, and a hook provided with a toothed segment arranged to engage said rack, and fulcrumed between said lugs, all arranged and adapted to operate as described. 3rd. In a cant-hook, the combination of a handle having a ferrule provided with an elongated slot, a reciprocating bar operating therein, and having teeth adapted to take hold on the log, a rack at one end of said bar, a projection from said bar fitting beneath the ferrule and confined by it, a pivoted hook, and a toothed sector at its base engaged by the rack of said reciprocating bar, substantially as and for the purpose described.

No. 35,481. Tanning Process. (*Procédé de tannage*).

George Henry Russell, Newburgh, Pennsylvania, U.S.A., and Reister Russell, Reisterstown, Maryland, U.S.A., 22nd November, 1890; 5 years.

Claim.—1st. The herein described improvement in the art of tanning, which consists in first unhairing the hides, then dispensing with the usual manure bates and treating the hides with an alkaline or neutral solution of a salt of an alkali and sulphuric acid, and then treating them with a tanning agent, substantially as described. 2nd. In converting hides into leather, the herein described process of treating them with a watery solution of salt, bicarbonate of soda, and sulphuric acid, substantially in the proportions specified, and then treating them with a tanning liquor. 3rd. In converting hides into leather, the process of first treating the hides after being unhaired with a solution containing salt of an alkali to open the pores and remove the lime, and then tanning them in liquors containing tannic acid, to which liquors has been added a watery solution of salt, bicarbonate of soda, and sulphuric acid. 4th. In converting hides into leather, the process of treating them with a watery solution of salt, bicarbonate of soda, and sulphuric acid, and then treating them with a tanning liquor containing tannic acid, to which has been added a watery solution of salt, bicarbonate of soda, and sulphuric acid. 5th. The improvement in the art of tanning to produce leather of great toughness, which consists in subjecting the hides to the action of a solution containing a salt of an alkali, sulphuric acid, and sulphate of zinc preparatory to treating them with a tanning agent.

No. 35,482. Stove Pipe Making Machine. (*Machine pour faire les tuyaux de poêle*).

James Cooper and Frederick Fairman, both of Montreal, Quebec, Canada, 22nd November, 1890; 5 years.

Claim.—1st. In a stove pipe making machine, the combination, with a bed plate having a table surface along which the blanks may pass, of travellers for moving the blanks, means for supporting and operating such travellers, means for effecting a taper in the width of such blanks, shears for trimming them, folding mechanism for bending their longitudinal edges in opposite directions, so that when brought together they will interlock; dies and means for operating same, mechanisms to produce locking lips, corrugating and curving rolls and means for supporting and rotating same. 2nd. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of travellers adapted to feed more than one blank at a time, and means for imparting a reciprocating movement to such travellers. 3rd. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of means for moving such blanks and contracting their width while moving, for the purpose set forth. 4th. In a stove pipe making machine, the combination with a table, along which the blanks may pass, of means for holding a blank stationary for a period during its passage, and narrowing the width of its rear end for the purpose set forth. 5th. In a stove pipe making machine, the combination with a table, along which the blanks may pass, of shearing discs rotated by the blanks and operating to trim their edges, for the purpose set forth. 6th. In a stove pipe making machine, the combination with a table, along which the blanks may pass, of mechanism for folding the side edges of such blanks back upon the opposite surfaces of same, for the purpose set forth. 7th. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of die mechanisms for forming locking lips in the side edges of such blanks, and means for operating such die mechanisms. 8th. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of two feeding and corrugating rolls arranged one above the other, and the lower one carried in a frame adapted to be moved vertically, means for effecting such vertical movement, and means for rotating such rolls and supporting the whole, as and for the purpose described. 9th. In a stove pipe making machine, the combination, with a table along which the blank may pass, of travellers made flexible in parts, and having teeth whereby more than one blank can be moved by them, and means for carrying and imparting a reciprocating movement to such travellers. 10th. In a stove pipe making machine, the combination, with a table along which the blanks may pass, and which has a recess in its upper surface, of a depressor or tongue-bar extending into same and acting to depress a portion of such blanks into the said recess while they are passing, and means for supporting such depressor, and for moving blanks, for the purpose set forth. 11th. In a stove pipe making machine, the combination with a table, along which the blanks may pass, and which has a recess in its upper surface, of a presser bar and teeth, for holding a blank stationary for a period during its passage, and contracting the width of its rear end, and means for supporting and operating such bar and teeth, for the purpose set forth. 12th. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of means for holding a blank stationary for a period during its passage and contracting the width of its rear end; shears for trimming the side edges of such blank, and means for carrying and operating such shears, for the purpose set forth. 13th. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of matrix strips, upon which the edges of the blanks may be folded, blocks having inverted cycloidal surfaces adapted to fold or turn over such edges, means for carrying such blocks and matrices; and operating means, for the purpose set forth. 14th. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of stationary dies arranged on a level with such table; movable dies adapted to work vertically above and in line with same and means for operating such movable dies, for the purpose set forth. 15th. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of two feeding and corrugating rolls arranged one above the other and adapted to allow a blank to be inserted between them from their ends, for the purpose described. 16th. In a stove pipe making machine, the combination, with a bed plate having a table surface along which the blanks may pass, and guideways for a cross-head; of travellers for moving such blanks, a steam or air cylinder with supply and controlling mechanism, piston and piston rod, valve chest, valves and valve rod and exhaust outlets; a cross head travelling on said guideways secured to and operated by such piston rod, means whereby the movement of such cross head will operate said valves and means for connecting said travellers with said cross head, for the purposes set forth. 17th. In a stove pipe making machine, the combination, with a bed plate having a table surface along which the blanks may pass, and guideways for a reciprocating cross head, and with such cross head and travelling plates bolted to same, of side frames carried by such cross head, and a bridge bar extending from top to top of and bolted to such side frames, for the purpose described. 18th. In a stove pipe making machine, the combination, with a bed plate having a table surface along which the blanks may pass, and means for holding a blank stationary for a period during its passage, and with a moving frame of shears carried by such frame and adapted to trim the edges of such blank. 19th. In a stove pipe making machine, the combination, with a bed plate having a table surface along which the blanks may pass, and means for holding a blank stationary for a period during its passage, and with a moving frame of stationary matrix strips, suitably carried, upon which the edges of the blank may be folded, and blocks having inverted cycloidal surfaces adapted to fold or turn over such edges, as and for the purposes set forth. 20th. In a stove pipe making machine, the combination, with a bed plate having a table surface along which the blanks may pass, of plates let into such surfaces forming part and increasing the width of same; bridge frames spanning the machine laterally, longitudinal connecting bars extending between and carried by such bridge pieces over said plates with their lower surfaces close to the upper surfaces of same; a matrix strip secured to one of said plates so as to extend beyond its edge and be parallel with the outer edge of one of said connecting bars; another matrix strip secured to the other connecting bar and extending beyond its outer edge, so as to be parallel with the edge of the other plate; means for holding a blank stationary during a period of its passage, and means for folding the edge of such blank over said matrices, for the purpose set forth. 21st. In a stove pipe making machine, the combination, with the bed plate and table surface along which the blanks may pass, bridge frames and perforated connecting bars, plates provided with pins fitting the perforations of such bars; springs arranged between such plates and bars; levers pivoted to such bars, and means for operating such levers, all as and for the purposes set forth. 22nd. In a stove pipe making machine, the combination with the bed plates and table surface along which the blanks may pass, and which has a recess with an end diminished to a point, and with a bridge frame

spanning the machine; of a depressor or tongue-bar extending into such recess; and means for moving said blanks, all as and for the purposes set forth. 23rd. In a stove pipe making machine, the combination, with the bed plate and table surface along which the blanks may pass, and which has a recess with a tapering end, and with a bridge frame spanning the machine, of a spring presser bar provided with foot-piece, and means for depressing same, as and for the purpose set forth. 24th. In a stove pipe making machine, the combination, with the bed plate and table surface, along which the blanks may pass, and with bridge frames and perforated connecting bars, spring presser bar, plates carrying pins and levers for acting on same, of steam or air cylinders communicating with each other and having a suitable supply, a valve chamber with inlet and exhaust ports, valve and valve rod, and means for operating such valve rod, all as and for the purposes set forth. 25th. In a stove pipe making machine, the combination, with a support and a presser bar, and a steam or air cylinder and a piston, of a valve chamber communicating with such cylinder and having a single movable perforated valve, with actuating rod and supply inlet and exhaust-ports together with means for operating said valve rod, for the purpose set forth. 26th. The combination, with valve rod J^6, having inclined foot J^9, travellers H, H^1, and means for reciprocating same, of detents J^{10}, J^{11}, for the purpose described. 27th. The combination, with presser bar J^4, of spring j^9, clamped to same, for the purpose described. 28th. In a stove pipe making machine, the combination, with the bed plate and table surface along which the blanks may pass, of standards having base sections carrying dies, hollow cylindrical heads, and bolted to said bed plate; piston plungers adapted to fit and work in such cylindrical portion and carry dies; steam or air supply to such cylindrical portion, and exhaust from same with controlling mechanism, and yielding resistance mechanisms, for supporting said plungers, all as and for the purposes described. 29th. The combination with standards K, K^1, plungers K^2, K^3, and blocks or carriers K^7, of male and female dies formed respectively of single bars and of bars in two longitudinal parts; and a yielding resistance for one of such parts, for the purpose set forth, 30th. The combination with standards K, K^1, plungers K^2, K^3, and blocks or carriers K^4, K^6, of male and female dies formed respectively of single bars and of bars in two longtudinal parts with the addition of bars at right angles to each; and a yielding resistance for one of said longitudinal parts of the female die, for the purpose set forth. 31st. The combination, with the plungers K^2, K^3, and dies carried by blocks K^6, K^7, of adjusting screws, for the purpose set forth. 32nd. The combination, with the blocks K^5, K^6, provided with recesses and slots, of yielding resistance presser foot K^{16}, pins k^{17}, and springs k^{18}, for the purposes set forth. 33rd. In a stove pipe making machine, the combination, with a table surface along which the blanks may pass in one direction; means for moving such blanks, and with suitable supports of feeding and corrugating rolls whose axes are parallel with the line of passage of the blanks, and which remove same from the table at right angles to such line of passage, and means for operating such rolls, as set forth. 34th. In a stove pipe making machine, the combination, with the bed plate and table surface along which the blanks may pass, of arms extending from one side of such bed plate, to which they are secured, above the table surface to the other side, means in connection with such arms for carrying two rolls with their axes parallel to the line of passage of the blanks along the table: means for moving one of such rolls vertically, and means for rotating such rolls, for the purposes set forth. 35th. In a stove pipe making machine, the combination, with a stationary frame carrying a feeding and corrugating roll; of a frame movable vertically and carrying another feeding and corrugating roll; means for rotating such rolls, and a steam or air cylinder, with piston, arranged between the stationary and movable frames, such cylinder having a supply and exhaust, and mechanism for controlling same, as set forth. 36th. The combination, with cylinder M^6, supply pipe T, and exhaust pipe M^8, of valves T', M^4, and means for operating such valves as and for the purposes set forth. 37th. The combination, with the table surface A^1, and arms B^2, B^2, of swinging bar Y^1, for the purpose set forth. 38th. The combination, with plate N, and bar *n*, of adjustable plate N^4, and means for holding it in place, for the purpose set forth. 39th. In a stove pipe making machine, having dies for striking locking lips, and steam or compressed air mechanism for operating same and other working parts of the machine, the combination with the exhaust ports of a cylinder through which such air or steam passes, of pipes leading from such ports to the dies, for the purpose set forth. 40th. In a stove pipe making machine, the combination, with a table along which the blanks may pass and means for moving such blanks, of a travelling gauge plate, for the purpose set forth. 41st. In a stove pipe making machine, the combination, with a table along which the blanks may pass, of the spring guage plate M^{11}, for the purpose set forth. 42nd. In a stove pipe making machine, the combination with a table along which the blanks may pass, of the drag bar L, and means, out of contact with such table, for holding it in place, for the purpose set forth. 43rd. The combination, with the pipes V^1, V^1, terminating in nozzles, of valves V^2, for the purpose set forth.

No. 35,483. Railway Switch.

(*Aiguille de chemin de fer.*)

Lyman Morse Garfield, Xenia, Ohio, U.S.A., 24th November, 1890; 5 years.

Claim.—1st. In combination, with the stationary rails of a main track and siding, of a sliding switch consisting of a main and side rails connected together by cross bars, and mechanism for bringing the movable rails with either of their free ends opposite, and adjacent to the ends of either of the stationary rails, all as set forth. 2nd. In combination, with the rails of the main stationary track, the rails of a siding diverging from one side of the track, the sliding switch consisting of the main track C, the side track D, on the opposite side of the track from the stationary siding, bars connecting the movable rails, and mechanism for bringing the movable rails with either of their free ends opposite and adjacent to the ends of either of the stationary rails, all as set forth.

No. 35,484. Gate. (*Barrière.*)

John A. Bacon and Alfred P. Walbridge, both of Phœnix, Arizona, U.S.A., 24th November, 1890; 5 years.

Claim.—In a gate, the combination, with the supporting frame having a pin in its left outer post, and two gates traveling in said frame, the right gate also having a pin in its inner edge, of latches connected to each edge of the left gate and adapted to engage said pins, a looped rope passing over rollers on both outer posts of the frame, to the opposite sides of which loop the two gates are connected, and opening and closing ropes connected to said latches and led over pulleys to a distance from the frame, the whole operating, substantially as described.

No. 35,485. Quilting Frame. (*Mélier à piquer.*)

William Hackly Church and Archibald Wilson, both of Fenelon Falls, Quebec, Canada, 24th November, 1890; 5 years.

Claim.—1st. In a quilting frame, the combination of the side bars A, A, having a halved notch near both ends, slides F, sleeved on said ends, and the end bars B, B, intersecting said notches, and having saw-kerfs E, engaged by the slides to lock the bars A, B, together at their intersection, as set forth. 2nd. In a quilting frame, the combination of the legs C, having a relish provided with a peripherial groove O, and the side bars A, having a hole M, to receive the relish, a pin N, to engage the groove, and a passage way P, for the pin to enter the groove so that by partial rotating the leg will be retained removably, as set forth.

No. 35,486. Check Rein Attachment.

(*Appareil pour fausses-rênes.*)

William Upton, (assignee of Alfred Everett Howard), both of Burnside, Connecticut, U.S.A., 24th November, 1890; 5 years.

Claim.—1st. In combination, with the check rein having a loop adapted to engage the hook, the swinging holding hook mounted on the saddle, and with its forward end entering a socket on the hook base, the trip strap attached to the hook, tubular for a part of its length and bearing a perforated plug, the trip strap guides on the harness, and the check rein extension leading rearward, passing through the tubular part of the trip strap, and bearing an adjustable stop, all substantially as described. 2nd. The combination, with the check rein having a loop adapted to engage the hook, the swinging holding hook mounted on the saddle and with its forward end entering a socket on the hook base, the trip strap attached to the hook, tubular for a part of its length and bearing a perforated plug, the trip strap guides on the harness, the trip strap catch on the harness and trip strap, and the check rein extension leading rearward, passing through the tubular part of the trip strap and bearing an adjustable stop, all substantially as described.

No. 35,487. Ditching Machine.

(*Machine à fossoyer.*)

Harvey Kelley, Cuba, New York, U. S. A., 25th November, 1890; 5 years.

Claim.—1st. The combination, in a ditching machine, of a plow consisting of a shovel-board *a*, incline A^3, and an endless belt mounted on spring supports, said belt being inclined and located above the incline A^3, substantially as shown. 2nd. The combination, in a ditching machine, of a frame A, having a draft-beam, a transverse beam secured thereto, and provided at its ends with rollers A^6, substantially as shown. 3rd. The combination, in a ditching machine, constructed substantially as shown, of a front frame A, having a rigid central beam A^5, and converging beams A^4 secured thereto, a support or platform having a transverse board, to which are secured handle-bars and a projecting arm, the handles and arm being adapted to swing upon a pivot, and a loop *b* for limiting the movement thereof, substantially as shown. 4th. The combination, in a ditching machine, of a front frame, to which the draft mechanism is attached, an inclined mold-board A^3, rigidly secured between the inclined side pieces A^1, a belt provided with transverse strips, said belt being mounted on a spring supported frame, an endless belt D, provided with buckets, said belt being mounted upon a shaft carried by the rear frame and upon a shaft journaled between the inclined side pieces A^1, the rear frame having a driving wheel and mechanism for operating an endless conveying belt, upon which the earth is deposited from the belt D, substantially as shown and for the purpose set forth. 5th. In a ditching machine having the front and rear frames connected as described, said rear frame being provided with a driving wheel, the conveyer frame pivotally supported on the rear frame, shafts provided with flexible connections for tilting the conveyer frame, and a belt on the latter frame, substantially as set forth. 6th. The combination, with a ditching machine, of a conveyer frame made up of central and end sections, the end sections being extensible and provided with rollers over which the endless carrying belt passes, and castor wheels secured to said end sections so they can be reversed, substantially as shown, and for the purpose set forth. 7th. In a ditching machine, a conveyer frame carrying guide rollers and castor wheels, in combination, with the pivoted support therefor, as L, and pulleys k^3 and k^2 and cords *q* and k^4, respectively, by means of which the frame can be tilted and moved laterally, substantially as set forth. 8th The combination, in a ditching machine, of a conveyer frame for removing the earth to one side of the apparatus, said conveying belt being supported upon a pivoted frame, the frame upon which the endless belt is mounted having a flexible connection *q*, which is passed over a shaft, whereby when said shaft is turned the endless frame can be moved from one side of the apparatus to the other, the gearing provided with shifting mechanism, whereby the direction of the rotation of the conveying belt can be varied, substantially as shown, and for the purpose set forth. 9th. The combination, in a ditching machine

constructed substantially as shown, of a horizontal shaft mounted in the rear part of the frame and provided with a driving wheel, said shaft also carrying cog wheels, which mesh with cog wheels mounted upon a shaft above the same, a gear wheel carried by a flexible shaft, and provided with a lever G, for shifting the end of the shaft, so that said gear wheel can be thrown into engagement with either of the gear wheels f^3 or f^4, so that the direction of the rotation of the shaft h may be varied, substantially as and for the purpose set forth.

No. 35,488. Disk Harrow. (*Herse à disque.*)

William H. Nauman, Dayton, Ohio, U.S.A., 25th November, 1890; 5 years.

Claim.—1st. In a disk harrow, provided with two or more gangs of disks swiveled to a main frame or beam, having their opposite ends attached to a lever in the manner described, whereby a single motion of the lever forces one end of each gang backward and the other end forward, in the manner and for the purpose described. 2nd. In a disk harrow provided with two or more gangs of disks swiveled to a main frame or beam, having their opposite ends attached to a lock lever in the manner described, whereby by a single motion of the lever one end of each gang will be forced back and the other forward and locked at any desired angle to the line of draft, in the manner, and for the purpose described. 3rd. In a disk harrow provided with several gangs of disks or pulverizers, a lock lever attached to the tongue and arranged to operate the disk gangs by rods attached to their opposite ends, to throw and lock them at any desired angle to the line of draft, in the manner and for the purpose described. 4th. In a disk harrow having several gangs of disks arranged as described, the combination of the main lever G, attached to one end of each gang, the counter lever I, attached to the other end of each gang, and connecting link, in the manner and for the purpose specified. 5th. In a disk harrow of the class specified, provided with a pair of anti-friction heads revolving independently of the gangs applied to the abutting ends of the disk gangs, substantially as and for the purpose described. 6th. In a disk harrow of the class specified, provided with a pair of anti-friction heads revolving independently of the gangs applied to the abutting ends of the disk gangs, said heads being united by a tie, substantially as and for the purpose described. 7th. In a disk harrow having one or more pair of disk gangs with abutting ends, the revolving anti-friction heads M, M^1, provided with laterally extending lugs filling into bushings L, L^1, with the longitudinal slots o, o^1, and chambers O, O^1, substantially as described. 8th. In a disk harrow having one or more pair of disk gangs, whose ends abut revolving anti-friction heads, whose inner ends or stems are provided with laterally extending annular ribs revolving in interior annular chambers or grooves within the bushing, substantially as and for the purpose described. 9th. In a disk harrow disk, scrappers swiveled in rock shafts suspended from the frame, whereby they may be adjusted to the concave faces of the disks, substantially as and for the purpose described. 10th. In a disk harrow disk, scrappers swiveled in rock shafts T, in combination with the levers V, and sliding bar W, whereby said scrappers may be thrown into or out of contact with the disks, substantially as and for the purpose described.

No. 35,489. Lacing. (*Lacet.*)

Franklin S. McKenney, Detroit, Michigan, U.S.A., 25th November, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a shoe fastening consisting of a shoe provided with an inner and an outer facing upon each of its adjacent edges, a series of shanks located between the said facings along a portion of the length of their adjacent edges, and external hooks located upon said edges, respectively, along the remainder of their length, substantially as set forth. 2nd. As an article of manufacture, the shank herein described, consisting of a stem provided with a grooved ring and a solid head a^2, substantially as set forth. 3rd. As an improved article of manufacture, a shoe fastening consisting of a shoe provided with an inner and an outer facing upon each of its adjacent edges, a series of shanks located between the said facings along a portion of the length of their adjacent edges, external hooks located upon said edges, respectively, along the remainder of their length, and a cord passed back and forth about said shanks and about said hooks when the article is laced, substantially as set forth.

No. 35,490. Shoe Upper. (*Empeigne de chaussures.*)

Franklin S. McKenney, Detroit, Michigan, U.S.A., 25th November, 1890; 5 years.

Claim.—1st. A shoe upper having, in combination with the two sides to be brought together in lacing, an inner facing B, secured to one of said sides, a tongue secured to the opposite side, fastening devices between the outer and inner faces of one side piece and between the outer face and the tongue of the other side piece, and a lacing cord, substantially as set forth. 2nd. A shoe upper having, in combination with the two sides to be brought together in lacing, inner facings secured to said sides near their edges, shanks engaged between the inner faces and the sides of the shoe upper, said shanks concealed beneath the sides of said shoe upper, and a lacing cord, substantially as set forth. 3rd. A shoe upper having, in combination with the two sides to be brought together in lacing, inner facings secured with one edge to said sides near their edges, facings a^1, secured to said sides, shanks engaged between said inner facings and the facings a^1, and a lacing cord, substantially as set forth.

No. 35,491. Weather Strip. (*Bourrelet de porte.*)

John E. Jones, New York, state of New York, U.S.A., 25th November, 1890; 5 years.

Claim.—1st. A sash formed with a slot in one of its outer surfaces, forming a bridge at the corner of the sash, combined with a metallic strip, U-shaped in cross section, one of the members of the strip being inserted in the said slot, substantially as described. 2nd. A weather strip, composed of a ribbon of sheet metal bent longitudinally into U-shape, in combination with a sash formed with a slot in its outer surface near to and parallel with the edge of the sash, one member of the strip being inserted in the slot, the other being held by spring pressure against the window frame, and the curve b^2, acting as a friction surface against the window cleat, substantially as described. 3rd. The weather strip formed of sheet metal folded into U-form, and having its contact edge rounded as at g, substantially as described.

No. 35,492. Tricycle. (*Tricycle.*)

Austin E. Miller, Sprague, Washington, U.S.A, 25th November, 1890; 5 years.

Claim.—1st. The combination, with the carriage, carrying front and rear standards and the double-cranked axle journalled in said carriage, of levers pivoted to the front standard, and pitmen connecting them to the crank, other levers removably pivoted to the rear standard, and pitmen connected to said levers, the free ends of said pitmen having hooks adapted to removably engage said cranks, substantially as described. 2nd. In a tricycle, the combination, with the main axle carrying the driving wheels and the steering mechanism, of pivoted levers connected to said axle for driving the same, and spring mechanism, substantially as described, adapted to be thrown into engagement with said axles in the manner and for the purpose set forth. 3rd. In a tricycle, the combination, with the main axle carrying the driving wheels and small gears keyed thereon near its ends, of a spring mechanism, substantially as described, carrying a large gear adapted to be engaged with either, or disengaged from both small gears, an upright shaft on which said mechanism is mounted, and means, as set forth, for tilting said shaft, as and for the purpose specified. 4th. The combination, with the carriage having a front standard and a notched plate carried thereby, of spring mechanism, substantially as herein described, mounted upon an upright shaft, and a pivoted arm, its front end engaging said notches and its rear end being bifurcated and engaging said shaft, the whole operating as and for the purpose set forth. 5th. The combination, with the carriage, a shield carried thereby, lugs on said shield, and a step pivoted between the adjacent faces of said lugs and pivoted with a socket at its centre, of spring mechanism, substantially as herein described, mounted upon an upright shaft, the lower extremity of which is seated in said socket, and means, as set forth, for tilting the upper end of said shaft, the whole operating as and for the purpose specified. 6th. The combination, with the carriage having holes in its sides, and a main shaft journalled in said sides and above and between said holes, of a U-shaped frame having bifurcated ends straddling said axle and outwardly bent tips engaging said holes, and a spring mechanism, substantially as described, mounted in said frame, as set forth. 7th. The combination with the U-shaped frame, having a longitudinal slot at the centre of its body, the carriage supporting said frame, and a step carried by said carriage below the centre of said slot, of an upright shaft journalled in said step and its upper end passing through said slot, a tube having a squared upper end sliding laterally in said slot, and through which tube the shaft passes, a compound spring connected at its lower end to said shaft, and at its upper end to said tube, a large gear carried by the shaft, and small gears keyed to the main axle, the whole operating substantially as set forth. 8th. In a tricycle, the combination, with the carriage, a main axle journalled therein and having small gears near its ends, a front standard having a notched plate, an oscillating step over the center of said axle, and a U-shaped frame having a transverse slot above said step, of an upright shaft journalled in said step and its upper end passing through said slot, a tube having a squared upper and sliding in said slot, through which tube the shaft passes, a compound spring connected at its lower end to said shaft and at its upper end to said tube, a large gear carried by the shaft and standing normally above said small gears, an arm pivotally connected to said frame and having a bifurcated rear end loosely engaging said shaft, the front end of said arm engaging said notched plate, and a ratchet connection, substantially as described, between said tube and shaft, the whole operating as set forth. 9th. The combination, with a cylindrical casing, having a groove in its sides at about the centre of its length, a shaft located in the centre of said casing, a tube surrounding said shaft and a ratchet connection between them, of a disk seated in said groove and having a radial slot embracing said shaft, a spring above said disk connected at its inner end to said tube, a spring below said disk connected at its inner end to said shaft, a plate passing through said slot in the disk and rigidly connecting the outer ends of said springs, and a gear carried by said shaft, the whole operating substantially as and for the purpose set forth. 10th. The combination, with the shaft the lower tube rigidly secured to the lower end thereof, and provided with teeth in its upper end, and the compound spring connected at one end to said tube, of an upper tube loosely mounted on the upper end of said shaft and having teeth in its lower end engaging those in the lower tube, the upper end of the compound spring being connected with the upper tube, and means, substantially as described, for raising and lowering the upper tube, as and for the purpose set forth. 11th. The combination, with the shaft seated at its lower end in a step, the lower tube rigidly secured to said shaft, near its lower end, and provided with teeth in its upper end, and the compound spring connected at one end to said tube, of an upper tube loosely mounted on the upper end of said shaft, and having teeth in its lower end engaging those in the lower tube, the upper end of the compound spring being connected with the upper tube, a frame having depression in its centre, provided with a slot through which said shaft passes, the upper end of said upper tube having a squared head sliding in said slot, an arm pivotally connected to said frame and having a bifurcated end straddling said shaft, and a coiled expansion spring upon said shaft between said bifurcated end and said enlarged head, the whole operating substantially as and for the purpose set forth.

No. 35,493. Cigar Holder. (*Porte-cigare.*)

Eugene Promis, Philadelphia, Pennsylvania, U.S.A., 26th November, 1890; 5 years.

Claim.—1st. A cigar holder of the character herein described, for use within a hat, consisting of a strip of flexible metal, or other suitable material, of length in excess of the width of the crown of the hat, to which it is applied, formed or provided with cigar-holding loops or bights, and provided at its extremities with suitable means for supporting it within a hat, for the purposes set forth. 2nd. A cigar holder of the character herein described, for use within a hat, and vertically adjustable therein, as and for the purposes set forth. 3rd. A cigar holder, of the character herein described, for use within a hat, in combination with supporting devices for the holder, which are adapted to receive its extremities and permit its vertical adjustment as and for the purposes set forth. 4th. A cigar holder, of the character herein described, for use within a hat, consisting of a strip of flexible metal, or other suitable material, having cigar holding loops or bights, and of length in excess of the width of the crown of the hat, to which it is applied, the extremities of said strip provided with means for attaching or supporting the holder within a hat, and permit its vertical adjustment to adapt it to hats of varying height of crown, as and for the purposes set forth. 5th. A cigar holder, of the character herein described for use within a hat, consisting of a strip of flexible metal, or other suitable material, of length in excess of the width of the crown of the hat, to which it is applied, a series of independent flexible cigar holding bights attached to said strip, the extremities of said holder provided with means for attaching or supporting it within a hat, and permit its vertical adjustment to adapt it to hats of varying height of crown, as and for the purpose set forth.

No. 35,494. Split Pulley. (*Poulie brisée.*)

George Edward Burt, Harward, Massachusetts, U.S.A., 26th November, 1890; 5 years.

Claim.—1st. A sectioned pulley, comprising two equal sections, each composed of one section of a longitudinally-divided spoke and a rim section, the rim sections being composed of transverse lags, and provided with perforations or passages parallel to their faces that extend through the ends of the spoke sections, rods extending through said perforations or passages, and nuts engaging the threaded ends of said rods outside the channels, substantially as specified. 2nd. In a sectioned pulley, the combination of the spoke sections, having in their squared end portions the transverse grooves c^3, the rim-sections composed of the transverse lags A, and provided with perforations or passages concentric with their curved faces or surfaces that also extend through the corresponding spoke-sections, the end lags A^1, provided with transverse ribs to enter and fit in the corresponding grooves c^3, the rods extending through the perforations or passages in the rim-sections, and the nuts engaging the threaded ends of said rods outside of said perforations or passages, substantially as specified. 3rd. In a pulley, the combination of the equal sections, each composed of the spoke-section *c*, the lags A, fitted together at their edges and provided with meeting grooves e^1, in said edges, the keys e^2 fitted in said meeting grooves, the rods E extending through the perforations or passages in the rim section and corresponding spoke-section, and the nuts engaging the threaded end of said rods, outside of said channels, substantially as specified. 4th. In a diametrically-sectioned pulley, the combination of the longitudinally-divided spoke, the lags forming the rims of the sections, the rods extending through perforations or passages in the rims, and adjacent spoke sections, the nuts engaging the threaded ends of said rods outside of said channels, the blocks between the rim sections provided with openings to receive said ends and nuts, and the bolts passing through registering openings in the two spoke-sections, and binding the two pulley-sections together, substantially as specified. 5th. The combination, with the rim and the longitudinally-divided spoke C, having the opposite central grooves c^2, in its facing sides, which grooves are right-angled at the bottoms of the binding, angle-wedges resting in said grooves and binding on the shaft, and means, substantially as described, whereby the two sets of wedges may be simultaneously forced inward or outward, substantially as specified. 6th. The combination, with the rim, the longitudinally-divided compound spoke C, provided with the central transverse grooves c^2, and the bolts holding the spoke sections together, of the angle-wedges arranged in two opposite sets, the arms *h* attached to the wedges, the oppositely-threaded nuts *i* attached to the arms, and the bolt I engaging said nuts, substantially as specified. 7th. The combination, with the rim, the longitudinally-divided spoke C, provided with the grooves c^2 and the bolts holding the spoke-sections together, of the angle-wedges, the arms *h*, the oppositely-threaded nuts *i*, the bolt I, and the supporting sleeve I1, with its outwardly-extending tongue secured to one of the spoke-sections, substantially as specified. 8th. In a pulley, the combination of the perforated lags fitted together, the semi-circular rigid rods threaded at their ends, and the nuts engaging on said ends outside of the lags, binding the lags together and holding them in position, substantially as specified. 9th. In a diametrically-sectioned pulley, the combination of the semi-circular rigid rods threaded at their ends, the lags fitted edgewise together, the spoke sections, the spoke sections and lags having registering perforations for the reception of the said rods, the nuts engaging the ends of the rods, and the bolts binding the two spoke-sections together, substantially as specified.

No. 35,495. Fastening for Lacing Cord.

(*Agrafe pour lacets.*)

Franklin S. McKenney, Detroit, Michigan, U.S.A., 26th November, 1890; 5 years.

Claim.—1st. The integrally-formed blank, herein described, consisting of a base, constructed with a clamping lip b^4 struck therefrom, marginal projections b^1, and recesses b^3 on opposite sides of the base, said base, provided with a head, and a shank connecting the head therewith, substantially as set forth. 2nd. An article of apparel, having in combination therewith a fastener, consisting of a base constructed with a raised clamping lip b^4, projections b^1 and recesses b^3 on opposite marginal edges thereof, a head and a shank connecting the head with the base, a portion of said base passed through the material of said article, said material entering said recesses and firmly clamped between said lip and the body of the base, substantially as set forth. 3rd. As an article of manufacture, a fastening, consisting of a base provided with a clamping lip struck therefrom, marginal projections b^1 and recesses b^3 on opposite sides of the base, said base provided with a head, and a shank connecting the head therewith, said shank bent to form a hook, substantially as set forth.

No. 35,496. Folding Box. (*Boîte brisée.*)

Charles F. Boyce, Sterling Bush, New York, U.S.A., 26th November, 1890; 5 years.

Claim.—The combination, with the folding box, provided with projecting strips G, surrounding the same and having miter joints, of the hinges and locking and securing hooks, having enlarged knuckles, arranged upon said strips at the angles of the box, and adapted to serve as bumpers for protecting the angles of the box, substantially as described.

No. 35,497. Lemon Juice Extractor.

(*Pressoir à citron.*)

John P. Manny, Rockford, Illinois, U.S.A., 26th November, 1890; 5 years.

Claim.—1st. A lemon juice extractor, comprising a conoidal portion, having juice releasing projections on its surface, and ribs extending from the conoidal portion, with juice exit openings between them, substantially as set forth. 2nd. A lemon juice extractor, comprising a conoidal portion, provided with sharpened projections, and ribs extending outwardly from the conoidal portion and forming a prolongation of some of the projections, substantially as set forth. 3rd. A lemon-juice extractor, comprising a conoidal portion, provided with juice-releasing projections, and an annular base portion connected with the conoidal portion by ribs having juice exit openings between them, substantially as set forth.

No. 35,498. Lemon Juice Extractor.

(*Pressoir à citron.*)

John P. Manny, Rockford, Illinois, U.S.A., 26th November, 1890; 5 years.

Claim.—1st. A lemon juice extractor, consisting of a reservoir base, a cone extractor having juice-releasing projections of its surface, and a strainer between the cone and outer edge of the base, substantially as set forth. 2nd. A lemon juice extractor, consisting of a base, a cone extractor, and a strainer composed of uprising fingers between the cone and outer edge of the base, substantially as set forth. 3rd. A lemon juice extractor, consisting of a base of dish form, a cone extractor having juice-releasing projections on its surface, and a strainer located above the bottom of the dish-formed portion of the base, whereby the juice is separated from the seeds and pulp as it is extracted, substantially as set forth. 4th. A lemon juice extractor, consisting of a reservoir base, a cone extractor, and a strainer composed of uprising fingers between the cone and outer wall, of the base, substantially as set forth. 5th. A lemon juice extractor, consisting of a reservoir base having a spout, a cone extractor, and a strainer composed of uprising fingers between the cone and outer wall of the base, substantially as set forth. 6th. A lemon juice extractor, consisting of a base, a cone extractor having juice-releasing projections on its surface, and a strainer located between the cone and the juice exit portion of the base, substantially as set forth.

No. 35,499. Process of Manufacturing Seamless Hollow Wire. (*Procédé de fabrication du fil de fer creux et sans couture.*)

Charles Robertson Smith, Providence, Rhode Island, U. S. A., 26th November, 1890; 5 years.

Claim.—1st. The improved process of manufacturing hollow wire herein described, consisting in the formation of a longitudinally split metallic tube, the use of a steel arbor having short metallic sleeves, covering said arbor with oil, placing said tube upon said arbor with said sleeves abutting the ends of said tube respectively, passing said tube arbor and sleeves horizontally with a rotary and longitudinal movement through the flame of blow pipes, so as to melt said tube sufficiently to fuse its split edges together, drawing said tube when cold, and so in position through a draw plate for a finish, withdrawing said sleeves and removing the tube from the arbor, substantially as specified. 2nd. The improved process of manufacturing hollow wire herein described, consisting in the formation of a longitudinally split metallic tube, the use of a steel arbor covered with oil, placing the tube on the arbor passing said tube, and arbor horizontally with a rotary and longitudinal movement through the flame of blow pipes so as to melt said tube sufficiently to fuse the split edges together, drawing said tube so in position through a draw plate for a finish and withdrawing said tube from said arbor, substantially as specified. 3rd. The improved process of manufacturing seamless plated metallic hollow wire herein described, consisting in the formation of a longitudinally split tube of metal, the formation of a longitudinally split tube of another metal but of a slightly greater diameter than the diameter of the first mentioned tube, putting a fluxing material upon said first mentioned tube, placing the larger tube upon the other tube, placing this compound tube upon an arbor covered with oil, subjecting said tubes

while so in position to heat sufficient to fuse the outer tube upon the inner tube, and finishing the compound tube by drawing it through a draw plate or in any known manner, substantially as specified. 4th. The improved process of manufacturing seamless plated hollow wire herein described, consisting in the formation of a longitudinally split tube of metal, the formation of a longitudinally split tube of another metal but of a slightly greater diameter than the diameter of the first mentioned tube, putting a fluxing material upon said first mentioned tube, placing the larger tube upon the other tube, subjecting said tubes while so in position to heat sufficient to fuse the outer tube upon the inner tube, and finishing the compound tube by drawing it through a draw plate or in any known manner, substantially as specified. 5th. The improved process of manufacturing seamless plated hollow wire herein described, consisting in the formation of a longitudinally split tube of metal, the formation of a longitudinally split tube of another metal, but of a slightly greater diameter than the diameter of the first mentioned tube, putting a fluxing material upon the first mentioned tube, placing the larger tube upon the other tube so that the openings of said tubes shall not be radially coincident, subjecting said compound tube to heat sufficient to fuse the outer tube upon the inner tube, and at the same time to flow the melted metal into said openings to close the same, and finishing the compound tube by drawing it through a draw plate or in any known manner, substantially as specified.

No. 35,500. Automatic Fire Extinguisher.

(*Extincteur d'incendie automatique.*)

Frederick Grinnell, Providence, Rhode Island, U.S.A., 26th November, 1890; 5 years.

Claim.—1st. In an automatic fire extinguisher, organized to release a valve by thermal action at a predetermined temperature, the combination of the heat actuated device which normally holds the valve to its seat with a valve formed of vitreous substance or equivalent hard and smooth heat-insulating material, substantially as described. 2nd. In an automatic fire extinguisher of the character above described, a heat actuated device normally holding the valve to its seat, insulated from normal heat conductivity by vitreous bearings, substantially as described. 3rd. An automatic fire extinguisher, having a valve of glass and a valve seat formed of a resilient metallic plate, substantially as described. 4th. In an automatic fire extinguisher, the combination of a vitreous valve having a convex bearing surface, with a diaphragm formed of a resilient metallic plate having a central orifice, and a valve-holding device secured by fusible solder which holds the valve in the orifice. 5th. An automatic fire extinguisher, the valve of which is made of vitreous material, with a convex bearing surface, the said valve resting in an orifice in a resilient metallic diaphragm, the valve being pressed to its seat by a heat actuated device consisting of a compound strut, the parts of which are secured by fusible solder, the said strut being placed between the valve and a fixed abutment on the extinguisher. 6th. In a locked joint adapted to be released by heat, the combination of the plate 1, the hook 2, and the key 3, the key locking the hook to the plate, and having a laterally projecting edge as 3, adapted to turn against the flat surface of the plate, substantially as and for the purpose set forth.

No. 35,501. Wheel. (*Roue.*)

William James Brown, Momence, Illinois, U.S.A., 26th November, 1890; 5 years.

Claim.—1st. In a wheel, the hub A, having in its periphery an annular groove with a cylindrical bottom a, and with flanges b, and c, providing slanting sides to such groove, and the rim D, having auxiliary hub E, with cylindrical bore f, rigid flange g, and ring-plate h, secured by screws i, and both the flange g, and ring-plate h, providing slanting sides to bore f, and cylindrical rollers J, snugly fitting between the surfaces a, and f, and having conical ends shouldering between the slanting sides thereof, substantially as set forth. 2nd. In a wheel, the hub A, having in its periphery an annular groove with a cylindrical bottom a, and flanges b, and c, providing slanting sides to such groove, and the rim D, having auxiliary hub E, with cylindrical bore f, rigid flange g, and ring-plate h, secured by screws i, both the flanges g, and ring-plate h, providing slanting sides to bore f, and the meeting edges of the several flanges, and ring-plate having offsets that form lap-j ints with each other, and a series of cylindrical rollers J, having conical ends snugly fitting between the surfaces a, and f, and shouldering between the slanting sides thereof, substantially as set forth.

No. 35,502. Bib for Children.

(*Bavette pour enfants.*)

Charlotte Christina Webber, Sea Cliff, New York, U.S.A., 26th November, 1890; 5 years.

Claim.—A child's bib, composed of a body a, having flaps a^3, that form upper part of neck opening, and of a shield b, secured to the body a, at the neck opening and below flaps a^3, the lower part of the shield being free from the body a, substantially as specified.

No. 35,503. Water Closet Flushing Apparatus. (*Appareil pour laver les latrines.*)

John Kelly, Chicago, Illinois, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. In a water-closet flushing apparatus, the combination with the bowl A, outlet-pipe B, provided with traps r, and r^1, and tank C, of an air-pipe D, leading from the trap r, into the tank and extended into a branch k, terminating in a trap in the tank, a pipe E, having a trap r^2, and leading from the trap in the tank into the bowl, and a pipe F, having an aperture f, and leading from the branch k, downward beyond the tank, and provided with a valve h, substantially as and for the purpose set forth. 2nd. In a water-closet flushing apparatus, the combination with the bowl A, outlet-pipe B, provided with traps r, and r^1, and tank C, of an air-pipe D, leading from the trap r, into the tank and extended into a branch k, terminating in a trap in the tank, a pipe E, containing a trap r^2, and leading from the trap in the tank into the bowl, a pipe F, having an aperture f, and leading from the branch k, downward beyond the tank, and provided with a valve h, and a feed-pipe g, leading from the water-supply into the pipe E, below the water-line in the tank, substantially as and for the purpose set forth. 3rd. In a water-closet flushing apparatus, the combination with the bowl A, outlet-pipe B, provided with traps r, and r^1, and tank C, of an air-pipe D, leading from the trap r, into the tank and extended into a branch k, terminating in a mouth i, projecting downward in the tank from above the water-line below the latter, a pipe E, having a trap r^2, and extending with one end into the mouth i, above the water-line and leading at its opposite end into the bowl, a pipe F, having an aperture f, and leading from the branch k, downward beyond the tank, and provided with a valve h, and a supply-pipe g, containing a valve opened by the emptying of the tank and closed by the filling thereof, substantially as and for the purpose set forth. 4th. In combination, a bowl A, outlet-pipe B, having traps r, and r^1, a tank C, a supply-pipe g, containing a valve, connected with one end of a lever o, a cup l, supported in the tank, and having an aperture l^1, a float n, in the cup, and connected with the opposite end of the lever, an air-pipe D, leading from the trap r, into the tank and extended into a branch k, terminating in a mouth i, projecting downward in the tank from above the water-line below the latter, a pipe E, containing a trap r^2, and extending with one end into the mouth i, above the water line and leading at its opposite end into the bowl, a pipe F, having an aperture f, and leading from the branch k, downward beyond the tank and provided with a valve h, and a pipe g, provided with a trap r^3, and affording communication between the supply-pipe and the pipe E, the whole being constructed and arranged to operate substantially as described.

No. 35,504. Clamp or Fastening.

(*Serre joint ou agrafe.*)

Chauncey Frederick Allen, Woodbury, and James Eber Doolittle, Bridgeport, both in Connecticut, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. A corset clasp or fastening, consisting of a plate provided with a stud receiving opening and a connecting exit passage, in combination with a locking device or hook, adapted to adjustably hold the engaging stud in position in said exit passage, in a manner, substantially as described and for the purposes set forth. 2nd. A corset clasp or fastening, consisting of a plate provided with a stud receiving opening, and a connecting vertically-arranged exit passage, and a spring arm provided with a nose or projection forming a yielding barrier between said receiving opening and exit passage, in combination with a locking device or hook adapted to adjustably hold the engaging stud in position in said exit passage, substantially as described and for the purpose set forth. 3rd. A corset clasp or fastening, consisting of a plate provided with a stud receiving opening, and a connecting vertically-arranged exit passage, and a guard or covering for the same, in combination with a locking device or hook adapted to hold the engaging stud in position in said exit passage, substantially as described and for the purpose set forth. 4th. A corset clasp or fastening, consisting of a plate, provided with a stud-receiving opening, and a connecting vertically-arranged exit passage, and a spring arm formed integral with said plate, provided with a nose or projection at its free end, forming a yielding barrier between said receiving opening or exit passage, and a guard or covering for the same, in combinaton with a locking device or hook adapted to hold the connecting studs and fastening devices in engagement, substantially as described and for the purpose set forth.

No. 35,505. Flower Stand.

(*Banc à bouquet.*)

Thomas B. Weston, Wenona, Illinois, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. The combination, with the opposite vertical standards of the opposite pairs of side bars, each pair independently pivoted to the upper ends of the standards, a series of brackets, having lateral extensions and upper and lower securing plates, a series of shelves mounted on and secured to the lateral extension, and pivot bolts passed through the upper and lower securing plates, and taking into the upper and lower side bars, the bolts of the central pair serving as the means for pivoting the side bars to the standards, substantially as specified. 2nd. The combination, with the opposite vertical standards, of the opposite pairs of side bars pivoted independently to the standards, the opposite series of brackets having upper and lower vertical securing plates and laterally-projecting securing plates, a series of shelves mounted upon and secured to the laterally-projecting plates, and pivot bolts passed through the upper and lower securing plates and through the upper and lower side bars, one of said bolts being provided with a binding nut having a lever, substantially as specified. 3rd. In a show stand, the parallel side bars 4, 4, arranged in pairs on each side of the stand and disposed one below the other, combined with the brackets 5, provided at opposite sides with horizontally-disposed plates or bars connecting the individual side bars of each pair, so that the said bars will move in parallelism, and the shelves attached to the brackets and connecting the side bars on one side with those on the other side, as set forth.

No. 35,506. Log and Ice Creeper.

(*Grappin de chaussure.*)

Harry L. Page, Wells, New York, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. In a log and ice creeper, the combination of the sole

and heel plates, which consist respectively of the two plates pivoted at their front and rear ends respectively, provided with vertical projections at their sides and with horizontally apertured lugs at their adjacent ends, a connecting rod provided with horizontal apertures at each end, and the clamping screws which pass through the said lugs, and the connecting rod, whereby the sole and heel plates are clamped upon the shoe and allowed a vertical movement independent of each other, substantially as shown.

No. 35,507. Safety and Fire Alarm for Steam Boilers, etc. (*Avertisseur d'incendie pour chaudières à vapeur, etc.*)

John Watson, Cleveland, Ohio, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. In combination with a steam boiler, a safety attachment consisting of a three-armed lever, which is loaded, a stand for support of said lever, and a cord for suspending the loaded arm thereof, the other two arms arranged respectively in connection with the whistle and safety valve of the boiler, in the manner as and for the purpose described. 2nd. In a steam boiler and safety attachment, the combination of the stand E, lever F, and inflammable cord G, the said stand adapted for support and suspension of said lever, and provided with a fusible cap and adjusting screw, the lever F, having three arms respectively in connection with the safety valve whistle, and a weight constructed and arranged substantially as described and for the purpose set forth. 3rd. The combination of a steam boiler safety valve, a lever F, with arms *e*, *f*, *f*¹ and weight *h*, a stand E, with pivot at *d*, cap K, and a cord G, in direct connection with said lever by means of a fusible link O and indirect connection with the whistle by means of the arm *f*, constructed substantially as set forth and for the purpose specified. 4th. In a safety attachment for steam boilers and radiators, a link composed of metal or a compound of metals, of a character to fuse at from 208° to 212° of heat, in combination with the lever F, and cord G, arranged, whereby the fusion of said link will cause the lever F, to drop and open the safety-valve, and a sequent alarm rendered thereby, in the manner and for the purpose substantially as described. 5th. In a safety attachment for boilers and radiators, a wire or cable passing over a pulley P, and connected with the lever F, operating conjointly with the lever F, the safety valve and whistle lever, substantially as and for the purpose specified. 6th. In a safety attachment for boilers and radiators, the combination of a sleeve with the whistle lever, cable lever F, fusible link and inflammable cord, arranged in the manner and for the purpose described.

No. 35,508. Cutter for Mining Machines.

(*Coupeur pour machines de mine.*)

Edwin Enoch Carter, Pittsburg, Pennsylvania, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. A cutter, having two cutting points located at opposite sides of a central recess, a preliminary lateral cutting lip located in a plane below one of said cutting points, a supplemental lateral cutting lip located on the opposite side of the axis of the cutter, with its outer end in a plane below that of the preliminary cutting lip, and at a greater distance from the axis than the outer end of said preliminary lip, and extending to the base of the adjacent cutting-point, and wholly below the plane of its outer end, and a curved brace interposed between the cutting edge of the supplemental lip and the portion of the cutter inclosed in the tool-holder, substantially as set forth. 2nd. A cutter, having two cutting points located at opposite sides of a central recess, and with their edges in or approximately in a common plane, passing through the axis of rotation of the cutter, a preliminary lateral cutting lip located in a plane below one of said cutting points, and a supplemental lateral cutting lip located on the opposite side of the axis of the cutter with its outer end in a plane below that of the preliminary cutting-lip, and at a greater distance from the axis than the outer end of said preliminary cutting lip, and extending to the base of the adjacent cutting point, and wholly below the plane of its outer end, the cutting edges of both of said lips lying in a common plane, passing through the axis of rotation of the cutter, and forming an acute angle with the plane common to the edges of the cutting points, substantially as set forth.

No. 35,509. Hair Dryer.

(*Appareil pour secher les cheveux.*)

Victor Desplats, Quebec, Province of Quebec, Canada, 27th November, 1890; 5 years.

Résumé.—1o. La combinaison d'un tuyau circulaire A, avec platine perforeé K, et capuchon B, ou entonnoir et tel que decrit. 2o. La combinaison d'un bruleur a gaz C, muni d'entonnoir H, tel que ci-dessus decrit et pour les fins indiqués.

No. 35,510. Low Water Alarm.

(*Indicateur à sifflet du niveau d'eau.*)

William Ross Fox, Grand Rapids, Michigan, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. In combination, with an expansible tube extending into the boiler, and with a pipe having a whistle and whistle-valve, a lever operated by the expansion of the tube, and an intermediate motor arranged to be set in action by the lever to operate the whistle valve, substantially as described. 2nd A high water alarm, consisting of the tube of expansible material extending through the boiler to the high water line, and held therein with its upper end loosely held in the bracket, a lever arranged to be drawn down by the said tube, and an intermediate motor normally in engagement with said lever and being also arranged to operate the whistle valve, substantially as described. 3rd. In combination, with the whistle and valve, an expansible tube D, a high-water tube B¹, a pivoted lever arranged to be operated by the expansion of the tube D, and the contraction of the tube B¹, and a motor arranged to be set in action by the lever to operate the whistle, substantially as described.

No. 35,511. Vise and Clamp for Woodworkers. (*Vis et étau pour le travaille du bois.*)

Charles H. Gatchell and Albert J. Gregory, Fredericton, New Brunswick, Canada, 27th November, 1890; 5 years.

Claim.—1st. In a vise or clamp, the combination, with the beam A, the head B secured to the said beam, the sliding jaw F, sliding in grooves on said head, a pin H secured to a projection on the said head, a cam or eccentric I journalled on said pin, adapted to work in a slot in the jaw F, the teeth *i*, adapted to be engaged by the pawl *j* and the lever J, of the bench jaw K, plate *k*, flanges L, *l*, stirrup or link M, having a corrugated plate N and tongue *m* adapted to be engaged by the spring *p*, substantially as set forth. 2nd. In a vise or clamp, the combination, with a beam and sliding jaw, of the bench or tail jaw K, having a plate *k*, flanges L, stirrup M encircling both the said beam and jaw, the corrugated plate N, adapted to be pressed against the underside of the beam by the spring *p*, and tongue *m*, substantially as set forth. 3rd. In a vise or clamp, the combination, with a beam and a bench or tail jaw, of the head B secured to the said beam, grooves and flanges on said head, in which slide the jaw F, operated by the cam or eccentric I, having teeth *i*, the pawl *j* engaging said teeth and the lever J, substantially as set forth.

No. 35,512. Button. (*Bouton.*)

Sarah Louise Moore, assignee of William J. Moore, both of Chicago, Illinois, U.S.A., 27th November, 1890; 5 years.

Claim.—1st. The combination of the inclined grooves on each side of the oblong hole inside of the tube, with the lock or break, substantially as and for the purpose hereinbefore set forth. 2nd. The combination of the oblong hole inside the tube, with the perpendicular of the shank, substantially as and for the purpose hereinbefore set forth.

No. 35,513. Type Cleaning Brush.

(*Brosse pour nettoyer les caractères.*)

Melvin Swartout and George Bengough, both of Toronto, Ontario, Canada, 27th November, 1890; 5 years.

Claim.—1st. In a type-writing machine, the combination, with a vertically adjustable standard, of a brush loosely mounted upon the upper end of said standard, and rotatable by the action of the type bars during the operation of writing, substantially as set forth. 2nd. In a type-writing machine, the combination, of a cross-bar B, a standard C, type-cleaning brush D and U-shaped clamp L, having outwardly-projecting feet *a*, and set-screw *c*, substantially as and for the purpose set forth.

No. 35,514. Potato Digger.

(*Scarificateur à patates.*)

Byron S. Howard, Winchester, New Hampshire, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. In a machine, the combination, with a frame and its rear axle, of the front axle, standards rising from the said front axle, a bolster pivoted to the standards above the axle, a draft beam connected to the standards above the pivots of the bolster, a king-bolt depending from the front end of the frame and through an opening formed in the bolster, and a locking bar connected with the axle and passing through an opening in the beam or draft bar, and means for locking said bar to the beam, substantially as specified. 2nd. In a machine, the combination, with the frame and the rear axle, of the front axle, a pair of rearwardly curved standards journalled at their lower ends upon said axle, a draft beam having a draft bail and bracing the outer sides of and pivoted to the upper ends of the curved standards, a locking bail having its ends journalled upon the front axle and terminating in a locking bar, notched and passing through a slot in the draft beam, a bolt, spring actuated and mounted in a casing upon the beam, and an inverted U-shaped bolster, having a central opening and a depending registering and centrally bored stud, the terminals of the bolster being pivoted to the curved standards between their ends, and the elongated king-bolt depending from the frame and loosely mounted for reciprocation in the bolster and stud, substantially as specified. 3rd. In a machine of the class described, the combination, with the rectangular frame comprising the opposite side sills, end connecting bars and the intermediate tie bars, the longitudinal perch connecting the tie bars and having its front end projected beyond the end bar and perforated, of the front axle, the rearwardly disposed curved levers, journalled at their lower ends upon the axle, the draft beam, the U-shaped bail connected at its front end to the beam and at its rear end to the upper ends of the standards, the transverse bail-connecting bar, the curved guide, the inverted U-shaped bolster pivoted to the standards between the axle and the point of pivot of the draft bail, and having a depending hollow stud at its upper central portion, the king bolt passing through the opening in the perch and through the stud, the locking bail connected at its ends to the ends of the axle and projecting forward to form a curved locking bar having upper and lower notches and passing through a slot formed in the draft beam, a spring-actuated bolt adapted for engaging the

notches mounted in the housing, secured to the draft beam, and a bolt operating cord leading from the rear end of said bolt, substantially as specified. 4th. In a machine, the combination with a frame and the rear supporting axle, of a front axle, a pair of opposite standards journalled at their lower ends upon said axle, a draft beam connected at its rear end to the upper portions of the standard, a bolster pivoted to the standards between the points of pivot of the axle and draft beam, a king bolt depending from the frame and passing through an opening in the bolster, and means for locking the standards in a raised or lowered position, substantially as specified. 5th. In a potato harvester, the combination, with the main frame having a transversely-arranged pivoted cross-bar, of a depending adjustable and rearwardly curved stirrup or frame, bearings formed in the cross-bar and lower end of the stirrup, finger bars projecting from the stirrup, a pair of vertical shafts mounted in the bearings, and carrying revoluble cutters operating over the finger bars, and means for revolving the shafts, substantially as specified. 6th. In a potato harvester, the combination with the frame having a transverse bar provided with bearings, of a U-shaped stirrup, the terminals of which are curved and longitudinally slotted, and bolts for connecting said terminals adjustably with the side bars of the frame, a pair of shafts mounted in the bearings of the cross-bar and having their lower ends stepped in corresponding bearings formed in the stirrup, opposite engaging gear removably mounted upon the shafts, one of which is provided with an upper removable pinion, a train of gearing leading from the drive wheel to said pinion, and a pair of revolving knives mounted in the shafts, substantially as specified. 7th. In a potato harvester, the combination, with a series of finger bars, a pair of revolving knives arranged above the bars, and means for revolving the knives, of a plow arranged below the finger bars and extending in front thereof, substantially as specified. 8th. In a potato harvester, the combination, with a series of cutter bars, revolving cutters, and means for operating the same, arranged in rear of and over the bars, of a plow standard arranged in rear of the cutters, and a flat plow share arranged at the lower end of the standard in a horizontal position and below and terminating slightly in advance of the cutter bars, substantially as specified. 9th. In a potato harvester, the combination, with the frame, of an adjustable stirrup, having a series of cutter bars, a pair of revolving shafts and cutters mounted thereon, said shaft being adjustable in the frame, and a plow standard adjustably mounted in the frame-work in rear of the stirrup and carrying at its lower end a plow-share, the forward end of which is arranged under and in front of the cutter bars, substantially as specified. 10th. In a potato harvester, the combination, with a revolving picking cylinder, of a hood arranged over the cylinder and having its front edge occurring in advance thereof, and provided with opposite slots forming an integral intermediate spring tongue adapted to rest upon the ground in advance of the cylinder, substantially as specified. 11th. In a potato harvester, the combination, with the frame, of a picking cylinder, a hood for the same, and means for adjusting the cylinder with relation to the frame, substantially as specified. 12th. In a potato harvester, the combination, with the frame, of a pair of triangular brackets pivoted therein, a shaft journalled in the lower end of the brackets, a picking cylinder mounted on the shaft, and a pair of pivoted levers pivoted in rear of the cylinder and pivotally connected at their front ends to the upper angles of the bracket, substantially as specified. 13th. In a potato harvester, the combination, with the frame thereof, of a shaft adjustably mounted in the frame, a picking cylinder mounted on the shaft, a gear wheel mounted loosely upon the shaft and provided at its hub with recesses and at its rear side with a grooved collar, a pin passed through the shaft and adapted to be received by the recesses, and a pivoted shifting lever engaging the collar, and a ground wheel having a gear and adapted to be engaged by the gear of the picking cylinder shaft, when said gear has been thrown into position to engage the pin, substantially as specified. 14th. In a potato harvester, the combination with the picking cylinder, means for operating the same, and a hood for the cylinder, mounted over the upper and front portions thereof, of a shaking screen arranged in rear of the cylinder and a shelf connecting the cylinder with the screen, the upper rear edge of the hood terminating above said shelf, substantially as specified. 15th. In a potato harvester, the combination with a potato support, of a brush roll located above the support and means for rotating the brush, substantially as specified. 16th. In a potato harvester, the combination, with a picking cylinder and means for rotating the same, of a shelf resting upon the cylinder, a brush roll mounted above the shelf, and means for rotating said roll, substantially as specified. 17th. In a potato harvester, the combination with the frame work, of a pair of standards mounted thereon and provided with bearings, a brush roll mounted in the standards, a hood covering the roll, a gear mounted on the brush roll shaft, a ground wheel having a gear meshing with the gear of the shaft, a picking cylinder, means for rotating the same, arranged in advance of the brush roll, and means for operating the picking cylinder and brush roll, substantially as specified. 18th. In a potato harvester, the combination with the frame work thereof and mechanism for picking the potatoes, of opposite located shafts having sprockets, means for operating the sprockets, endless chains mounted on the sprocket, an endless apron arranged over the shafts, and a revolving brush arranged at the upper end of the apron, substantially as specified. 19th. In a potato harvester, the combination, with an endless carrier, of a hood located at the upper end of the same, a brush roll mounted above the hood, and gears mounted on the brush roll shaft and the carrier shaft and engaging with each other, substantially as specified, 20th. In a potato harvester, the combination, with an endless carrier and means for operating the same, of a hood arranged over the rear end of the same, and having its bottom provided with an inclined separator arranged under the rear end of the carrier, substantially as specified. 21st. In a potato harvester, the combination, with an endless carrier and means for operating the same, of a hood formed in sections, the upper section being arranged over and the lower section under the rear end of the carrier and the latter section hinged to the former, and an inclined separator arranged in said latter section, and having its front end terminating at the end of the section, substantially as specified. 22nd. In a potato digger, the combination, with the frame work, the ground wheels, the supporting axle, and a gear wheel mounted on the axle, of a potato cylinder, means for operating the same, a screen pivoted in rear of the cylinder, a shaft arranged under the screen, a cam knocker mounted on the shaft, and a small gear mounted on the end of the shaft and meshing with the gear of the axle, substantially as specified. 23rd. In a potato harvester, the combination, with plant elevating mechanism, top cutting mechanism, potato picking mechanism, screening mechanism, elevating mechanism, polishing mechanism, and separating mechanism arranged in the order named, of means, substantially as described, for simultaneously operating each of said mechanisms, substantially as specified. 24th. In a potato harvester, the combination, with a primary cleaning brush and a polishing brush, of means for operating the brushes and for conducting the potatoes from the primary brush to the polishing brush, substantially as specified. 25th. In a potato harvester, the combination, with a primary cleaning brush and a secondary polishing brush, of means for conducting the potatoes from the primary to the secondary brush, and means for revolving the secondary or polishing brush at a greater speed than the primary brush, substantially as specified. 26th. In a potato harvester, the combination, with an axle, a gear mounted thereon, and wheels mounted on the axle, of a brush roll journalled above the axle, a gear arranged on the roll and meshing with the gear of the axle, upper and lower transverse shafts, gears mounted thereon, the lower one of which gears with the axle-gear, sprocket pulleys mounted on said shaft, endless chains connecting the pulleys and carrying the endless apron, and a brush roll arranged above the upper end of the apron, and having a pinion meshing with the gear of the upper shaft, substantially as specified.

No 35,515. Shingle Sawing Machine.

(*Machine à scier le bardeau.*)

Charles Manuel Frank, Stanton, Michigan, U.S.A., 29th November, 1890; 5 years.

Claim—1st. In a shingle sawing machine, the combination, with a tilting table, of a series of ball rollers, provided with two journals each, and mounted and adapted to revolve upon said table, substantially as described. 2nd. In a shingle sawing machine, the combination, with a tilting table, of two-part frames secured to the sides thereof, and anti-friction rollers provided with two journals each, and mounted and adapted to revolve between said two-part frames, substantially as described. 3rd. In a shingle sawing machine, the combination, with a tilting table, of two-part frames secured to the sides thereof, and anti-friction ball-rollers provided with two journals each, and mounted and adapted to revolve between said two-part frames, substantially as described. 4th. In a shingle sawing machine, the combination, with the tilting table 2, composed of the end pieces 5 and side pieces 6, of the two-part frames 9, the bolts 8 for securing them to said side pieces, and the anti-friction ball rollers provided with two journals each, and mounted and adapted to revolve between said two-part frames, substantially as described. 5th. In a shingle sawing machine, the combination, with the tilting table 2, of the two-part frames 9, secured thereto, the screw-bolts 13, the sleeves 14, and the ball rollers 11, mounted and adapted to revolve between said two-part frames, substantially as described. 6th. In a shingle sawing machine, the combination, with a tilting table, of two-part frames 9, composed of vertical bars or strips 10, formed with slots 12 and a series of anti-friction ball rollers 11, provided with two journals each, and mounted and adapted to be revolved between said two-part frames, substantially as and for the purpose described. 7th. In a shingle sawing machine, the combination, with a tilting table of two-part frames 9, composed of vertical bars or strips, having bevelled or inclined upper edges, and a series of anti-friction rollers, having the form of spheres or balls, provided with two journals, each mounted between said two-part frames, and arranged to project a slight distance above their bevelled or inclined upper edges, substantially as and for the purpose described.

No. 35,516. Cow Tail Holder.

(*Attache-queue pour vaches.*)

Gideon Marsh, Oakdale, Michigan, U.S.A., 29th November, 1890; 5 years.

Claim.—The combination of the two jaws, provided with recesses and ears through which the pivots are passed, with the springs placed between the jaws, the circular portion of the springs being made to catch in the recesses, whereby the springs are held in position without any other fastening, substantially as described.

No. 35,517. Variable Feed for Saw Mills.

(*Alimentateur variable pour scieries.*)

Michael Israel Welch, Sparks, Georgia, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. In a saw mill feed, the combination of discs B and B^1, of the swinging shaft C, having pulley E fixed upon it for contact with disc B^1, and a pulley F, longitudinally adjustable to bear upon disc B, as set forth. 2nd. In a saw mill feed, the combination of a shaft having discs B and B^1, of a shaft C, having a swinging bearing at one end and provided with a fixed friction pulley to bear upon the disc B^1, and an adjustable friction pulley to bear upon disc B, said adjustable pulley having a swinging yoke coupled with it, a fulcrum rod having a crank for moving the yoke and a lever for operating the rod, as set forth. 3rd. The combination, with the shaft A, having a flat-faced disc B, and a dished faced disc B^1, provided with the rim ^{b}, of the counter-shaft C, bearing the spool D, and being supported at one end in a swinging bearing, and provided with the fixed pulley E and adjustable pulley, both lying between the opposing flat and dished faced discs, a reach rod connected to the swinging bearing, and a fulcrum rod cranked to the adjustable pulley and both the reach rod and the fulcrum rod being connected to the same lever, as set forth. 4th. The combination, with the discs B and B^1,

mounted upon the same shaft, of the adjustable pulley F, and fixed pulley E, a counter-shaft upon which they are mounted and a swinging bearing for said counter-shaft, and a rope spool mounted on said counter-shaft, whereby the tension of the ropes upon the spool keeps the pulleys tight to their work, as set forth.

No. 35,518. Voting Machine. (*Machine à voter.*)

Jacob Hiram Myers, Rochester, New York, U.S.A. 29th November, 1890; 5 years.

Claim.—1st. In a voting apparatus, the combination, with a chamber or compartment having an entrance door, locking devices therefor, capable of operation only from the outside, an exit door and locking devices therefor, capable of operation only from the inside, of one or more ballot-indicating devices accessible from the inside of said compartment, and connections between one of said doors and said ballot-indicating devices for causing their simultaneous operation, substantially as described. 2nd. In a voting apparatus, the combination, with a main chamber and balloting devices accessible therefrom, a releasing device for the ballots indicated, a second compartment, a door between it and the main chamber, and an exterior door opening from the second compartment, of a locking device for said exterior door released by the closing of the door between the main and second compartment, and connections between one of said doors and the ballot-releasing devices for causing their simultaneous operation, substantially as described. 3rd. In a voting apparatus, the combination, with a main chamber or compartment and balloting devices accessible therefrom, arranged to prevent the indication of more than a predetermined number of ballots a releasing device for said indicating devices, a second compartment, a door between it and the main chamber, and an exterior door opening from the second compartment, of a locking device for said exterior door released by the closing of the door between the main and second compartments, and connections between the indicator-releasing devices and the exterior door for causing their simultaneous operation, substantially as described. 4th. In a voting apparatus, the combination, with a chamber or compartment having an entrance door, locking devices therefor, capable of operation only from the outside, an exit door and locking devices therefor, capable of operation only from the inside, of one or more ballot indicating devices accessible from the inside of said compartment, ballot releasing devices, and connections between one of said doors and the releasing devices for causing their simultaneous operation, substantially as described. 5th. In a voting apparatus, the combination, with a main chamber or compartment and ballot indicating and releasing devices accessible therefrom, a second compartment, a door between it and the main chamber, and an exterior door opening from the second compartment, of a locking device for said exterior door released by the closing of the door between the main and second compartment, and connections between the exterior door and ballot indicating devices for causing their simultaneous operation, substantially as described. 6th. In a voting machine, the combination, with a booth or chamber containing self-locking voting apparatus accessible from the inside, having a vestibule, of a door for affording access to the vestibule from the chamber, a door opening out of said vestibule, a lever engaging and locking said two doors alternately, normally engaging the inner one and operating to hold the outer door locked all the time the inner one is open, and connections between one of said doors and the voting apparatus for releasing the latter, substantially as described. 7th. In a voting machine, the combination, with a booth or chamber containing self-locking voting apparatus accessible from the inside, and having a vestibule, of a door for affording access to the vestibule from the chamber, a door opening out of the vestibule, a lever locking the two doors alternately, having the engaging-hook shoulder and curved extension and connections between the outer door, and the voting apparatus for causing the release of the latter by the operation of the former. 8th. In a voting machine, the combination, with a booth or chamber containing self-locking voting apparatus, accessible from the inside and having a vestibule, of a door for affording access to the vestibule from the chamber, having a knob and bolt, a lever having the hook shoulder and extended portion operated by the bolt on the door, and connections between the outer door and the voting apparatus for causing the release of the latter by the opening of the door, substantially as described. 9th. In a voting machine, the combination, with a booth and a door leading therefrom, a series of balloting keys retaining dogs therefor and releasing devices for said dogs, of a cam located on the said door, a lever operated thereby for operating the releasing devices, and a projection on the door between which and the cam the lever is normally confined, substantially as described. 10th. The combination, with a counter and its operating arm, of a key for actuating said arm, a retaining dog for holding the key after it has been operated normally held out of operation by the counter arm or block, but permitted to engage the key and hold it after the said arm has been moved out of the way, and the counter operated by the key, substantially as described. 11th. The combination with a counter and its actuating block, of a key having the inclined end co-operating with the block when actuated, and a pivoted key-retaining dog normally supported on the counter-block, adapted to engage the key when the block is moved, substantially as described. 12th. The combination, with the counter and its operating block or arm, of a key constructed of flat material having the recess near one end, the spring for projecting it, and a retaining dog co-operating with the recess in the key, substantially as described. 13th. The combination, with a counter and its operating block or arm, of a key constructed of flat material with the recess for the spring and the projection therein, the recess at the inner end, the spring, and a retaining dog for co-operating with the end recess in the key, substantially as described. 14th. In a voting machine, the combination, with the ballot-indicating key, of a counter having the operating portion—such as an arm or block—with the over hanging end, and a key-retaining dog supported on said over-hanging portion adapted to be released to engage the key when the counter is operated by the latter, substantially as described. 15th. In a voting machine, the combination, with the partition or plate having the aperture therein, a series of ballot-indicating keys, and their supporting-casings forming separate structures secured to said plate, a series of counters with which the keys co-operate, and their casings forming separate structures secured to the other side of the plate, of interlocking devices mounted on the casing between the keys, and counters for preventing the operation of more than one key at a time. 16th. In a voting machine, the combination, with a series of ballot-indicating keys having the inclines thereon, and a series of counters having movable portions operated upon by the inclines on the keys, of a series of blocks between the keys having the beveled portions co-operating with those on the keys, substantially as described. 17th. In a voting machine, the combination, with the partition or plate having the series of apertures therein, and the ballot-indicating keys operating through them, of the series of blocks arranged to cover said apertures, the guides for holding them in position, and the spring or springs for pressing them together, substantially as described. 18th. The combination, with a tubular casing having a longitudinally-extending slot therein, of a key located within and movable longitudinally of the casing, and having an operating projection extending through the slot, a spring for retracting said key, and a counter actuated by the key when projected, substantially as described. 19th. The combination, with a ballot push-key and a spring for retracting the same, of a spring-buffer for arresting the movement of the key caused by the retracting spring, substantially as described. 20th. The combination, with a tubular key-casing having an aperture in its end and a designating card or tablet contained therein, of a ballot-indicating key located within the casing, having an operating portion projecting from one side thereof, substantially as described. 21st. The combination, with a plate or support having an aperture therein, and a ballot-indicating key adapted to be operated through said aperture, of a key-casing on one side the plate and a counter actuated by the key on the other side, and a single bolt passing through the plate securing the casing and counter together, and to the plate, substantially as described. 22nd. The combination, with a plate or support having apertures therein, and a series of ballot-indicating keys operating through them, of a series of key-casings on one side, the plate constructed in two parts, said parts abutting and having interlocking projections and recesses, a series of counters, one for each key, and a series of bolts passing through the counters and engaging the sections of adjacent key-casings, substantially as described. 23rd. The combination, with a series of indicating keys having the pointed ends, of a series of blocks arranged between them having beveled sides and preventing the operation of more than one of the series, and a series of counters having sliding projections provided with beveled sides for the engagement of the key ends, substantially as described. 24th. The combination, with two or more indicating keys, of a series of counters operated thereby having the guides formed upon them, and a series of sliding blocks held in place by said guides, substantially as described. 25th. In a voting machine, the combination, with two ballot-indicating keys, and a retaining-dog for each key, of counters having movable blocks operated upon by the keys, and a lever arranged between said blocks for preventing the operation of more than one key, substantially as described. 26th. In a voting machine, the combination, with a counter having a counter-actuating slide or block provided with a series of notches, of a catch or dog co-operating with said notch, and a key for actuating said slide, substantially as described. 27th. In a voting machine, the combination, with a ballot-indicating key, a counter operated thereby and a counter-actuating slide or block provided with a series of notches, of a catch or dog for co-operating with the notches on the slide and adapted to engage and lock the key when fully operated, substantially as described. 28th. In a voting machine, the combination, with a series of counters, a series of ballot-indicating keys for operating them and a series of locking-dogs for the keys projecting across between the counters, of a series of movable rods arranged between the counters for simultaneously releasing all of said locking-dogs, substantially as described. 29th. In a voting machine, the combination, with a series of indicating-keys and a series of counters actuated thereby, of a movable bar, a series of dogs or catches thereon, a series of movable blocks operated by the keys with which the dogs engage, and a stop for limiting the movement of the said bar, substantially as described. 30th. In a voting machine, the combination, with a series of indicating keys and a series of counters actuated thereby, a movable bar, a series of dogs or catches thereon, having two or more engaging portions, a series of movable blocks operated by the keys with which the dogs engage, and a stop for limiting the movement of the bar, substantially as described. 31st. In a voting machine, the combination, with a series of indicating keys and a series of counters actuated thereby, of a movable bar, a series of dogs or catches thereon, having two or more engaging portions, a spring for actuating the bar in one direction, a series of movable blocks operated by the keys with which the dogs engage, and a stop for limiting the movement of the bar, substantially as described. 32nd. In a voting machine, the combination, with two series of indicating keys, of two progressively-moving bars actuated thereby, and connections between said bars for locking both after the operation of a predetermined number of keys, substantially as described. 33rd. In a voting machine, the combination, with two series of indicating keys, each series indicating a different set of candidates for the same office, of interlocking devices between the keys of the two series for preventing the operation of more than two in both of them, substantially as described. 34th. In a voting machine, the combination, with a series of indicating keys, a series of counters actuated thereby, and locking devices for retaining said keys after being operated, of a movable bar, a series of dogs or catches thereon, having two or more engaging portions, a series of movable blocks actuated by the keys with which the dogs engage, and a stop for limiting the movement of the bar, substantially as described. 35th. In a voting machine, the combination, with a series of indicating keys, a series of counters actuated thereby, and locking devices for retaining said keys, of a bar actuated progressively by the movement of said keys, and a stop for limiting its movement, substantially as described. 36th. In a voting machine, the combination, with two series of indicating keys, two series of counters actuated thereby, and locking devices for retaining said keys, of two bars, one for each series, actuated progressively by the movement of the keys, and connections between said bars for locking both after the opera-

tion of a predetermined number of keys, substantially as described. 37th. In a voting machine, the combination, with a series of indicating keys and a series of locking dogs therefor, of a movable bar and a series of dogs or catches thereon, a series of blocks operated by the keys with which the dogs co-operate, and movable pins or projections operating to release both said series of dogs, substantially as described. 38th. In a voting machine, the combination, with two series of indicating keys, of two progressively moving bars actuated thereby, and the pivoted lever adapted to be engaged by both the said bars, substantially as described. 39th. In a voting machine, the combination, with a series of counters having flanges formed upon their upper sides, provided with apertures 50, and a series of movable blocks guided by said flanges of the stationary blocks, the pins passing through the apertures 50, and the blocks, and a series of indicating keys adapted to be inserted between the blocks of the series substantially as described. 40th. In a voting machine, the combination, with a ballot push-key and the casing therefor, having a projection, of a movable card-rack, a card or tablet held therein on three sides, and catches for holding said rack in proximity to the key-casing with the projection on the latter holding the card in position, substantially as described. 41st. In a voting machine, the combination, with a plate or support, and a series of ballot-indicating devices thereon, of a card-rack having a series of card receptacles open at one end, and two or more catches for holding said racks against the support with the open ends toward the ballot-indicating devices, substantially as described. 42nd. In a voting machine, the combination, with two counters and movable blocks or slides for actuating them, of a pivotal leved co-operating with each and preventing the operation of one when the other is actuated, substantially as described.

No. 35,519. Carriage and Wagon Spring.

(*Ressort de voiture et de wagon.*)

Edward Foulger, Cainsville, Brantford, Ontario, Canada, 29th November, 1890; 5 years.

Claim.—The combination of the coil spring 5, and clip 2, attached to an eliptic spring, as shown and described.

No. 35,520. Wash Boiler.

(*Chaudière de buanderie.*)

Arthur Preston and George Scott Bradstreet, Beverley, Massachussetts, U.S.A., 29th November, 1890: 5 years.

Claim—1st. In a wash boiler, a cover, having a drain perforation in its top, and means for closing said perforation, substantially as described. 2nd. In a wash boiler, a cover, having a drain perforation in its top, in combination with a drain tray secured therein and means for closing said perforation, substantially as set forth. 3rd. In a wash boiler, a cover having its sides elongated to form a holder and perforations in its top, in combination with mechanism for opening and closing said perforations, substantially as set forth. 4th. In a wash boiler, a cover having drain perforations in its top, in combination with a slide or disk for closing said perforations, substantially as set forth. 5th. In a wash boiler, a cover having perforations in its top, a disk swivelled to said top and provided with openings adapted to register with said perforations, and a drain tray detachably secured in said cover, substantially as set forth. 6th. In a wash boiler, a cover having elongated sides and perforations in its top, mechanism for opening and closing said perforations, and a catch for supporting the cover in an inverted position on the boiler, substantially as set forth. 7th. In a wash boiler, the cover B, provided with perforations J, in combination with the swiveled disk *m*, having perforations P, arranged substantially as described. 8th. In a wash boiler, the cover B, provided with perforations J, and means for closing them, in combination with the tray D, and clamps *z*, substantially as specified. 9th. The cover B, having elongated sides grooved at *g*, and perforations *j*, combined with the pivoted perforated disk *m*, the detachable tray D and catch 16, substantially as described.

No. 35,521. Carpet Stretcher.

(*Tendeur de tapis.*)

Ollof Anderson, Frank J. Stetter and Joseph J. Kahlo, all of Defiance, Ohio, U.S.A., 29th November, 1890; 5 years.

Claim.—The combination in a carpet stretcher, of a grooved and notched bar A, with the bar A^1, the spring C and the slotted key B sliding in a groove in bar A, and operating spring C, substantially as described. 2nd. The carpet stretcher herein described, comprising the bars A, A^1, A^2, the sliding keys B, the spring C, engaging the notches in the bars A, A^2, the dog D, pawl E, lever F pivoted to the dog D, the turn buttons G acting on the dogs D and pawl E, the claw H, having toothed bar *h*, the plate I under said bar *h*, the foot J on the bar A^1, and the standards K, all substantially as described and shown.

No. 35,522. Regenerative Gas Lamp.

(*Lampe à gas regénératif*).

Thomas Gordon, William R. Swift and Herman Becker, Philadelphia, Pennsylvania, U.S.A., 29th November, 1890: 5 years.

Claim.—1st. The combination in a regenerative gas lamp, having an exterior combustion chamber, of a central air chamber communicating directly with the open air at the base of the lamp, a second air chamber surrounding the first and communicating therewith at the top and terminating at the base at a point slightly above the ends of the burner tips, and an inverted burner consisting of a gas magazine and downwardly projecting gas tubes, both supported within or around the central air chamber, with burner tips projecting into the combustion chamber, substantially as described. 2nd. A regenerative gas lamp, comprising a combustion globe, an enclosed gas chamber having tubes which project downwards for some distance from the gas chamber, and forming an inverted burner, and an air heating chamber surrounding the gas chamber to a point slightly above the burner tips, and having outlets for air at its lower end, an air conduit communicating with the open air at its base, a fresh air chamber communicating with the air conduit and enclosing the gas chamber, whereby a constant current of cool air is directed against the sides of said gas chamber, heated on its passage through the hot air chamber, and from thence delivered to the interior of the frame, substantially as set forth. 3rd. A gas lamp, comprising a combustion globe, a central gas magazine, a series of gas tubes projecting downwards therefrom, and forming an inverted gas burner, an air heating chamber surrounding said gas magazine and tubes, and having air apertures at its base arranged to discharge air of high temperature to the interior surface of the flame, a primary air chamber communicating at the base of the lamp directly with the open air, and extending upwards, around and enclosing the gas magazine, supplying a current of air of low temperature to the sides thereof, and communicating at the top with said air-heating chamber and other air apertures arranged within and opposite the annular row of gas tubes to deliver air to the lower or exterior surface of the flame, substantially as described. 4th. A regenerative gas lamp, comprising a gas chamber having downwardly-projecting gas tubes of non-heat conducting material secured thereto, and forming an inverted burner, an air-heating chamber exteriorly surrounding the gas chamber and its tubes to a point slightly above the burner tips, and having outlets for air at its lower end, an air conduit communicating at the base of the lamp directly with the open air, and a fresh air chamber communicating with the air conduit and enclosing the gas chamber, substantially as described. 5th. A regenerative gas lamp, comprising a combustion chamber, a gas chamber having tubes or orifices, delivering gas downwards to the flame, a gas conduit conveying the gas to said gas chamber, an air heating chamber surrounding the gas chamber to a point slightly above the gas jet orifices, and having discharge outlets at its lower end, an inner air chamber passing through the gas chamber and communicating at its top with said outer air chamber, and at its base with the open air, and provided with discharge outlets for air at the points therein opposite the gas tubes, and with other discharge outlets for air near its base and within the combustion chamber, substantially as described. 6th. A regenerative gas lamp, comprising a combustion chamber, a gas chamber having a thickened base pierced with vertical orifices and forming an inverted burner, a gas conduit conveying gas to said gas chamber, an air-heating chamber surrounding the gas chamber to a point slightly above the gas jet orifices, and having discharge outlets for air at its lower end, an inner air chamber, composed of two sections of unequal diameter, partly within each other, the larger one being wholly within the gas chamber and communicating at its top with said outer air chamber, and the smaller one supported partly within the larger and communicating at the base of the lamp directly with the open air, substantially as described. 7th. In a regenerative gas lamp, the combination with a combustion chamber of an inverted burner, delivering gas downward to the flame, an air-heating chamber surrounding the burner, and provided with discharge outlets at its base for delivering heated air upon the upper surface of the flame, an inner air chamber located wholly within the gas chamber, and an air supply tube communicating with the atmosphere at its lower end, and extending upwards to a point within the inner air chamber, above the level of the burner tips, said air supply tube being of smaller diameter than the said inner air chamber, whereby an annular passage is provided between the same for the downward discharge of a deflected volume of heated and expanded air to the under surface of the flame, substantially as described. 8th. The combination in a regenerative gas lamp, of an outer casing forming the walls, of an air-heating chamber *c*, a gas magazine B, with vertical gas tubes or orifices *d*, a gas conduit *b*, connecting arms b^2, an enclosing globe or combustion chamber, an inner air chamber A, an air supply tube A^1, communicating at its base directly with the atmosphere and extending upwards through the combustion globe into the said air chamber A, to a point on a line above the burner tips, and supported therein by means of the arm H, substantially as described. 9th. The combination in a regenerative gas lamp, of an outer casing forming the walls of an air chamber C, a gas magazine B, with vertical gas tubes or orifices *d*, a gas conduit *b*, hollow arms b^2 leading therefrom to the gas magazine, an outer conduit supported upon the apex of the air chamber C, and forming an air passage surrounding that part of the gas conduit *b*, which is located above the combustion chamber and within the escape flue of the lamp, an enclosing globe or combustion chamber, an escape flue and an inner air chamber passing through the gas chamber, communicating at its top with said outer air chamber C, extending downwards through the combustion chamber, and communicating at its base with the open air, said parts being constructed, combined and arranged substantially as set forth.

No. 35,523. Apparatus for Moving Straw, etc. (*Appareil pour transporter la paille, etc.*)

Cyclone Manufacturing Company, New London, assignee of Noble Gregory Ross, Centre, both in Missouri, U.S.A., 29th November, 1890: 5 years.

Claim.—1st. In a straw-elevating apparatus, the combination, with the vertical pneumatic tubes and the fans or blowers driving air into the lower ends thereof and producing an upward current therein, of the rotary straw injector situated a suitable distance above said fans or blowers and below the junction of said tubes, substantially as set forth. 2nd. The combination of the tube sections c^1, c^2, braces E, F, cord H and windlass e^2, substantially as described. 3rd. In a straw-elevating apparatus, the combination, with the vertical pneumatic tubes and the fans or blowers driving air into the lower ends thereof, and producing an upward current therein, of the rotary straw injector situated a suitable distance above said fans or blowers and below the junction of said tubes, said injector, provided with

fingers d^2 that separate portions of straw from the mass fed to the said injector, throwing the same upward into the pneumatic tube, and simultaneously spreading apart or separate the stalks in said portions, substantially as specified.

No. 35,524. Car Replacing and Derailing Device. (*Rail de raccordement et appareil pour remettre sur la voie les chars de chemins de fer.*)

Franklin J. Wall, New York, State of New York, 29th November, 1890; 5 years.

Claim.—1st. A car replacing and derailng tool, consisting of a bar provided at or near its forward end with lateral wings A^1, these wings being provided with depending wings or lugs *d*, the inner adjacent faces of these lugs being rounded or shaped to conform to the T-rail, as and for the purposes set forth. 2nd. A car replacing and derailing tool, consisting of a bar provided at its forward end with lateral wings A^1, the rear shoulders of these wings being rounded off as at A^2, the said wings being provided with depending embracing lugs *d*, the inner face of the lugs being rounded or shapen to conform to the flange of the rail, as set forth. 3rd. A car replacing and derailing device, consisting of a straight or curved bar A, reduced to an edge at its rear end, and provided near its forward end with lateral wings A^1, snd a forwardly projecting finger C, the said wings A^1 being provided with depending lugs *d*, having their inner faces rounded or shapen to conform to the flange of the rail, as and for the purposes herein set forth.

No. 35,525. Piano Action. (*Action de piano.*)

Augustus DeFoe Dimick, Wakefield, Massachusetts, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. In a piano action, the combination of the main action rail, the lower rail, the jack sliding in suitable guides or ways on the rails, and the key, the jack resting directly upon the key and having an adjustable knob on its lower end, substantially as described. 2nd. The combination of the key, the pivoted hammer, the sliding jack, the jack trip consisting of the adjustable stop in the jack and the tang on the hammer butt and the jack spring, the jack arranged to slide endwise on suitable guides in the action rail, the spring arranged to restore the jack to place, after it has been tripped, and means to limit the lateral movement of the jack, substantially as described. 3rd. The combination of the main action rail, the lower rail, the pin from the former and the slot in the latter, the sliding jack having a vertical slot in its body taking over the pin, and the lower end of the jack playing in the slot in the lower rail, and adjustable buttons on the lower end of the jack and the pin in the main rail, substantially as described. 4th. The combination of the main and lower rails, the pin from the former and the slot in the latter, the sliding jack having a slot taking over the pin, and having its lower end playing in the slot in the lower rail, the pivoted hammer and the sliding hammer check rod, the lower part of the jack being provided with an adjustable stop bearing upon the lower rail to prevent the action falling too low, substantially as described. 5th. The combination of the main rail, the hammer flange secured thereto and the hammer butt, the latter connected to the pivot pin in the flange by the plate f^2, passing around the pin and having its end elongated and bent backward, as shown, to act as the jack-trip, substantially as described. 6th. The combination of the key and the jack, the key having a piece of hard wood d^1, let into its upper surface and having a hemispherical recess and a rounded knob on the end of the jack seated in the recess, substantially as described. 7th. The combination of the key, the damper lever pivoted at its lower end to one of the action rails, and the damper lift mounted on the key and acting upon the outer or back side of the lever, substantially as described. 8th. The combination of the pivoted damper lever and the lifter rod, link connected to the action rail and lying outside or back of the damper lever, substantially as described. 9th. The combination of the pivoted damper lever, the lifter rod link connected to the action rail and lying outside of the damper lever, and an adjustable catch to set the rod in proper position for the action of the damper, substantially as described. 10th. The combination of the hammer head, its extension, the sliding jack, the sliding hammer check and the key, the check being actuated by the jack and the latter being operated directly by the key, substantially as described. 11th. The combination of the hammer head, its extension, the jack, and the hammer check, the latter being arranged to be operated by the jack, substantially as described. 12th. The combination of the hammer check rail and the rail H, the hammer-head, with its extension, the jack and the hammer-check rod sliding in bearings in the rails and operated by the jack, substantially as described.

No. 35,526. Electric Station Indicator.

(*Indicateur électrique de station.*)

George H. Kirwan, Wilkes Barre, Pennsylvania, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. In a station indicator, the combination, of the shafts carrying the drums or rollers, a spring motor, a train of gearing connecting the latter with one of said shafts, a spur wheel mounted upon the other roller shaft and connected therewith by the clutch mechanism, a train of gearing connecting said spur wheel with an escapement fan, a rock shaft provided with a bent arm extending in the path of said escapement fan, a hammer mounted upon said rock shaft, the endless scroll mounted upon the rollers and having perforations to receive said hammer and an electro magnet, the armature of which is adapted to actuate said rock shaft, substantially as and for the purpose herein set forth. 2nd. In a station indicator, the combination of the rollers, the spring motor geared to one of the said rollers, an escapement fan geared to the other roller, he scroll or apron having perforations registering with the names of the stations inscribed thereon, a rock shaft having a hammer adapted to engage said perforations and a bent arm extending in the path of the escapement fan, the leaf springs arranged to hold the scroll in contact with the said hammer, and the electro-magnet the armature of which is adapted to actuate the rock shaft, substantially as and for the purpose set forth. 3rd. In an electric station indicator, the combination of the rollers, the spring motor geared to one of the said rollers, an escapement fan geared to the other roller, the scroll or apron having perforations registering with the names of the stations inscribed thereon, a rock shaft having a hammer adapted to engage said perforations and a bent arm extending in the path of the escapement fan, an electro-magnet, as 48, the armature of which is adapted to actuate the rock shaft, an electric bell, as 74, mounted upon the casing of the indicator, and devices for closing the circuits of the electro-magnet 48, and the bell 74, independently of each other, substantially as set forth. 4th. In an electric station indicator, the combination of the supporting piece 1, having the eyes or perforations 69, 70, and 71 lined with metal, so as to form electrical conductors with the metallic supports 69*a*, 70*a*, and 71*a*, and the electrical conducting wires connecting the latter with the electric generating battery and the circuit closers and the former with the electrodes of an electro-magnet adapted to actuate the indicator operating mechanism and with those of an electric bell, substantially as herein shown and specified. 5th. The combination, with the supporting board 1, having the spring contacts 79, 80, of the hinged casing 2, having the contact points 77, and 78, said spring contacts being connected with the poles of a battery, and said contact points being connected with the electrodes of an electric bell mounted upon the hinged casing, whereby by closing the said casing the circuit of the electric bell shall be made, substantially as set forth. 6th. In a station indicator, the combination with the drums 9, having cut-away sides, as herein described, and provided with the heads 11, of the L-shaped cam-plates connected pivotally with the said heads and the scroll or apron provided at its ends with binding strips, substantially as and for the purpose herein set forth. 7th. In a station indicator, the combination, of the rollers, the spring motor geared to one of said rollers, an escapement fan geared to the other roller, the scroll or apron attached to said rollers, having the names of the stations inscribed thereon, first in regular and then in reverse order, and provided with perforations registering with the names of the stations, a rock shaft having a hammer adapted to engage said perforations and a bent arm extending in the path of the escapement fan and an electro-magnet the armature of which is adapted to engage the rock shaft, substantially as and for the purpose set forth. 8th. In a station indicator, the combination of the roller shafts, a spring motor, a train of gearing connecting the latter with the lower roller shaft, an escapement fan, a train of gearing connecting the latter with a spur wheel mounted upon the upper roller shaft and connected therewith by a clutch mechanism, a pinion mounted upon the opposite end of the upper roller shaft, a spur wheel mounted loosely upon a post adjacent to the upper roller shaft and meshing with the pinion upon the latter, a ratchet wheel secured upon said post and engaging a spring actuated pawl pivoted upon the spur wheel, and a scroll or apron wound upon and having its ends connected with the shafts upon the two rollers, whereby by rotating the post adjacent to the upper roller shaft the scroll may be wound upon the said upper roller shaft and unwound from the lower roller shaft from which motion is thereby transmitted to the spring-arbor of the motor, causing said spring to be wound, substantially as and for the purpose herein set forth.

No. 35,527. Safety Pocket. (*Poche de sûreté.*)

Charles R. Griffin, Groton, Connecticut, U. S. A., 29th November, 1890; 5 years.

Claim.— The herein described watch pocket protector, the same comprising a rear member R, having a hole through one end, a front member F, having a stud at one end adapted to pass through said hole and provided with a notch, a hinge connecting the other ends of said members, a leaf spring L, holding them normally separated, and a spring actuated latch-plate T, pivoted at one end to the rear side of the rear member near its lower edge, its body standing normally across the edge of the hole in said member and its upper end being bent forwardly over the upper edge thereof and into the pocket, the whole constructed and arranged substantially as and for the purpose set forth.

No. 35,528. Needle Case. (*Etui d'aiguilles.*)

Robert L. Wilburn, Mexico, Missouri, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. In a needle case, the combination, with the casing having a series of compartments, and a pivoted disk having a hole adapted to be brought into alignment with any one of said compartments, of a spring actuated bolt in one of said compartments to engage the hole of the disk, as and for the purpose set forth. 2nd. In a needle case, the combination, with the casing having a concentric series of compartments, and a flat disk centrally pivoted within said series and having a single hole adapted to be brought into alignment with any one of said compartments, of the expansion spring seated in one of said compartments, the bolt 10, pressed upwardly by said spring, said bolt having a reduced rounded head adapted to fit within and pass through the hole in the disk, and an enlarged shoulder below said head, as and for the purpose set forth. 3rd. In a needle case, the combination, with the casing having a concentric series of tubular compartments, a flat disk mounted upon the upper end of said casing over said compartments, and extending to the edge of the casing, its periphery being milled, said disks having a single hole adapted to be brought into alignment with any one of the compartments, the hole being of less diameter than the compartments, and a central removable screw forming the pivot for said disk, of the spring seated in one of the compartments, the bolt pressed upwardly by said spring, its upper end having a shoulder bearing against the under side of said disk around the hole therein, and a head passing through and fitting in said hole and having a rounded extremity, whereby the bolt can be depressed by bearing thereon and the disk then rotated, substantially as and for the purpose set forth.

No. 35,529. Washing Machine.

(*Machine à blanchir.*)

Thomas Pottle, Brantford, Ontario, Canada, 29th November, 1890; 5 years.

Claim.—1st. The combination in a washing machine, of the tub with the cross-pieces F, F, the thumb screws K, K, for fastening the machine to the tub A, the stationary wash board B, fastened to the cross-pieces F, F, substantially as and for the purpose hereinbefore set forth. 2nd. The combination in a washing machine, of the reciprocating wash board C, having handle L, and cross-piece J, attached to the wash board C, the screw eyes or staples G, G, fastened to the cross-piece J, the chains H, fastened to the screw eyes or staples G, G, at one end, the spiral springs E, E, at the other end, the spiral springs E, E, fastened at the bottom to the cross-piece I, the guide staple D, straddle of the stationary wash board B, and fastened to the reciprocating wash board C, substantially as and for the purpose hereinbefore set forth.

No. 35,530. Crank and Lever or Piston Rod Connection. (*Manivelle et levier ou bielle de raccordement.*)

Hugh Stephens, Port Bruce, Ontario, Canada, 29th November, 1890; 5 years.

Claim.—1st. The combination, with the lazy tongs having one end attached to a pitman, of the levers 12, 13, intersecting one another and pivoted to the opposite end of the lazy tongs, and at the intersection to a fixture 30, pitman 10, 11, pivoted to said levers and cranks 8, 9, pivoted to said pitman, as set forth. 2nd. The combination, with the lazy tongs having at one end a pitman 17, of the levers 15, 16, pivoted to the opposite end of the lazy tongs and levers 19, 20, pivoted to said levers and to a piston rod 28, as set forth. 3rd. The combination of the lazy tongs having supporting blocks 27, sleeved on the fulcrum pins projecting from the middle intersections and the parallel bars 21, 22, 23, 24, to support said blocks slidingly and guide the lazy tongs, as set forth.

No. 35,531. Slate Eraser. (*Eponge pour ardoises.*)

Stephen Sylvanus Sloan, Cory, Pennsylvania, U. S. A., 29th November, 1890; 5 years.

Claim.—A slate-eraser having on one side a felt-faced plate, and on the other side a socket closed at the end next the felt, and containing a projecting sponge, substantially as and for the purposes described.

No. 35,532. Improvements in Music Leaf Turners. (*Tourne feuille de musique.*)

Daniel Schuyler, of San Diego, California, U. S. A., 29th November, 1890; 5 years.

Claim.—1st. A device for turning leaves, consisting of the pivotted arms M, connected successively with the leaves to be turned, racks and pinions by which said arms are turned about their center of motion, and pneumatic expansible chambers through which motion is transmitted to move the racks and pinions and turning-arms successively, substantially as herein described. 2nd. The turning-arms M, connected with the leaves and having a central shaft about which they move, pinions connected with the inner ends of said arms, rack-bars engaging the pinions, a pneumatic expansible chamber and an intermediate connecting mechanism, whereby the movement of expansion within the chambers is transmitted to each of the rack-bars and pinions successively, substantially as herein described. 3rd. A series of turning-arms, and pinions journalled to move independently, sliding rack-bars engaging each of the pinions and having upon their ends the inclined plates P, with notches or shoulders, in combination with the pneumatic expansion-chambers and rods T, moved thereby, so as to engage the notched plates and reciprocate the rack-bar, substantially as herein described. 4th. The turning-arms, pinions, and reciprocating racks by which they are actuated, the inclined notched plates fixed to the opposite ends of each of the racks, the pneumatic expansion chambers, and the rods T, actuated thereby, in combination with the hinged bars Q, in line with the rack-bars, said bars having their free ends raised successively one above the other by the inclined plates upon the rack-bars, substantially as herein described. 5th. The hinged bars Q, the rack-bars by which the pinions and turning arms are actuated, and the inclined or bevelled plates fixed to the ends of the rack-bars and increasing in height from one side to the other, said plates engaging the bars Q, and raising them successively one above another, in combination with the expansion chamber and the rods T, actuated thereby and resting upon the bars Q, said bars acting as guides to cause the rod T, to engage the notches or shoulders in the plates P, successively with each reciprocation of the piston, substantially as herein described. 6th. The turning arms and pinions, the independently actuated rack-bars engaging said pinions, and having the inclined plates at their opposite ends, in combination with the hinged bars Q, and Q^1, the spring arms pressing upon said bars, the swinging arms T, the pneumatic cylinders and plungers, and the swivelled yokes fixed in the ends of the plungers and engaging the arms T, so as to reciprocate the arms with the movement of each of the plungers, substantially as herein described. 7th. The combination, with the pneumatic cylinders, plungers, swinging arms, sliding toothed racks, pinions and turning arms, of the flexible straps adjustable upon said arms, and having the clamps whereby they are connected with the upper edges of each of the leaves to be turned successively, substantially as herein described. 8th. In combination, with a leaf turning mechanism, as shown, a supporting rack for the music, having the bottom plate made adjustable up and down to suit the sizes of the leaves, the weighted cord adapted to rest across the central fold of the leaves, and the clamp whereby the lower end of the cord is held in place, substantially as herein described. 9th. The combination, with the leaf-turning device, as shown, of the music-supporting rack, the vertically adjustable support for the lower edge of the music, the weighted cord fitting the central fold of the sheets, the clamping device by which the lower end of the cord is held, and the elastic arms movable with the rest and having the pads or clamps at the outer ends, by which the first and last leaves are held in place, substantially as herein described. 10th. The combination, with a music-turner, of the supporting rack having the vertically adjustable bottom support or rest for the pages, and the holding clamps movable therewith, the pneumatically actuated turning arms having the clamps connected therewith to attach to the upper edges of the sheets of music, said clamps being adjustable toward or from the centre of motion of the turning arms to adjust them to varying sizes of music, substantially as herein described. 11th. The music support, having a guide at the top, a cord passing through said guide and having a weight attached to its rear end, so as to be drawn up against the guide, and an automatic clamp at the bottom of the support into which the cord may be fixed and held, substantially as herein described. 12th. In combination, with a leaf turning mechanism, as shown, a supporting rack upon which the music lies, a cord extending up through the central fold of the leaves, and a guide at the top and having a weight suspended from it behind the rack, a clamp by which the lower end of the cord is held in place, and a plate or rest for the lower edge of the music, said rest having a slot or channel in the centre to allow the cord to bind the music closely upon the rack, substantially as herein described.

No. 35,533. Sleigh Runner Attachment for Wheeled Vehicles. (*Appareil de patin de traineau pour voitures à roues.*)

David G. Wyeth, Newark, Ohio, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. In sleighs, sleds and sleigh runner attachments for wheeled vehicles, the combination of two knees *c*, c^1, with rave *a* and runner *b*, with unmortised and untenoned joints of said knees, and runner and rave, the four side plates *e*, and four T-plates *g*, each of said side plates, having two flanges *f*, and each of said T-plates having two flanges *h*, all combined and arranged as substantially set forth. 2nd. In sleds, sleighs and sleigh-runner attachments for wheeled vehicles, the combination of three knees *c*, c^1, and *d*, with rave *a* and runners *b*, with unmortised and untenoned joints of said knees, runner and rave, the four side plates *e*, each having two flanges *f*, the four side plates *j*, each having two flanges *k*, and the four T-plates *g*, each having two flanges *h*, all combined and arranged as substantially set forth.

No. 35,534. Revolving Harrows, Roller, etc. (*Herse roulante, rouleau, etc.*)

John Shepherd, Memphis, Michigan, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. In an agricultural implement, the combination of a frame, ground wheels, a roller journalled in segmental circular bearings in rear of said wheels, drive wheels on the axles, and connection between the drive wheels and the roller, substantially as described. 2nd. In an agricultural implement, the combination of the frame, ground wheels, segmental circular bearings at the rear of said frame, detachable interchangeable rollers adapted to operate in said bearings, drive connection from the drive axle to said roller, and an adjusting lever for raising and lowering said roller, substantially as described. 3rd. In an agricultural implement, the combination of the frame, the ground wheels upon the axle, the sprocket wheels D, segmental circular bearings G, sprocket pinion E, shaft E^1, roller F, sprocket chain connecting the wheels D and E, yoke H, chain I and lever J, substantially as described. 4th. In an agricultural implement, the combination of the driven cultivating roller F, of the scraper N, substantially as described.

No. 35,535. Roofing Material. (*Matériaux pour toitures.*)

Joseph N. Hopper, Pawnee City, Nebraska, U.S.A., 29th November, 1890; 5 years.

Claim.—1st. A roofing material, composed of a layer of reticulated net or webbing, having its interstices or meshes filled with and retaining a plastic compound, combined with an adhering layer or backing of fibrous material, substantially as shown and described. 2nd. A roofing material, composed of a layer of woven wire, having its interstices or meshes filled with and retaining a plastic compound, combined with a layer or backing of fibrous material, also coated with the same plastic filling compound, and pressed into adhering union with the woven wire layer, substantially as shown and described.

No. 35,536. Washing Machine. (*Machine à blanchir.*)

Isaac Shupe, New Market, Ontario, Canada, assignee of Allen G. Ingalls, Ottawa, Ontario, Canada, 29th November, 1890; 5 years.

Claim.—1st. In a washing machine, such as herein described, the combination of the pipe G, with the piston E, substantially as set forth. 2nd. In a washing machine, such as herein described, the combination of the plunger rod C, with the spring D and the key V, substantially as set forth. 3rd. In a washing machine, such as hereinbefore shown and described, the combination of the rod C, having the spring D and piston E, having the valve F and valve-spring *f*, with the pipe G and recess *h*, *h*, of the bell A, substantially as set forth.

No. 35,537. Washing Machine. (*Machine à blanchir.*)

John Steele George and Henry George, both of Oshawa, Ontario, Canada, 29th November, 1890; 5 years.

Claim.—1st. The discs or circular plates A, B, provided with ribs or cleats cast in one solid piece, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the upright shaft C, provided with bar F, socket E, and hook *g*, of the discs or circular plates A, B, substantially as and for the purpose hereinbefore set forth.

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

1971. W. D. ANDREWS, 2nd five years of No. 22,733, from the 3rd day of November, 1890. Improvements in Means for Procuring Water from the Earth, 3rd November, 1890.

1972. W. D. ANDREWS, 2nd five years of No. 22,734, from the 3rd day of November, 1890. Improvements in Means for Procuring Water from the Earth, 3rd November, 1890.

1973. W. D. ANDREWS, 2nd five years of No. 22,736, from the 3rd day of November, 1890. Improvements in Pumps, 3rd November, 1890.

1974. J. D. STORIE, 2nd five years of No. 22,809, from the 16th day of November, 1890. Improvements in Grinding Machinery, 3rd November, 1890.

1975. L. H. BELLAMY, 2nd five years of No. 22,773, from the 5th day of November, 1890. Improvements in Horse Shoes, 3rd November, 1890.

1976. W. S. PAYNE, 2nd five years of No. 22,957, from the 7th day of December, 1890. Improvements on Devices for Tapping Mains, 3rd November, 1890.

1977. J. J. LAPPIN, 2nd five years of No. 22,876, from the 25th day of November, 1890. Improvements in the Process for the Manufacture of Brake Shoes for Railway Car Wheels and other Car Wheels, 4th November, 1890.

1978. M. T. WYATT and W. F. RAMSAY, 2nd five years of No. 22,796, from the 11th day of November, 1890. Improvements in Pipes for Smoking, 5th November, 1890.

1979. M. T. WYATT and W. F. RAMSAY, 2nd 5 years of No. 22,797, from the 11th day of November, 1890. Improved Pipe Reamer, 5th November, 1890.

1980. E. E. HORTON, 2nd five years of No. 22,833, from the 17th day of November, 1890. Improved Type Writing Machine, 8th November, 1890.

1981. L. L. SAGENDORPH, 2nd five years of No. 22,805, from the 14th day of November, 1890. Improvements in Roof Sheet Crimping Machines, 11th November, 1890.

1982. J. M. HOUSE and A. R. WILLIAMS, 2nd five years of No. 23,001, from the 16th day of December, 1890. Improvements in Shingle Sawing Machines, 12th November, 1890.

1983. J. R. WOODBURN, 2nd and 3rd five years of No. 22,891, from the 26th day of November, 1890. Improvements in Machine for Pulverizing Sugar and other Friable Substances, 14th November, 1890.

1984. THE NATIONAL SHEET METAL ROOFING COMPANY (assignee), 2nd five years of No. 22,835, from the 18th day of November, 1890. Improvements in Metal Roofing Plates, 14th November, 1890.

1985. W. WILSON and W. BROWN, 2nd five years of No. 22,919, from the 30th day of November, 1890. Improvements on Adjustable Shaping and Pressing Blocks and Irons, 17th November, 1890.

1986. J. T. GOODFELLOW and R. M. CUSHMAN, 2nd five years of No. 22,858, from the 21st day of November, 1890. Improvements in Metallic Frames for Cars and Platforms, and in Draft Bars for such Cars, 18th November, 1890.

1987. J. G. COCKSHUTT, 2nd five years of No. 12,006, from the 23rd day of November, 1890. Improvements on Horse Hoes, 18th November, 1890.

1988. J. A. CAMERON, 2nd five years of No. 22,859, from the 21st day of November, 1890. Improvements in Anti-friction Journal Boxes, 18th November, 1890.

1989. H. HAMMOND, 2nd five years of No. 22,866, from the 21st day of November, 1890. Improvements in the Manufacture of Axes, 20th of November, 1890.

1990. H. HAMMOND, 2nd five years of No. 22,872, from the 24th day of November, 1890. Improvement in the Manufacture of Axes, 20th November, 1890.

1991. W. L. HORNE, 2nd five years of No. 22,861, from the 21st day of November, 1890. Improvements in Cash Indicators, Registers and Recorders, 20th November, 1890.

1992. E. E. GOLD, 2nd five years of No. 22,940, from the 5th day of December, 1890. Improvements on Heating Apparatus, 21st November, 1890.

1993. G. S. WILSON, 2nd five years of No. 22,857, from the 21st day of November, 1890. Improved Toilet Paper Holder, 21st November, 1890.

1994. A. F. SMITH, 2nd five years of No. 22,903, from the 27th day of November, 1890. Improvements in Heel Trimming Machines, 21st November, 1890.

1995. C. C. HEARLE, 2nd five years of No. 22,885, from the 26th day of November, 1890. Improvements in Springs, 22nd November, 1890.

1996. J. T. ROWE, 2nd five years of No. 22,905, from the 28th day of November, 1890. Improvements in Adjustable Pedal Fronts for Organs, 22nd November, 1890.

1997. T. RUDDELL, 2nd five years of No. 22,966, from the 9th day of December, 1890. Improvements in Automatic Apparatus for Watering Live Stock, 22nd November, 1890.

1998. S. STUART, 2nd five years of No. 22,868, from the 23rd day of November, 1890. Improvements in the fastenings of Guard Rails for Railways, 22nd November, 1890.

1999. F. COCKSHUTT, W. F. COCKSHUTT and M. S. COCKSHUTT, 2nd five years of No. 22,890, from the 26th day of November, 1890. Improvements in Riding Plows, 24th November, 1890.

2000. W. L. HOWIE, 2nd five years of No. 22,916, from the 30th day of November, 1890. Improved means for Preventing the Accumulation of Snow in Railway Cuttings, 26th November, 1890.

2001. F. G. HOOPER, 2nd five years of No. 22,951, from the 7th day of December, 1890. Improvements in Injectors for Raising and Forcing Water and other Liquid, 27th November, 1890.

2002. J. F. MILLER & SON, (assignees), 2nd five years of No. 23,017, from the 17th day of December, 1890. Improvements in Disk Harrows, 27th November, 1890.

2003. J. W. PROVAN, 2nd five years of No. 23,000, from the 16th day of December, 1890. Improvements in Hay Carriers, 29th November, 1890.

2004. J. W. DRISCOLL, 2nd five years of No. 22,995, from the 15th day of December, 1890. Improvements in Packing for Piston Rods, etc., 29th November, 1890.

NOVEMBER LIST OF TRADE MARKS.

Registered at the Department of Agriculture—Copyright and Trade Mark Branch.

3861. OTTO & WILLIAM THUM, of Grand Rapids, Michigan, U.S.A. Sticky Fly Paper, 4th November, 1890.

3862. THOMAS M. MORGAN, of Maisonneuve, Que. Cement, 7th November, 1890.

3863. THE CANADA SUGAR REFINING CO., L'D., of Montreal, Que. Cut Loaf Sugar.
3864. Syrups, Molasses, etc., 7th November, 1890.

3865. CHARLES I. HOOD, of Lowell, Mass., U.S.A. A Medicinal compound, 7th November, 1890.

3866. THE WALKERVILLE BREWING CO. L'D., of Walkerville, Ont. Ale, Beer, Porter and Lager Beer, 11th November, 1890.

3867. EVANS, LESCHER & WEBB, of London, England. Medicinal Preparations from Sandal Wood, 13th November, 1890.

3868. LA COMPAGNIE NOUVELLE DES CIMENTS PORTLAND, DU BOULONNAIS, Paris, France. Ciments Portland, 13 Novembre, 1890.

3869. EUPHEMIA A. McLENNAN, of Goderich, Ont. A Liniment, 13th November, 1890.

3870. MRS. JULIA EDWARDS, of Montreal, Que. A Remedy for Dropsy and other Medicinal Preparations, 14th November, 1890.

3871. THE ISLAND SPINNING CO. L'D., of Lisburn, Ireland. Thread, 14th November, 1890.

3872. GEORGE B. LAYTON, of New Glasgow, N.S. A Dyspepsia Cure, 17th November, 1890.

3873. MANDER BROTHERS, of London and Wolverhampton, England. Carminette, a Chemical Substance or Colour used in Manufactures and in Painting, 19th November, 1890.

3874. THE CLARK JOHNSON MEDICINE CO., of New York, N.Y., U.S.A. A Medicine known as "Sister Agnes Herb Cure," 20th November, 1890.

3875. SAMUEL M. BROOKFIELD, of Halifax, N.S. Manoleate, a Disinfectant and Deodorizing Soap in various forms, 22nd November, 1890.

3876. A. TANCREDE, of Paris, France. Glue. 25th November, 1890.

3877. WILLIAM HENRY GILLARD, JOHN GILLARD & HENRY NORMAN KITTSON, of Hamilton, Ont., trading under the name of W. H. GELLARD & CO. Baking Powder, 25th November, 1890.

3878. ALEXANDER JARDINE & JAMES STRACHAN, of Toronto, Ont., trading under the firm name of THE PURE GOLD MANUFACTURING CO. General Trade Mark, 25th November, 1890.

3879. J. BURSTALL & CO., of Quebec, Que.
3880. Timber or Lumber of any Kind,
3881. 25th November, 1890.

3882. THE RATHBUN CO., of Deseronto, Ont. Cement, 26th November, 1890.

3883. THOURET, FITZGIBBON & CO., of Montreal, Que. Gloves, 29th November, 1890.

COPYRIGHTS.

Entered during the month of November at the Department of Agriculture—Copyright and Trade Mark Branch.

5621. MAP OF THE CITY OF MONTREAL, Canada, and VICINITY. Charles Edward Goad, Montreal, Que., 4th November, 1890.

5622. THE BILLS OF EXCHANGE ACT, 1890, being a Codification of the Law Merchant respecting Bills of Exchange, Cheques and Promissory Notes, with Explanatory Notes and Illustrations from Canadian, English and American Decisions, by Thomas Hodgins, M. A., Toronto, Ont., 4th November, 1890.

5623. MISS NOBODY OF NOWHERE, by Archibald Clavering Gunter. The National Publishing Co., Toronto, Ont., 5th November, 1890.

5624. SAMPLE SHEET OF ENGRAVINGS. Moore & Alexander, Toronto, Ont., 5th November, 1890.

5625. MANITOBA; HISTORY OF ITS EARLY SETTLEMENT, DEVELOPMENT AND RESOURCES, by Robert B. Hill; William Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 5th November 1890.

5626. THE WORLD'S DESIRE. A Tale of Old Egypt, full of Marvels and Adventure, by H. Rider Haggard, and Andrew Lang. William Bryce, Toronto, Ont., 7th November, 1890.

5627. TABLES GIVING THE NUMBER OF DAYS FROM ONE DATE TO ANOTHER, by O. mile Dorais, Trois Rivières, Que', 7 Novembre, 1890.

5628. PROTESTANT EPISCOPAL LAYMAN'S HANDBOOK; being chiefly an Explanation of the Innovations of the last half-century.
5629. HISTORY OF THE PRESBYTERIAN CHURCH IN IRELAND, by Rev. Wm. Cleland. Hart & Co., Toronto, Ont., 7th November, 1890.

5630. BUT I LOVED HER. Comic Song, by W. J. Reid; Whaley Royce & Co., Toronto, Ont., 8th November, 1890.

5631. HAYMAKER'S DANCE, by Carl Weber. I. Suckling & Sons, Toronto, Ont., 10th November, 1890.

5632. REGISTER OF INSURANCE EXPIRATIONS FOR THE MERCHANT, MANUFACTURER AND BUSINESS MAN. Hart & Co., Toronto, Ont., 10th November, 1890.

5633. LAYING THE CORNER STONE, NEW CENTRAL SCHOOL, BRANTFORD, OCTOBER 15TH, 1890, by M. W. Bro. J. Ross Robertson, Grand Master, etc. (Photo.). Edward Paul Park, Brantford, Ont., 10th November, 1890.

5634. JESUS, OUR MASTER. Words by L. A. Morrison. Music by Samuel S. Martin.
3635. WHAT IS LOVE? Anthem No. 1. Words by L. A. Morrison. Music by Rev. J. E. Lanceley. Llewellyn A. Morrison, Toronto, Ont., 11th November, 1890.

5636. OFFICE INDICATOR (card.)
5637. A CONTINUOUS CALENDAR FROM THE YEAR 1800 TO THE YEAR 1955. John H. Fisher, Bridgetown, N.S., 12th November. 1890.

5638. AMORETTEN. Op. 31, No. 5. Polka Mazurka, by Heinrich Lichner.
5639. TWELFTH NIGHT. Olde Englyshe Danse, by Seymour Smith.

The Anglo-Canadian Music Publishers' Association, L'd., London, England, 13th November, 1890.

5640. WILFRID LAURIER ON THE PLATFORM 1871—1890. Ulric Barthe, Quebec, 13 Novembre, 1890.

5641. CALENDRIER DU DIOCÉSE DE QUEBEC POUR 1891. J. A. Langlais, Quebec, 13 Novembre, 1890.

5642. LES FLEURS POETIQUES, par Léon Lorrain, Iberville, Que., 17 Novembre, 1890.

5643. THE SILENT REMINDER, 1891. (Chart.) Miss Jessie Gourlay, London, Ont., 17th November, 1890.

5644. ALAS, by Rhoda Broughton (book).
5645. LADY MAUDE'S MANIA, by G. M. Fenn (book)
5646. MARCIA, by W. E. Norris (book).
John Lovell & Son, Montreal, Que., 18th November, 1890.

5647. THE DARK CONTINENT AND ITS SECRETS. A Compend of Mr. H. M. Stanley's Exploration and Discovery in Equatorial Africa, by G. Mercer Adam.
5648. THE SWAMP OF DEATH, or THE BENWELL MURDER.
5649. ARITHMETIC FOR HIGH SCHOOLS AND COLLEGIATE INSTITUTES, by J. C. Glashan.
5650. THE HIGH SCHOOL FRENCH READER, with Vocabulary and Notes, by J. Squair, B.A., and W. H. Fraser, B.A.
The Rose Publishing Company, Toronto, Ont., 18th November, 1890.

5651. SONGS OF ALL SEASONS, CLIMES AND TIMES. A Motley Jingle of Jumbled Rhymes, by Mrs. John Crawford. M. M. Crawford, Bowmanville, Ont., 18th November, 1890.

5652. GROUPE DES MEMBRES DE LA BRIGADE DU FEU DE MONTREAL, 1890 (photo.) Henri Euclide Archambault, Montreal, Que., 29 Novembre, 1890.

5653. BIRCHALL; THE STORY OF HIS LIFE, TRIAL AND IMPRISONMENT, AS TOLD BY HIMSELF. The Mail Printing Company, L'd., Toronto, Ont., 20th November, 1890.

5654. CONFIDENTIAL REPORTS OF THE MERCHANTS' PROTECTIVE AND COLLECTING ASSOCIATION, FOR USE OF MEMBERS ONLY. J. Bidwell Mills, Hamilton, Ont., 21st November, 1890.

5655. GLEANER TALES, Second Series. HEMLOCK, A Tale of the War of 1812, by Robert Seller, Huntingdon, Que., 21st November, 1890.

5656. A MINT OF MONEY, by George Manville Fenn (book). The National Publishing Co., Toronto, Ont., 21st November, 1890.

5657. INSURANCE PLANS of Blyth, Brussels, Chesley, Clarksburg, Clinton, Elora, Exeter, Fergus, Goderich, Kincardine, Lucknow, Mount Forest, Paisley, Palmerston, Port Elgin, Seaforth, Southampton, Thornbury, Walkerton, Wiarton and Wingham, in Ontario. Charles Edward Goad, Montreal, Que., 21st November, 1890.

5658. A HAND-BOOK ON SABBATH SCHOOL MANAGEMENT AND WORK, by David Fotheringham, Toronto, Ont., 21st November, 1890.

5659. FORMS OF SERVICE FOR SPECIAL OCCASIONS IN THE PRESBYTERIAN CHURCH, by Rev Duncan Morrison, D.D., Owen Sound, Ont., 21st November, 1890.

5660. VALSE ELEGANTE, by G. H. Fairclough. I. Suckling & Sons, Toronto, Ont., 22nd November, 1890.

5661. MAP OF THE CITY OF VICTORIA AND ITS ENVIRONS, BRITISH COLUMBIA. Scale, 10 chains to 1 inch. T. N. Hibbon & Co., Victoria, B. C., 22nd November, 1890.

5662. L'ANCIEN QUEBEC. DESCRIPTIONS, NOS ARCHIVES, ETC., par Auguste Béchard, Quebec, 24 Novembre, 1890.

5663. BELL TELEPHONE COMPANY OF CANADA. EASTERN EXCHANGES, SUBSCRIBERS' DIRECTORY. ONTARIO DEPARTMENT. NOVEMBER, 1890. The Bell Telephone Company of Canada, Montreal, Que., 24th November, 1890.

5664. FUSS AND FEATHERS. Polka, by H. H. Godfrey. A. & S. Nordheimer, Toronto, Ont., 24th November, 1890.

5665. COMPOSITIONS FOR AND ABOUT WIVES AND DAUGHTERS, as per application, which are now being published in separate articles in a periodical called "Wives and Daughters," in London, Ont. (temporary copyright). Mrs. Elizabeth Cameron, London, Ont., 24th November, 1890.

5666. L'ORACLE CANADIEN, ou le Moyen de deviner l'Age, le Nom d'une personne ou un Nombre quelconque qu'elle pense mentalement (jeu). Victor Gaston Clément, Montréal, Que., 25th Novembre, 1890.

5667. DANSE DES PIERROTS, par Emma Fraser Blackstock. The Anglo-Canadian Music Publishers' Association, L'd., London, England, 26th November, 1890.

5668. THE GRAPEVINE SWING. Song and Chorus, by Samuel Minturnpeck, Music by W. O. Forsyth. A. & S. Nordheimer, Toronto, Ont., 28th November, 1890.

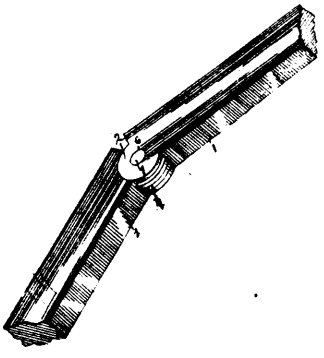
5669. DRAWING BOOKS, NOS. 1, 2, 3, 4, and 5, OF THE SERIES OF THE DOMINION DRAWING BOOKS IN SEVEN NUMBERS, by C. H. McLeod and Andrew T. Taylor, Montreal, Que., 28th November, 1960.

THE

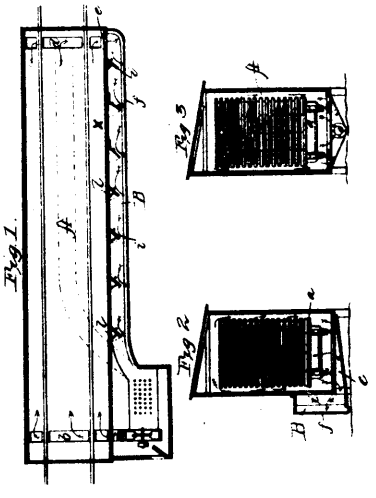
CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

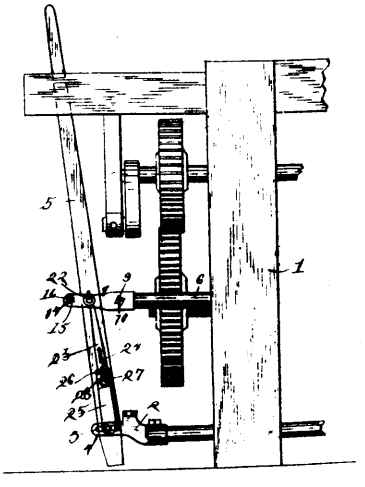
Vol. XVIII. NOVEMBER, 1890. No. 11.



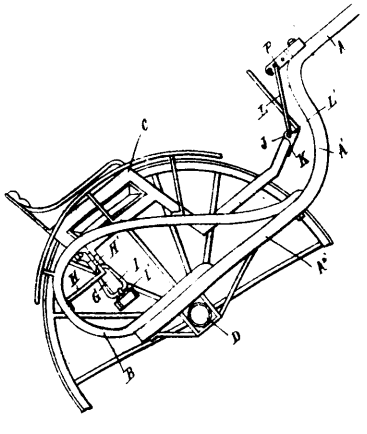
35309 Higgins' Vehicle Top Joint.



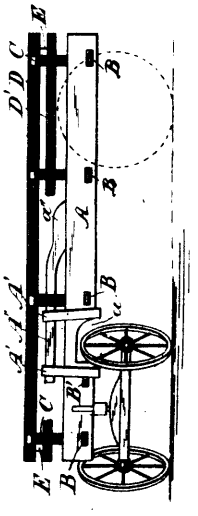
35310 Peregrine's Drying Kiln.



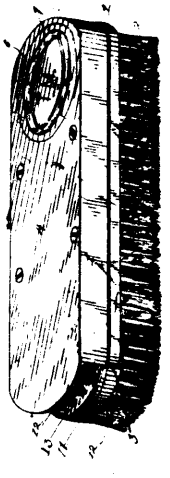
35311 Knight's Tug Strap and Holder for Looms.



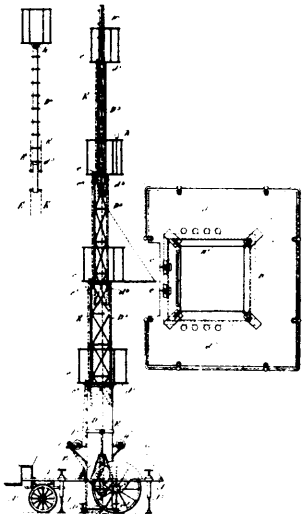
35312 Scott's Road Cart.



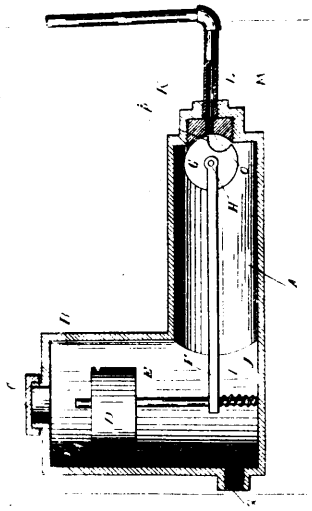
35313 McGowan's Hay and Grain Rack.



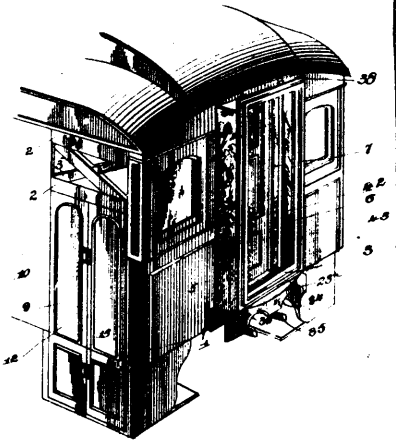
35314 Darling's Blacking Brush.



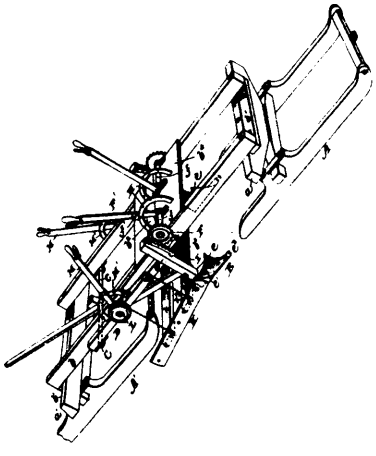
35315 Smitter & Duhamel's Fire Escape Ladder, etc.



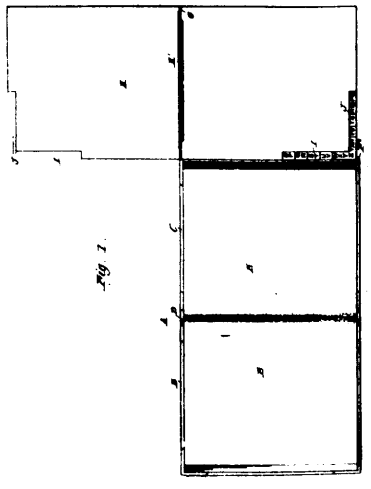
35316 Krehbiel's Float Valve.



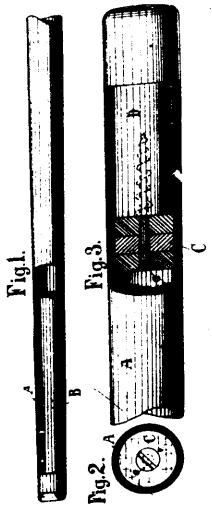
35317 Beckley's Railroad Car.



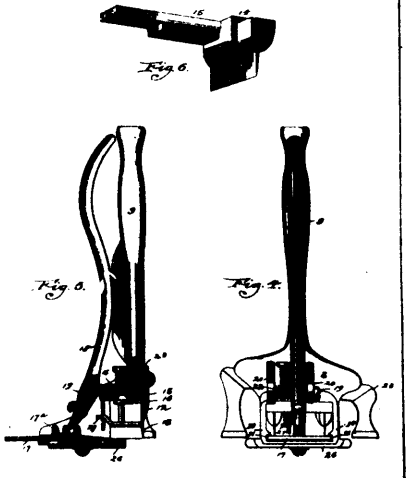
35318 Weck's Track Cutter.



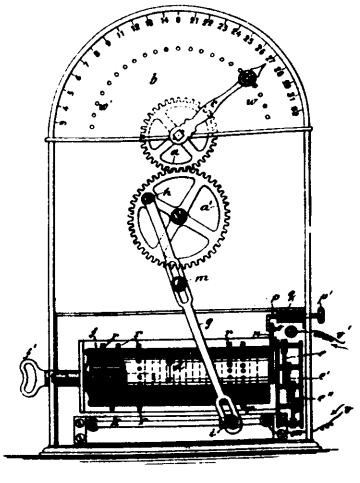
35319 Vernon's Book and Index.



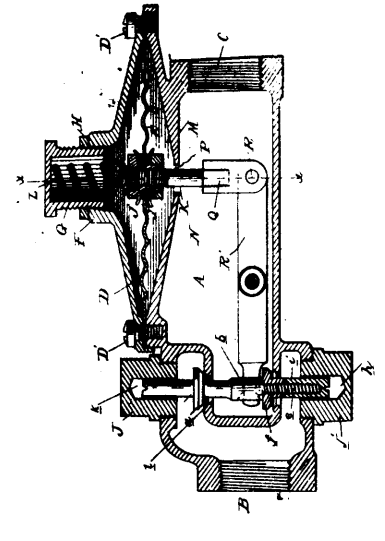
35320 Stiller's Billiard Cue.



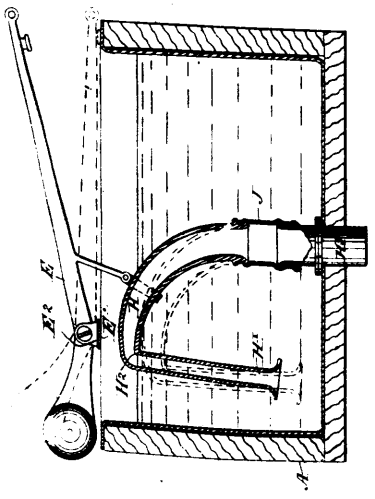
35321 Mackenzie's Hinge Mortising Machine.



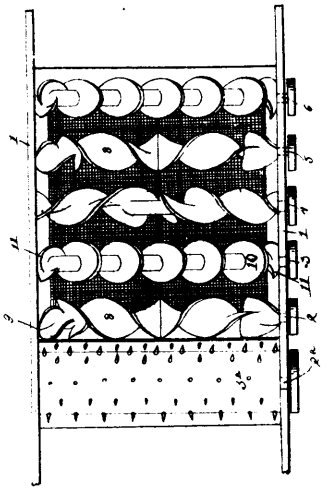
35322 Spike and McLeod's Fire Alarm Regulator.



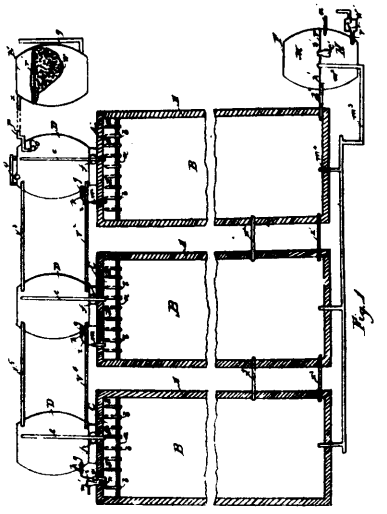
35323 McElroy's Pressure Regulator.



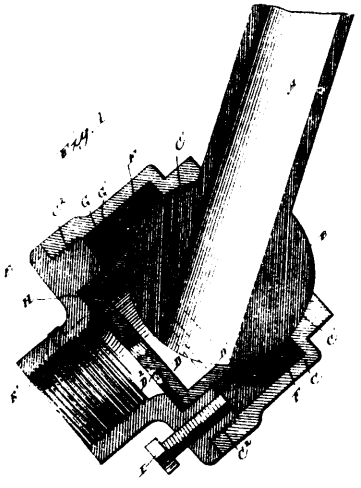
35325 Dwinnell's Closet Cistern



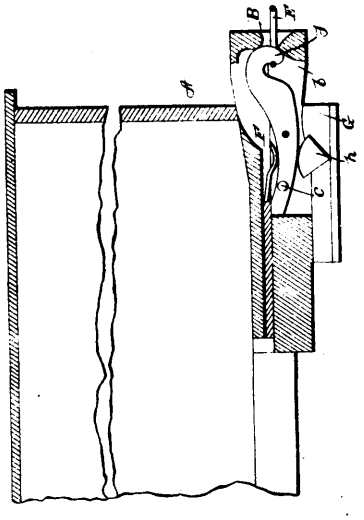
35326 Gibson's Grain Separator.



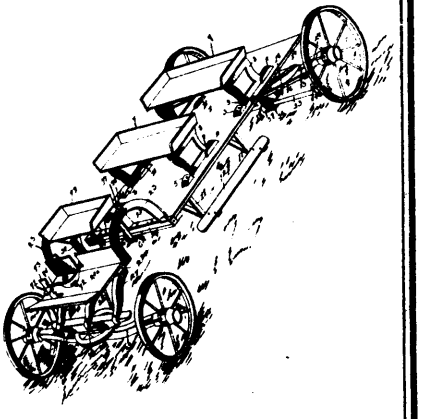
35327 Lavigneur's Apparatus for the Manufacture of Vinegar.



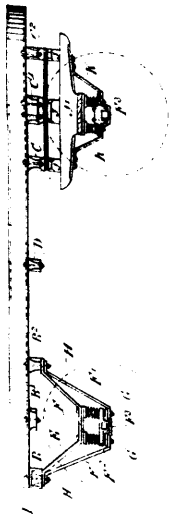
35328 Walker's Universal Joint Pipe Coupling.



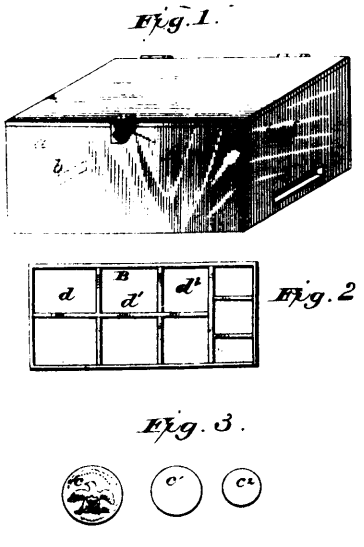
35329 Powell's Car Coupling.



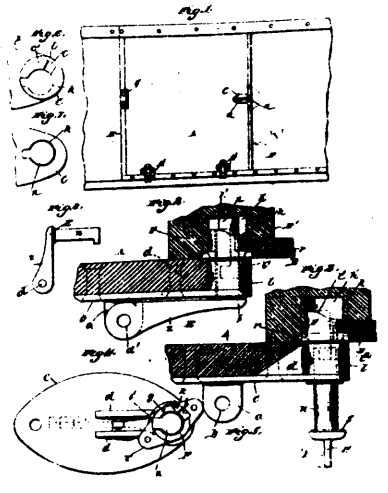
35330 Sullivan's Vehicle.



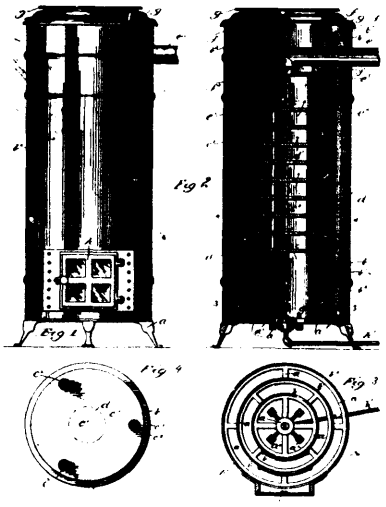
35331 Hill's Waggon.



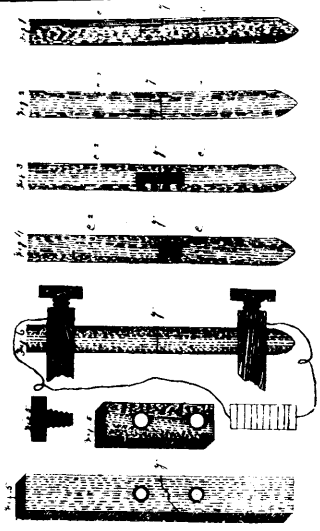
35332 McCardell's Money Change Game.



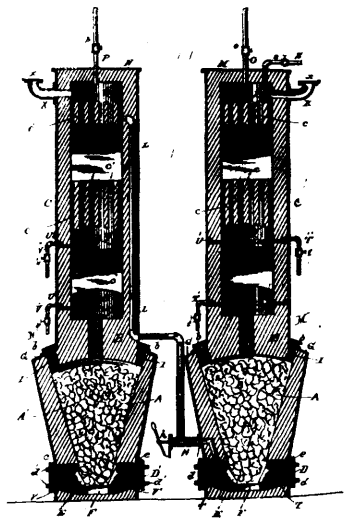
35333 Wands' Device for Fastening and Tightening Freight Car Doors.



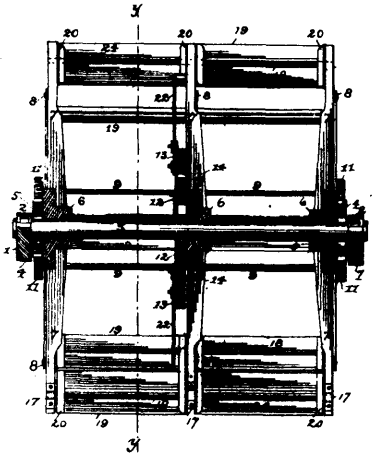
35334 Jenks' Gas or Oil Heating Stove.



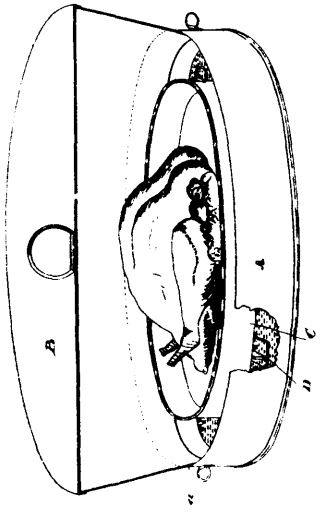
35335 Blair and Hunter's Method of Connecting and Joining Electric Carbons, Plates and Carbon Pencils.



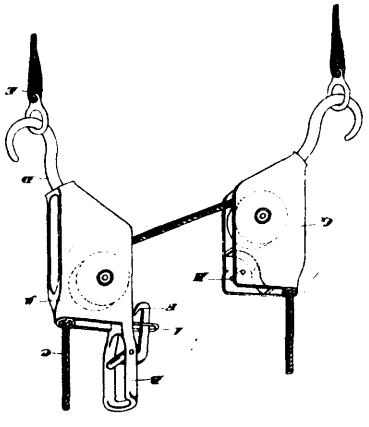
35336 Morse and Springer's Apparatus for Manufacturing Gas.



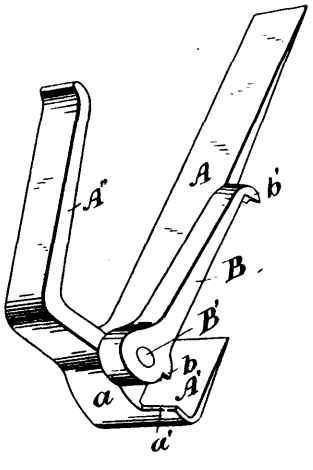
35338 Petton's Propeller Wheel.



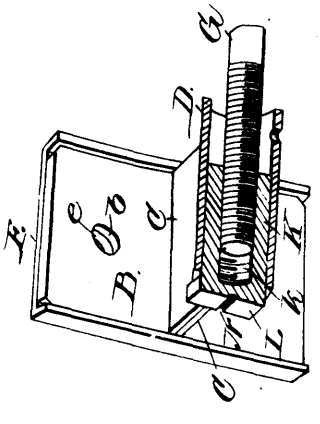
35339 Crabbe' Cooking Utensil.



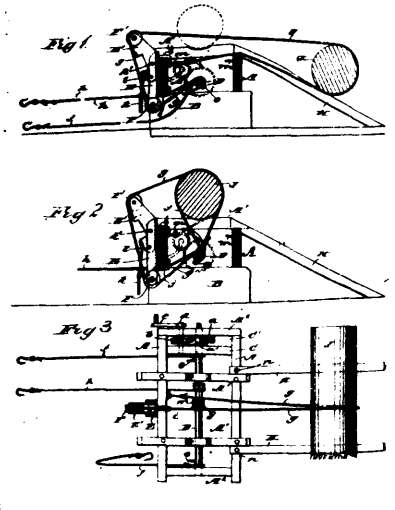
35340 Provan's Sling Pulley Block.



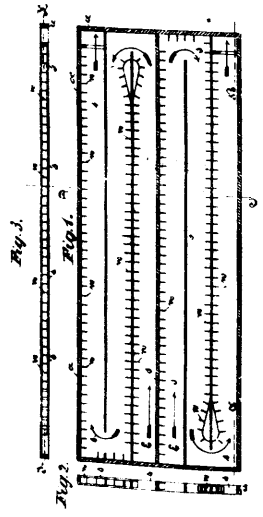
35341 Levi and Murchison's Roof Scaffold Bracket.



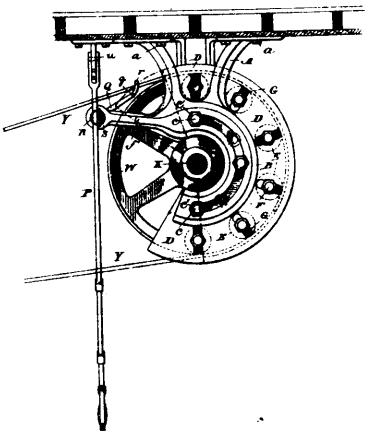
35342 Tribe's Curtain Holder.



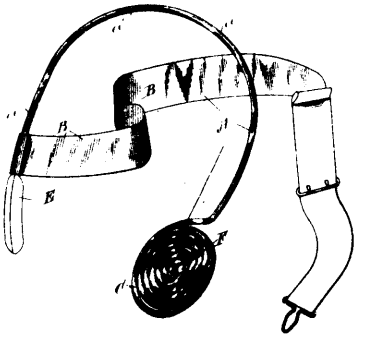
35343 Kuntz and Eschenbrener's Log Loading Machine.



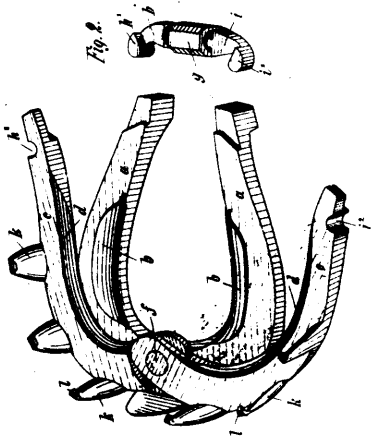
35344 Haggenmacher's Sifting Machine.



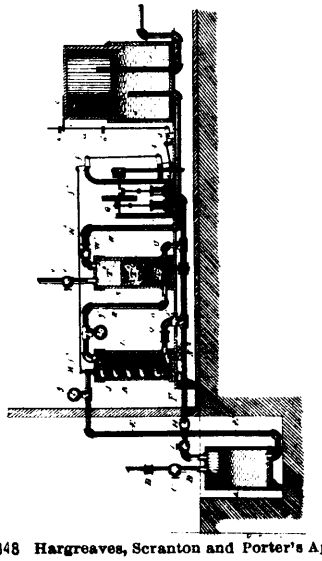
35345 Jackson and Whitcomb's Belt Shifter



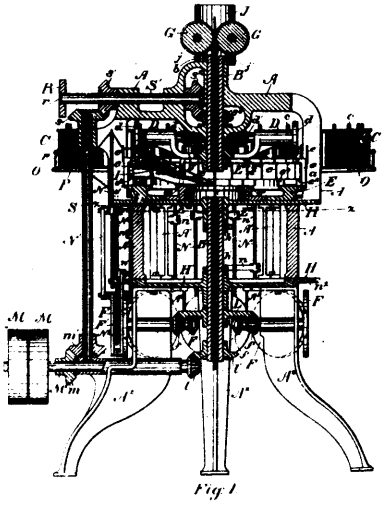
35346 Smith's Herulal Truss.



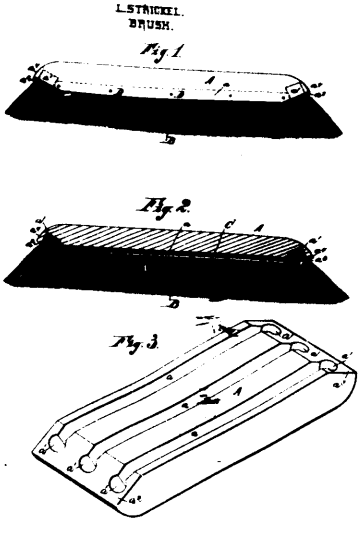
35347 Schantz's Horse Shoe.



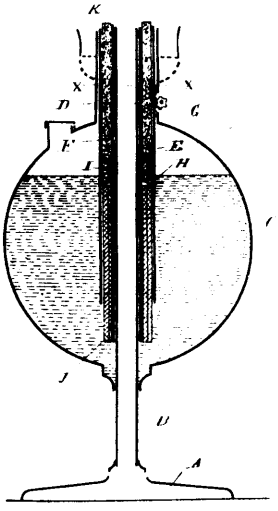
35348 Hargreaves, Scranton and Porter's Apparatus for Making Gas.



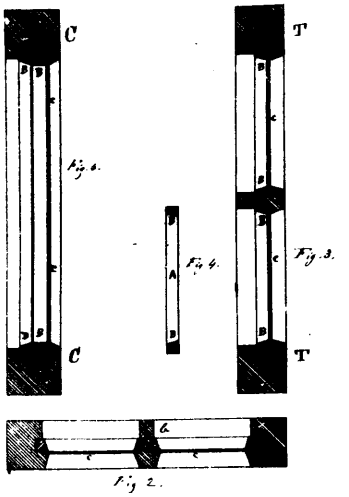
35349 Stetson's Machine for Insulating Electrical Conductors.



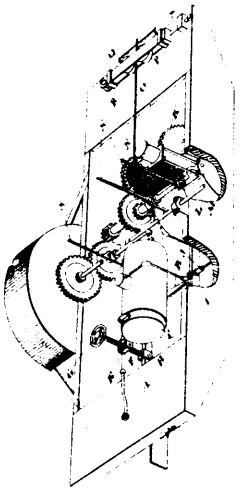
35350 Strikel's Brush.



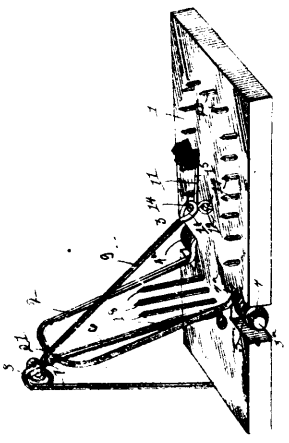
35351 Krehbiel's Oil Burner.



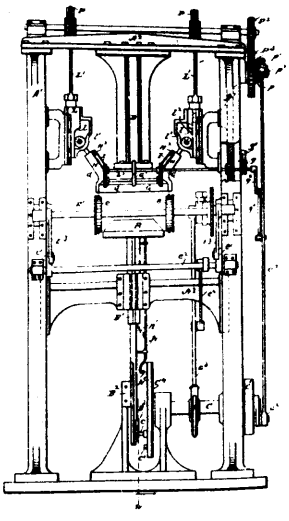
35354 Babin's Machine for Placing Glass in Windows.



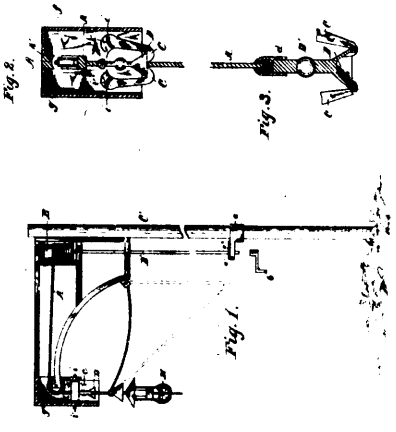
35355 West's Steam Warping Scow.



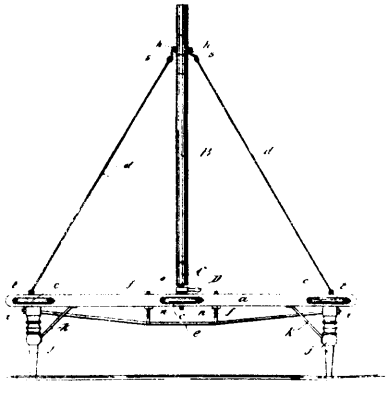
35356 Anderson's Animal Trap.



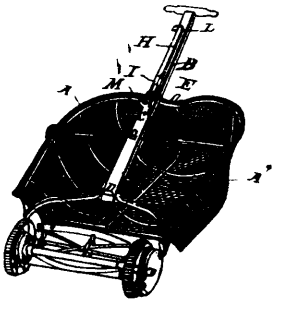
35357 Tinker and Benjamin's Machine for Manufacturing Wooden Trays.



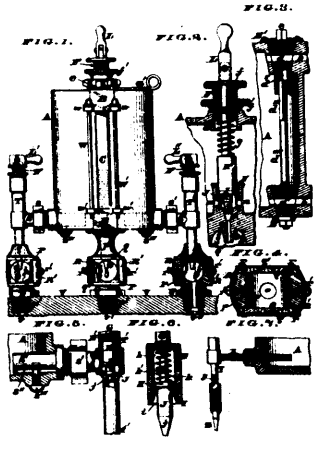
35358 Hebendahl, Miller and Warner's Apparatus for Elevating and Lowering Electric Lights.



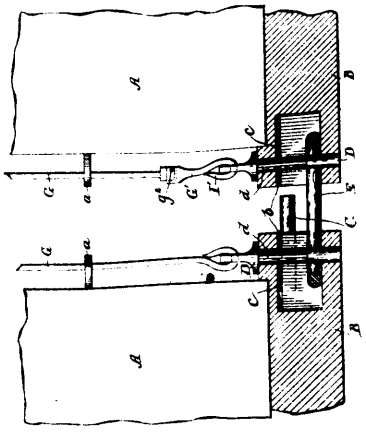
35360 Gauthier's Banner Frame.



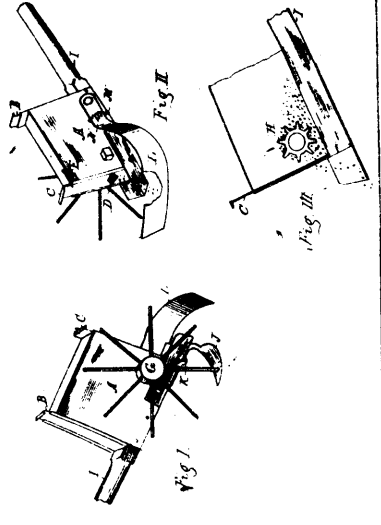
35362 Buckmuller's Grass Receptacle for Lawn Mowers.



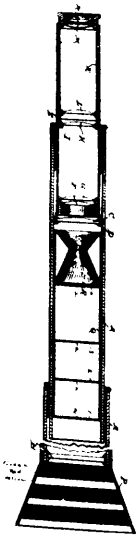
35363 Powell's Lubricator.



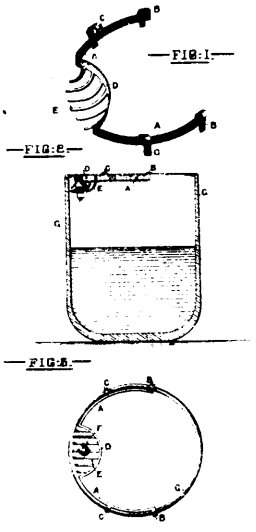
35364 Ponto's Car Coupling.



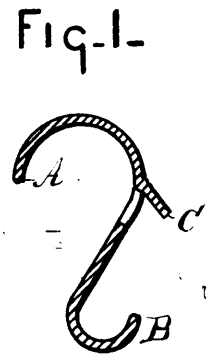
35365 Greenleaf's Seed Planter.



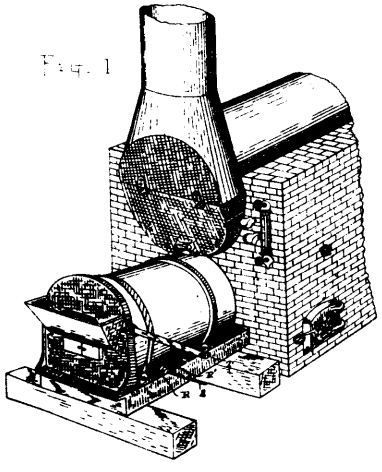
35366 Riddle's Telescope.



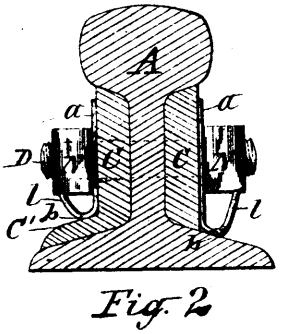
35367 Yates' Appliance to Facilitate taking Pills.



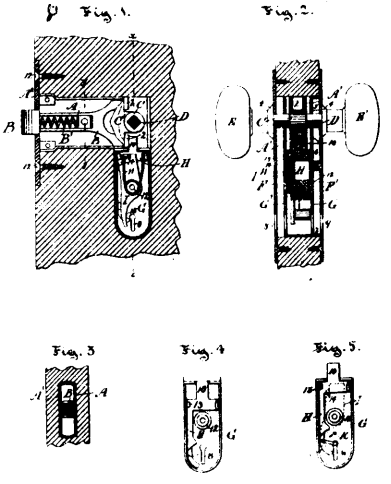
35368 Segur's Picture Hook.



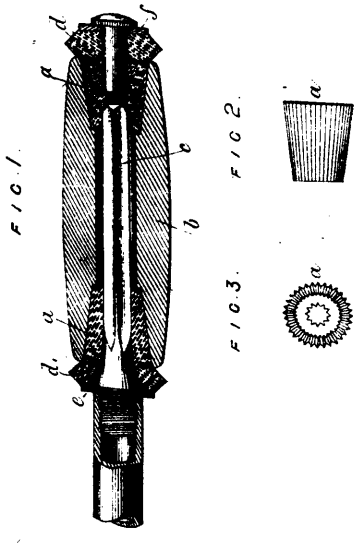
35369 Nogar's Furnace.



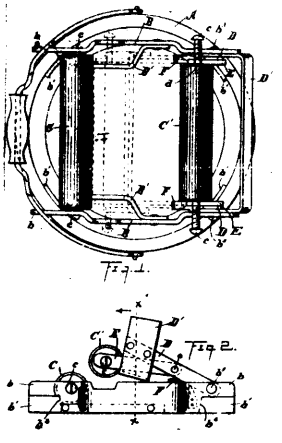
35370 Jones' Nut Lock.



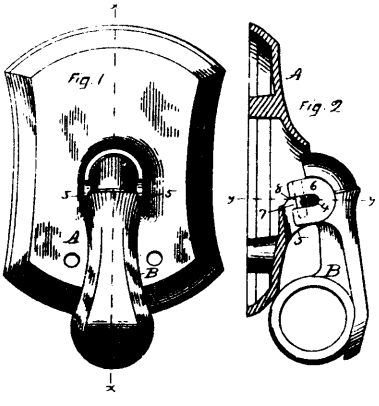
35371 Young's Door Lock.



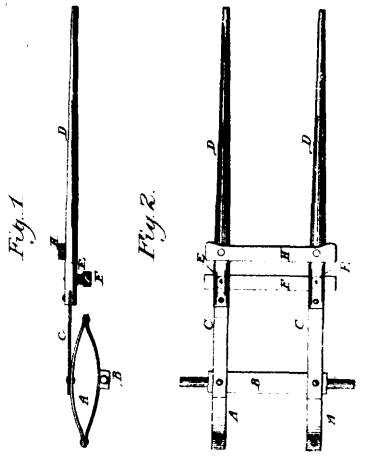
35372 Blakely's Lever and other Handle.



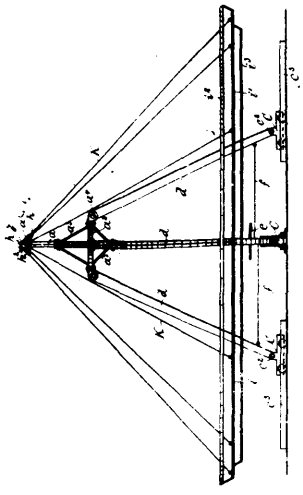
35373 Schmuch's Mop Wringer.



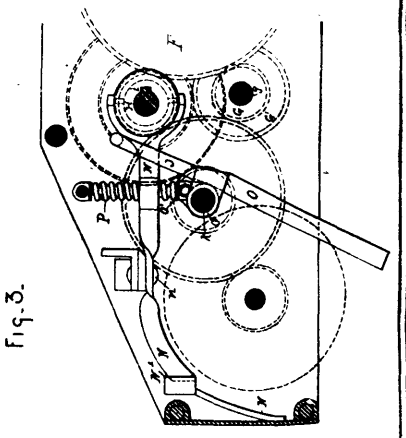
35374 Fletcher's Casket Handle.



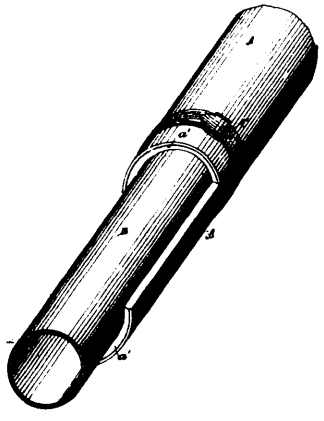
35375 Coefield's Road Cart.



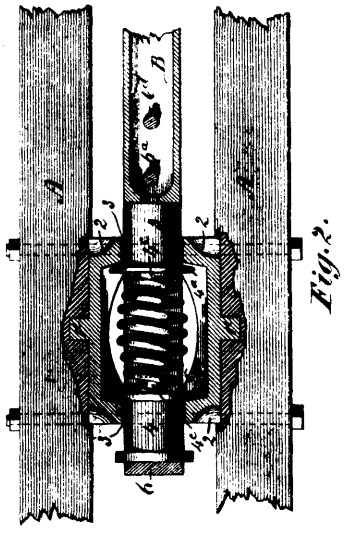
35376 Hall's Round-About.



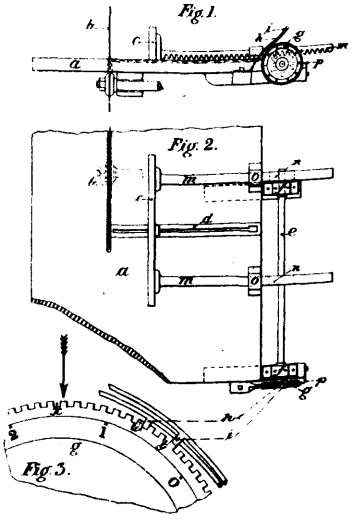
35377 Plummer's Cash and Parcel Carrier.



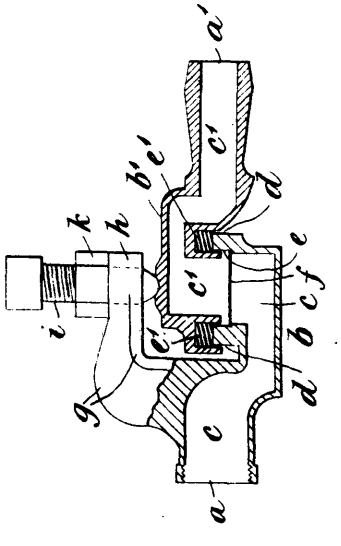
35378 Hanmore's Non-Conducting Coverings for Pipes, Boilers, etc.



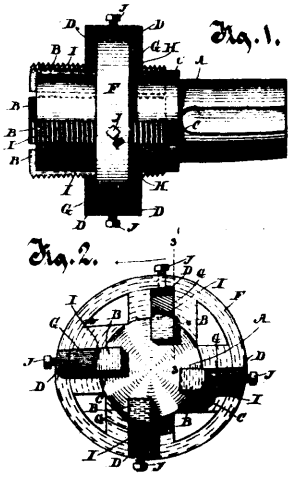
35379 McGuire's Draw-Bar for Cars.



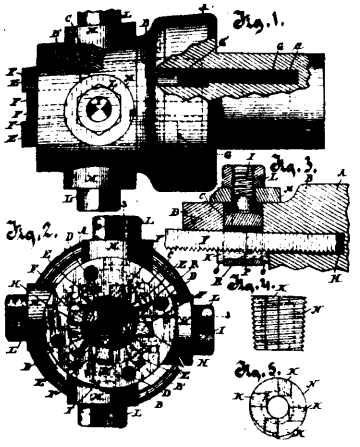
35380 Aitken's Set Gear.



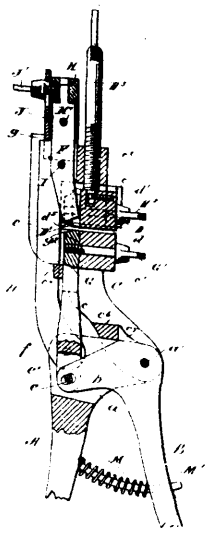
35381 Decarie and Lord's Pipe Coupling.



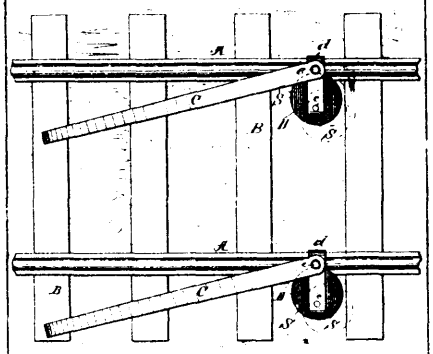
35382 Bradford's Adjustable Tap.



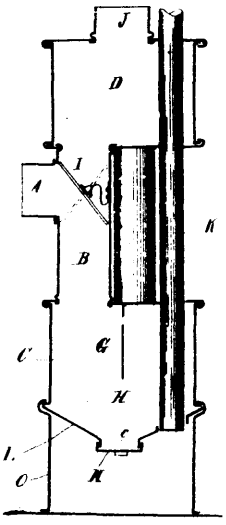
35383 Bradford's Pipe Die.



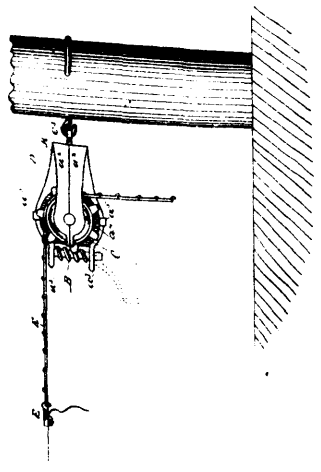
35384 Johnstone's Saw Set.



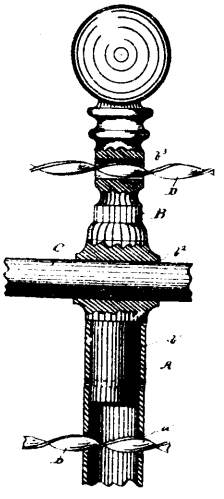
35385 McGary's Car Replacer.



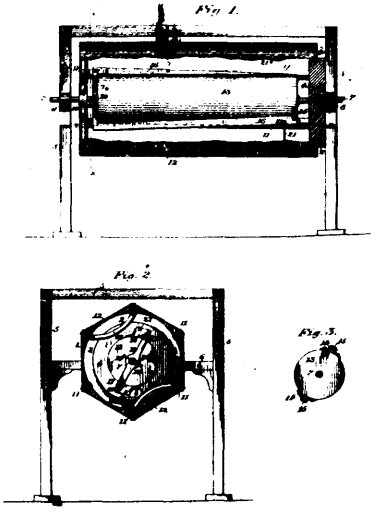
35386 Brock's Heating Drum.



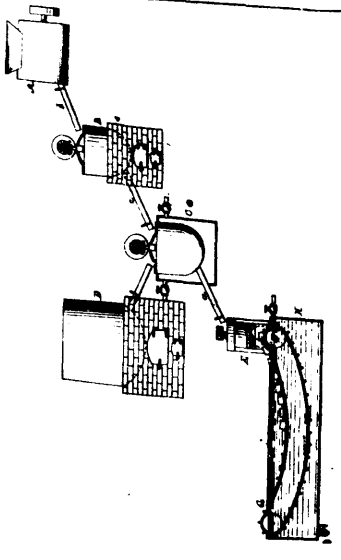
35387 Kiler's Wire Stretcher.



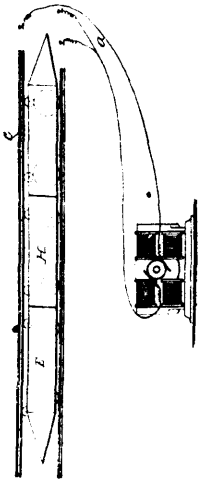
35388 Kiler's Wire Fence.



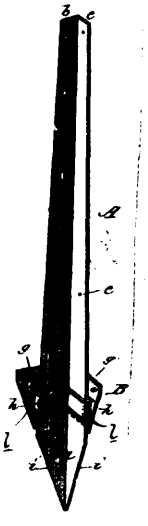
35389 Chisholm's Apparatus for Hulling Peas.



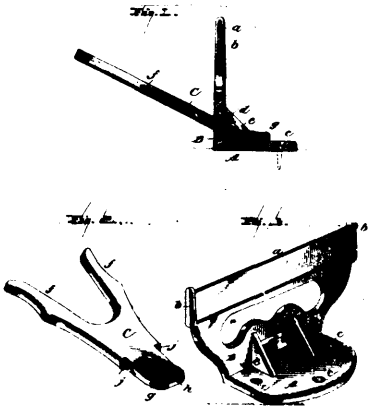
35390 McClure's Machine for Making Fuel.



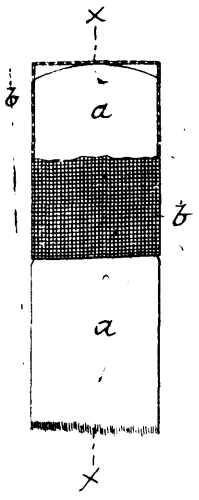
35391 Weems' System of Transporting Goods by Electricity.



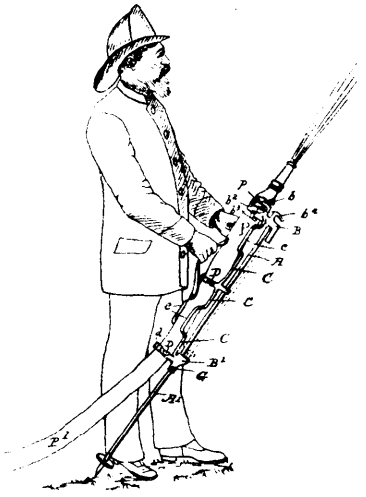
35392 Lounsberry's Fence Post.



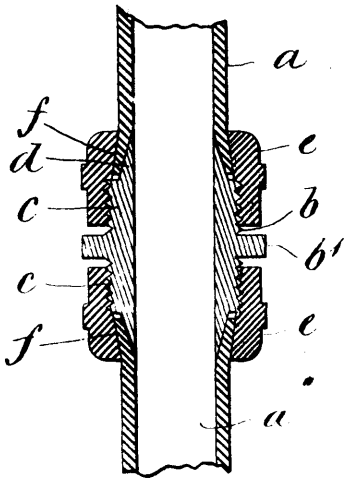
35393 Heth's Boot Jack.



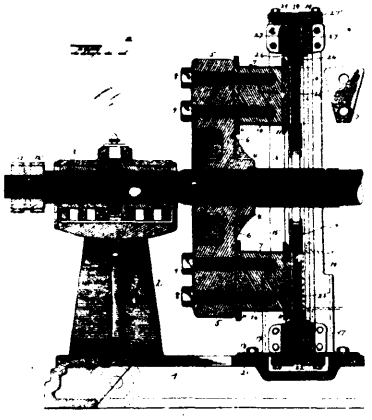
35394 Harris' Lamp, etc.



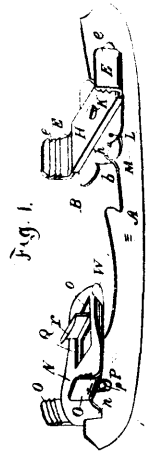
35398 Robinson's Fire Hose Support.



35399 Decarie and Lord's Metallic Pipe Connections.



35400 Pfannkuche's Dynamo Electric Generator.



35402 Bateman's Skate.

Fig. 1.

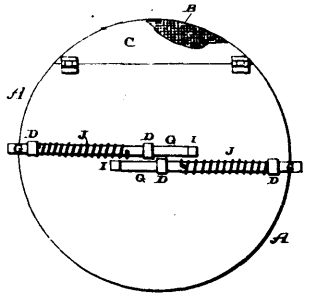
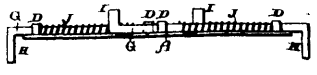
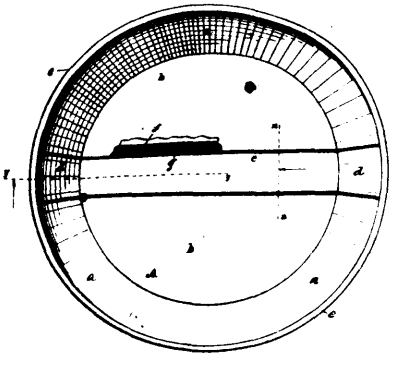


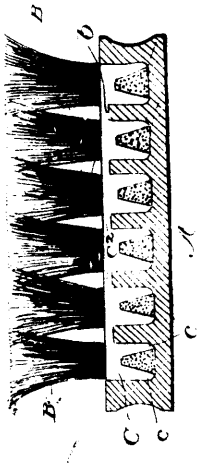
Fig. 2.



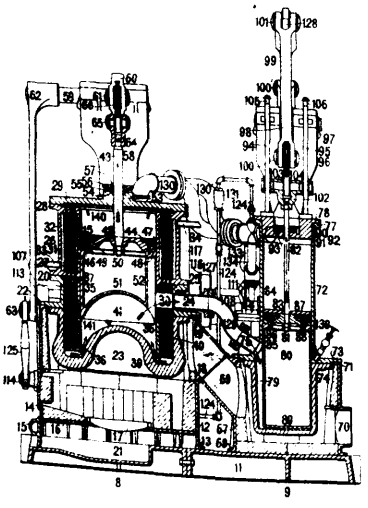
35403 Murray's Cover for Kitchen Utensils.



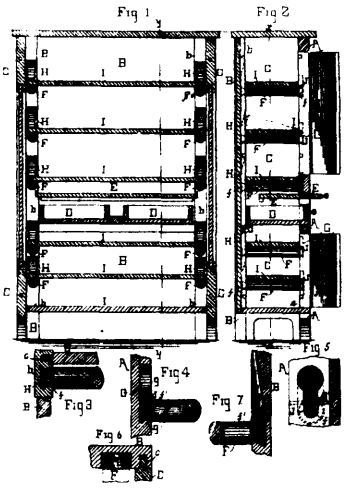
35404 Reed's Anti-Rust Pans, Pails, Cans, etc.



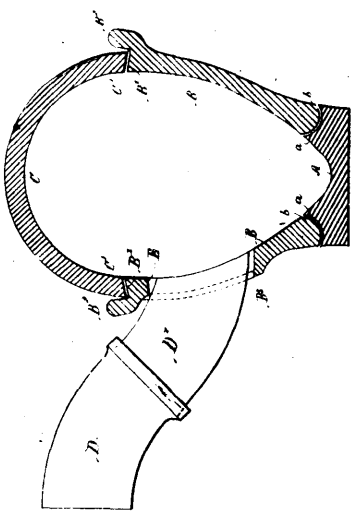
35405 Young's Brush.



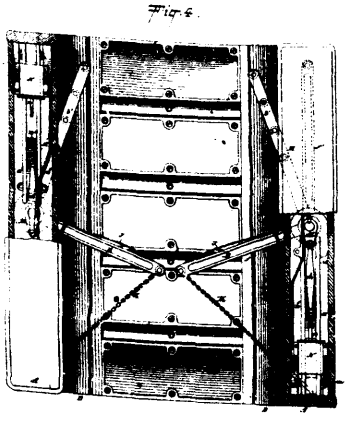
35406 Woodbury, Merrill, and Patten's Air Engine.



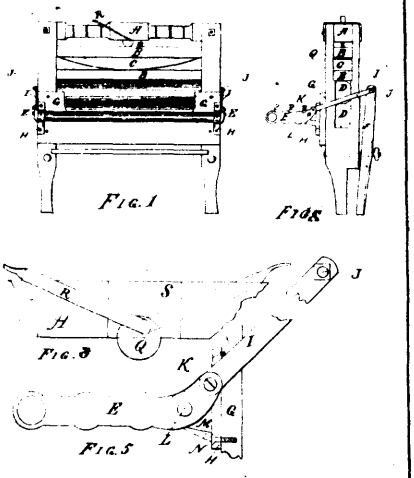
35407 White's Knockdown Furniture.



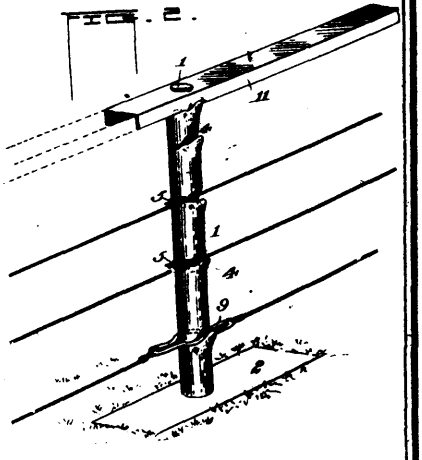
35408 St. George's Sewer.



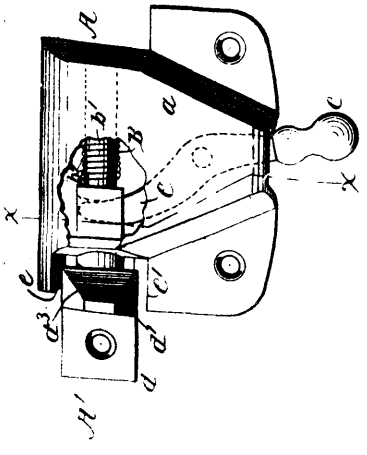
35409 Gajardo's Automatic Passenger Register.



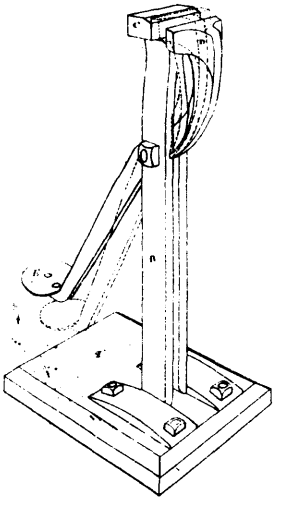
35410 Dowswell's Clothes Wringer.



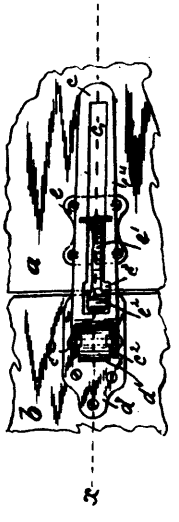
35411 Weiser's Wire Fence.



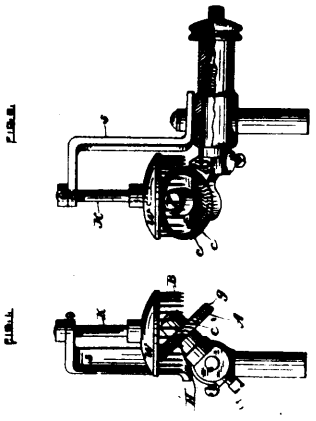
35412 Hebert's Sash Lock.



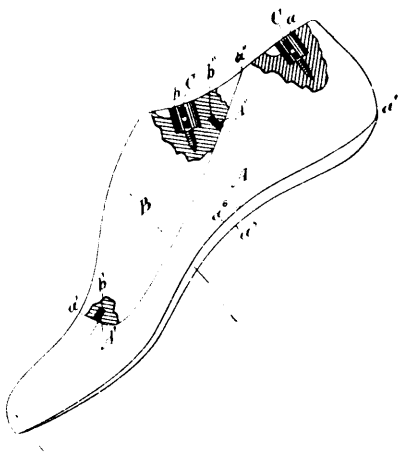
35413 McAdam's Horse Shoe Vise.



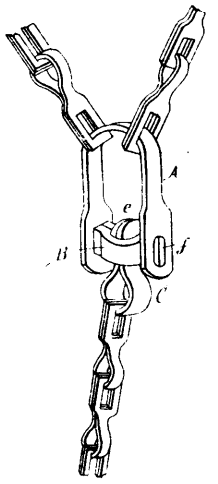
35414 Trabold's Door Check and Bolt.



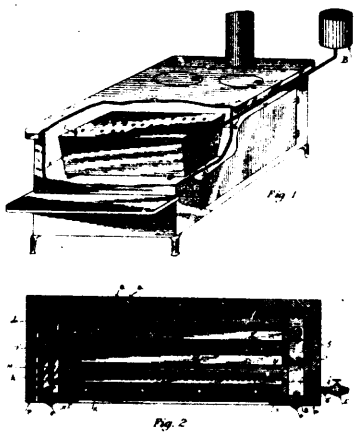
35415 Gage's Looping Attachment for Knitting Machines.



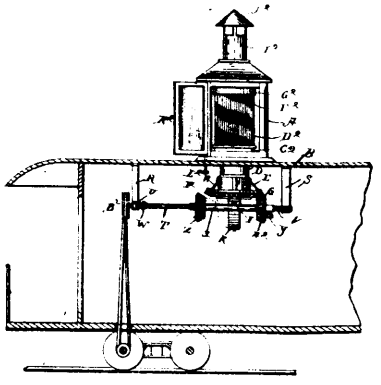
35416 Condell's Last.



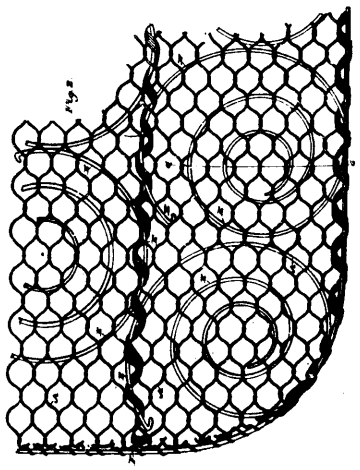
35417 Kelley's Swivel.



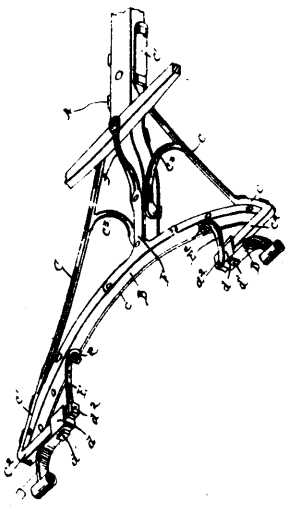
35418 Styron's Apparatus for Vaporizing and Burning Hydro-Carbon Oil.



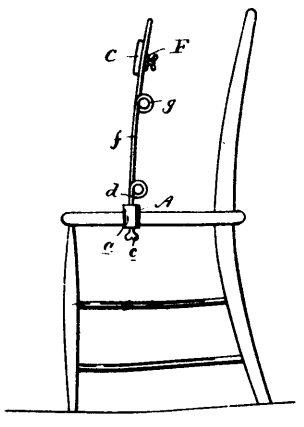
35419 Smith's Signal Lamp.



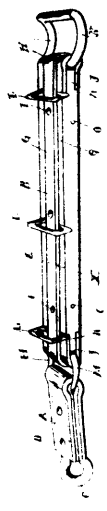
35420 Seymour's Woven Wire Mattress.



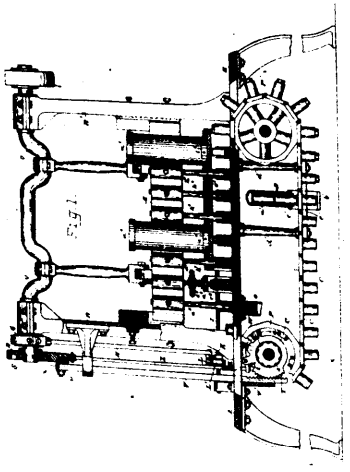
35421 Ketchledge's Waggon Tongue.



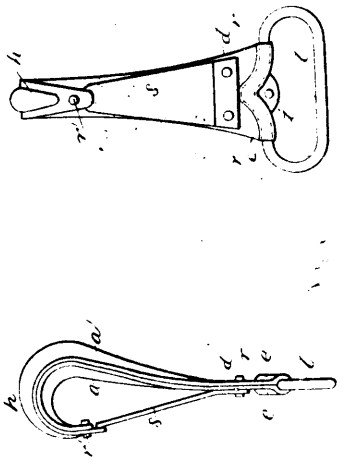
35422 Haulenbeek's Detachable Chair Back.



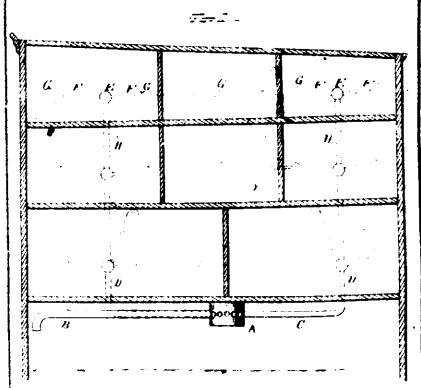
35423 Webster's Hame Tug.



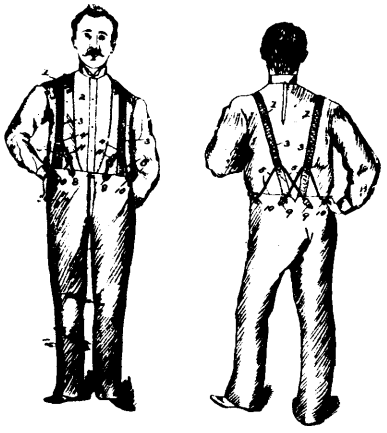
35424 Hisey's Cartridge Loading Machine



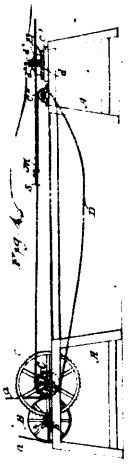
35425 Kelley's Snap Hook.



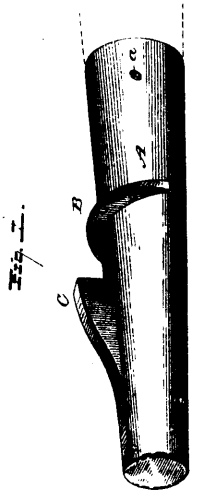
35426 Johnson and Greenfield's Wiring Structure for Electric Lights.



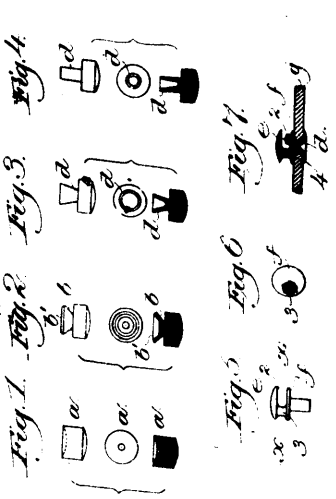
35430 Brodnax's Shirt and Vest Suspender.



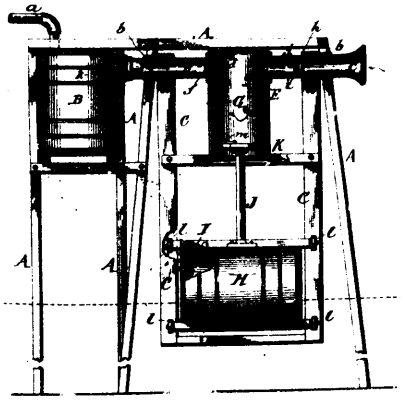
35431 Henderson's Manufacture of Metallic Cross-Bars for Sashes, etc.



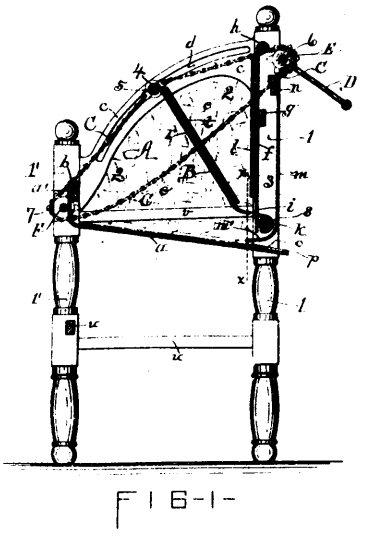
35432 Randall's Vehicle Pole Tip.



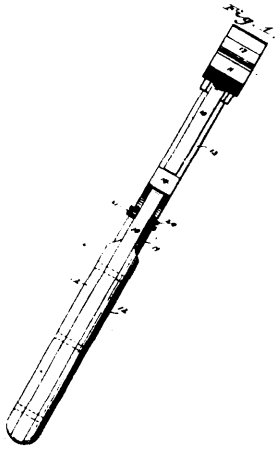
35433 Cummings' Lacing Hook for Boots, etc.



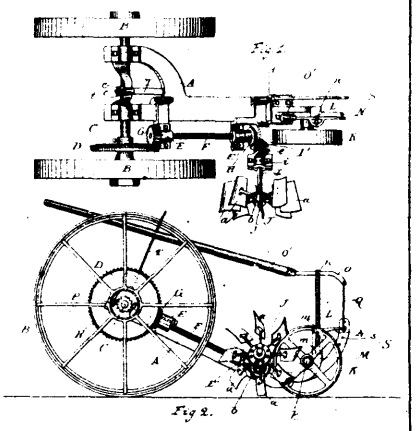
35434 Elcheimc's Automatic Air Compressor.



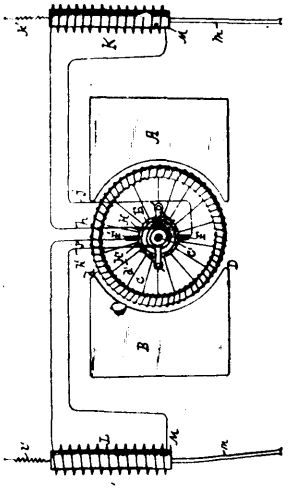
35435 Gamlen's Squeezer and Strainer.



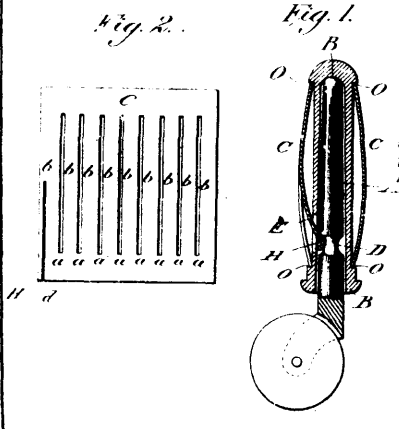
35436 Kasch's Wrench.



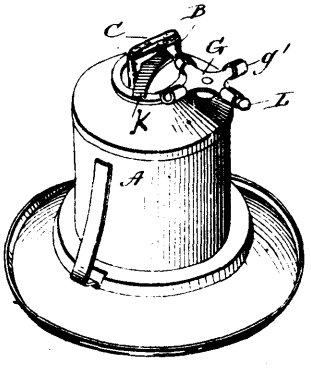
35437 Saddlemyre's Weeding Machine.



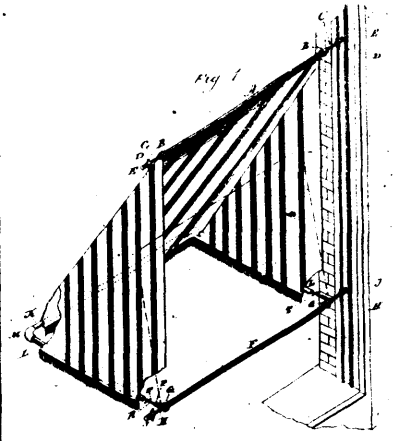
35438 Van Depoele's Pulsating Electric Generator



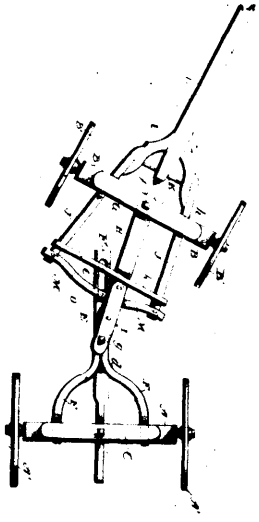
35439 Wright's Caster.



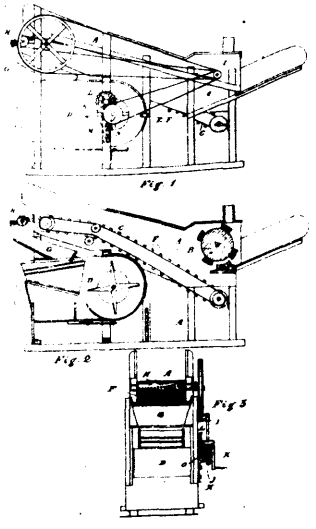
35440 Roberts and Watts' Lighting Device.



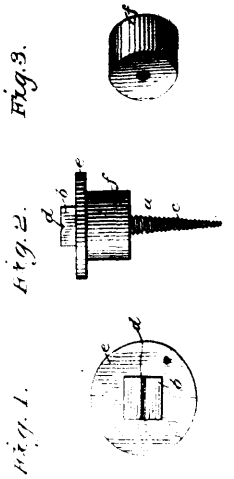
35441 Ward's Awning Frame.



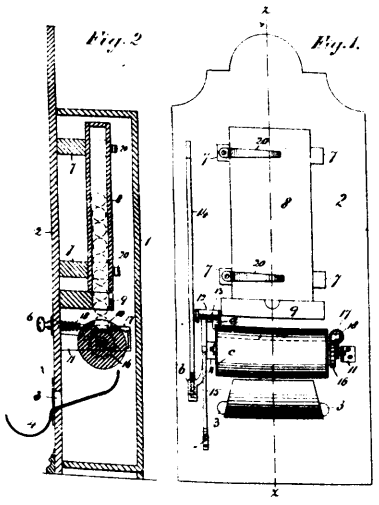
35442 Sharpe's Vehicle Running Gear.



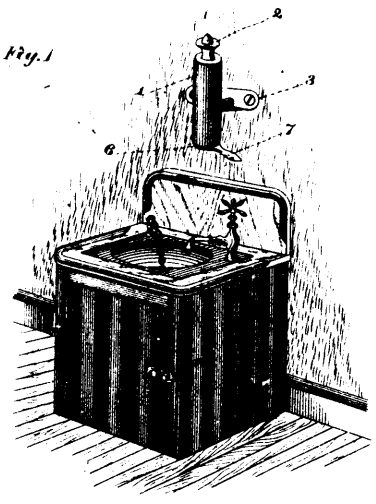
35443 Nicole's Thresher and Fanning Mill.



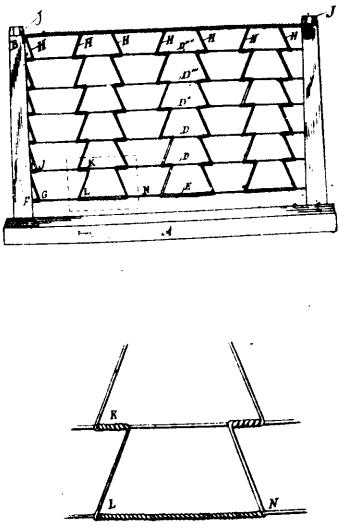
35444 Corley's Roof Screw.



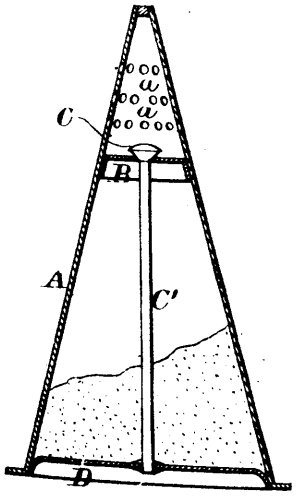
35445 Schmidt's Coin Operated Apparatus for Vending Cigars, etc.



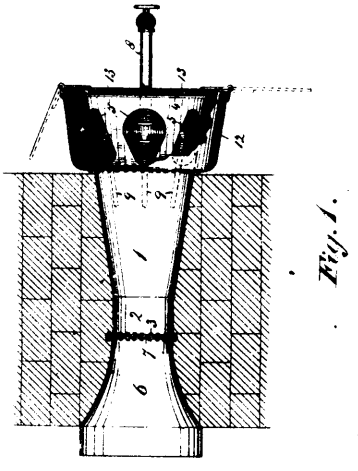
35446 Fairchild's Soap Powder Canister.



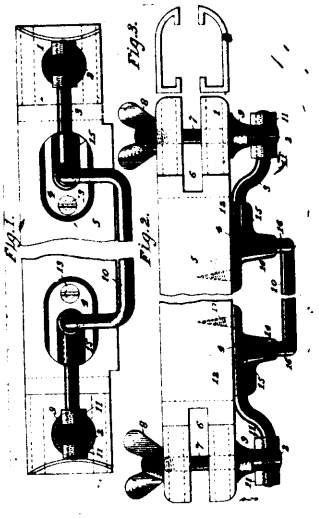
35447 Sommers' Wire Fence.



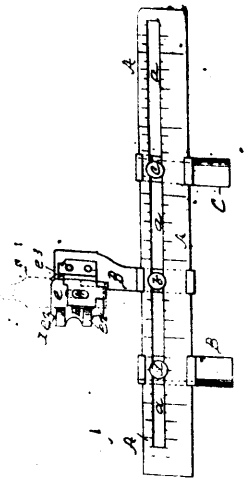
35448 Beazley's Castor for Pepper, etc.



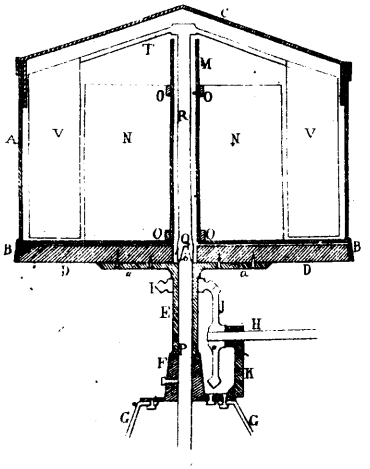
35449 Earle's Air and Steam Injector for Furnaces.



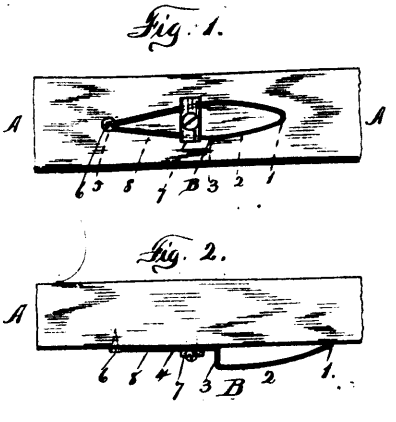
35450 Benson's Shuttle Guard for Looms.



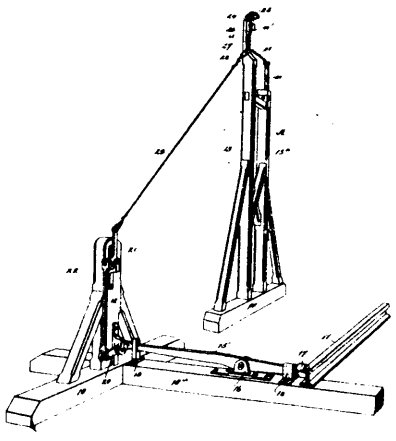
35451 Pearsall's Tuck Folder for Sewing Machines.



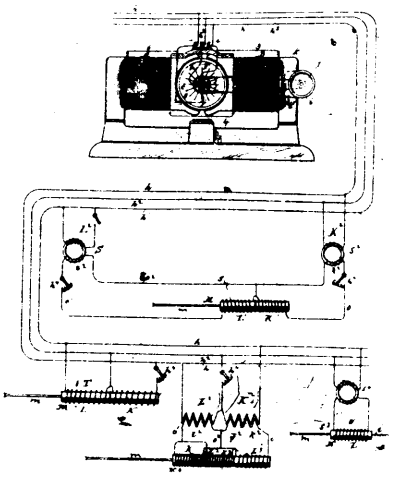
35452 Coyne and Shannon's Churn.



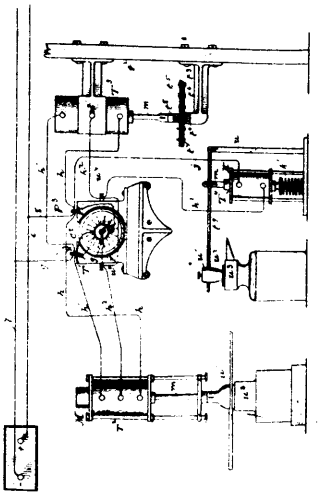
35453 Hydorn's Vehicle Holdback.



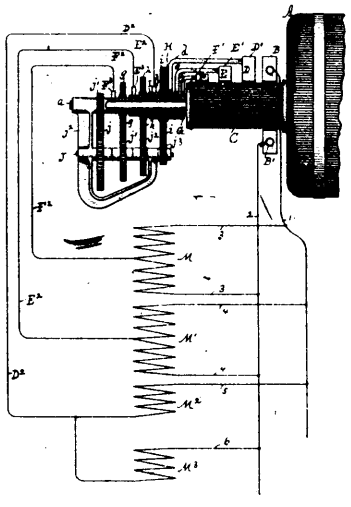
35454 Butler's Railway Crossing Signal.



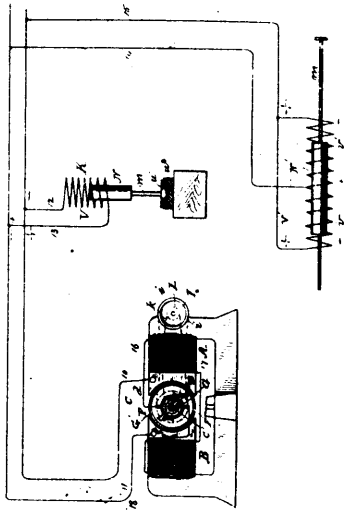
35455 Van Depoele's Pulsating Current System.



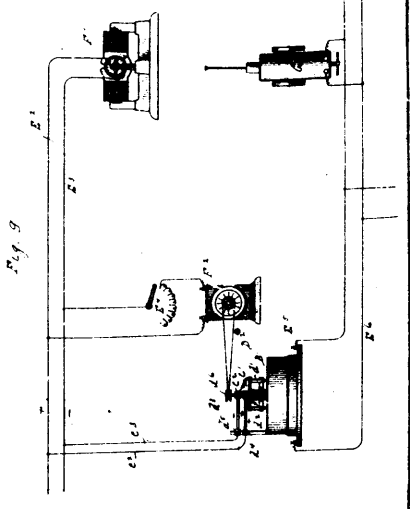
35456 Van Depoele's Apparatus for Converting Continuous into Pulsating Electric Currents.



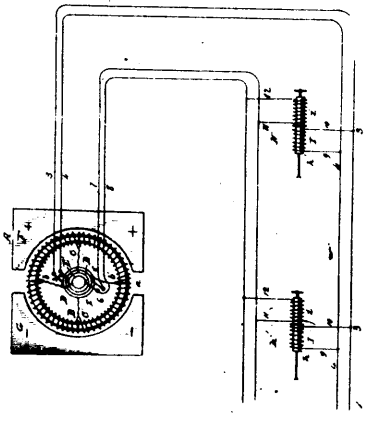
35457 Van Depoele's Multiple Current Pulsating Generator.



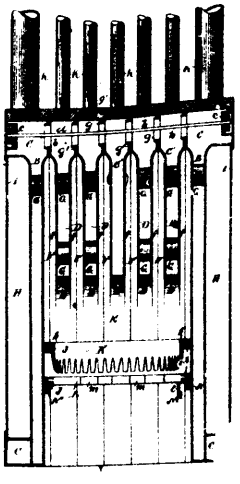
35458 Van Depoele's Alternate Current Pulsating System.



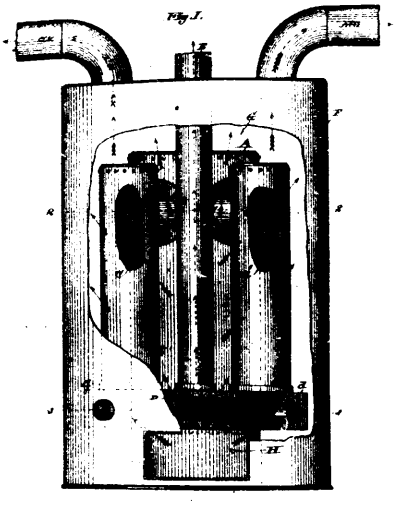
35459 Van Depoele's Alternating Current Electric Reciprocating Engine.



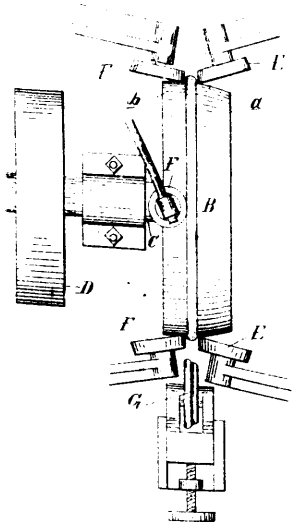
35460 Van Depoele's Reciprocating Electric Engine System.



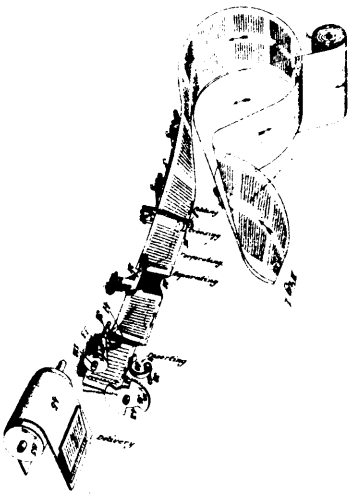
35462 Read's Boiler.



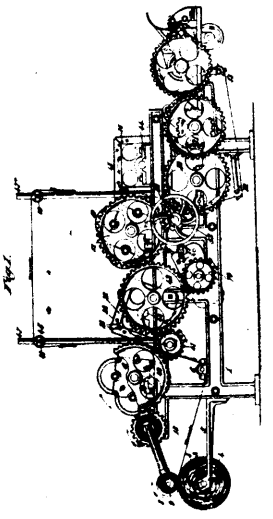
35463 Campbell's Hot Air Furnace.



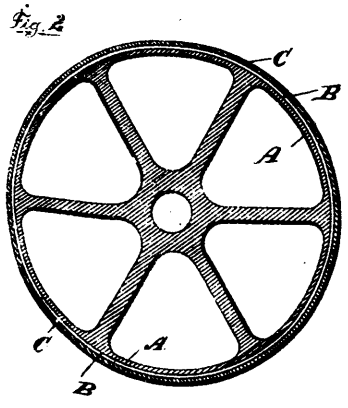
35464 Gendron's Process of Making Tires.



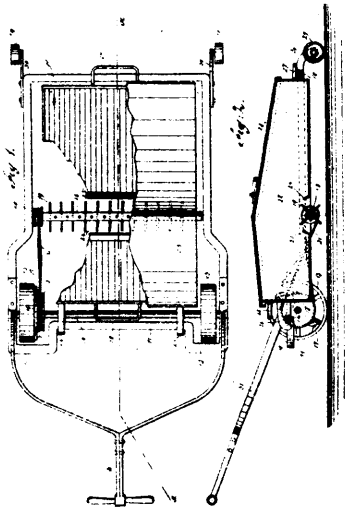
35465 Fowler & Henkle's Folding Machine.



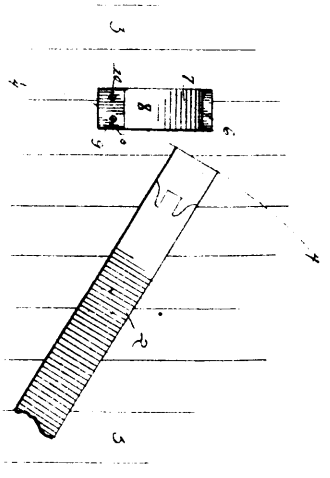
35466 Fowler & Henkle's Printing Machine



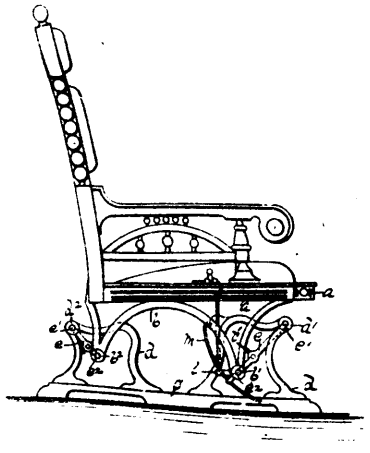
35467 Henderson's Pulley.



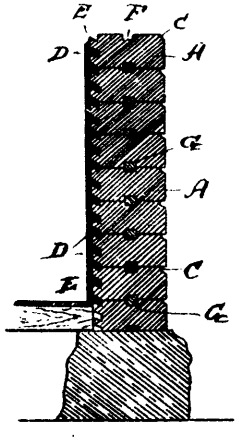
35469 Bailey's Lawn Cleaner.



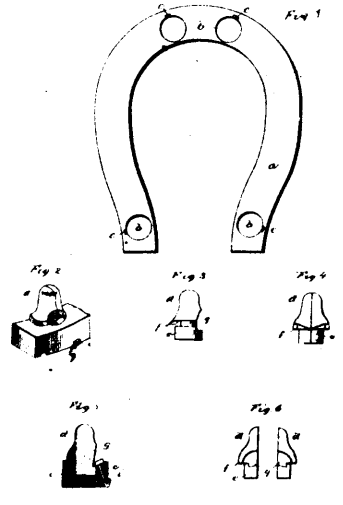
35470 Shipsey's Door Check.



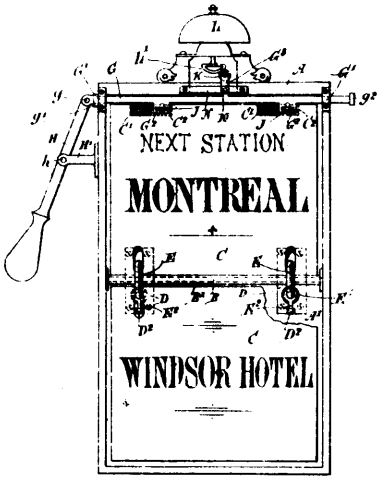
35471 Hall's Rocking Chair.



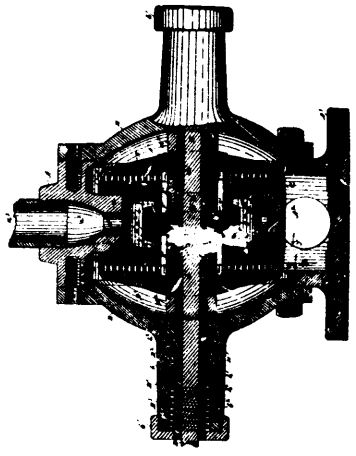
35472 Goodwin's Building Block.



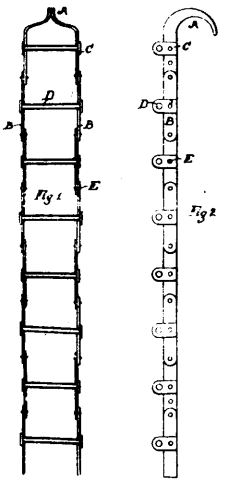
35473 Higgins Horse Shoe.



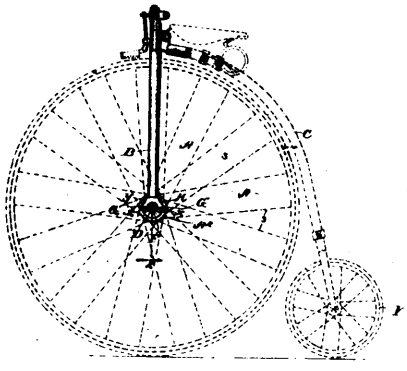
35474 **Meadowcroft's Station Indicator.**



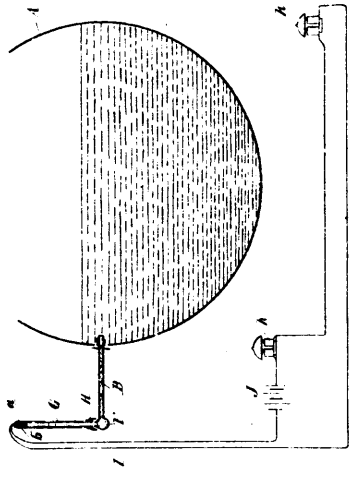
35475 **Dow's Rotary Steam Engine.**



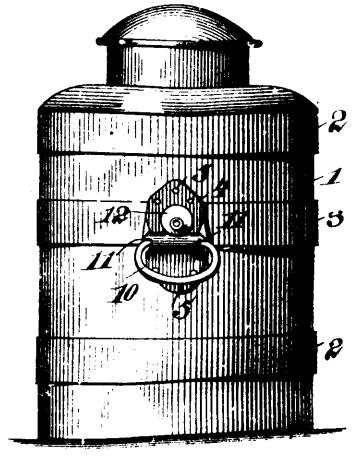
35476 **Barlow's Metallic Folding Roof Ladder.**



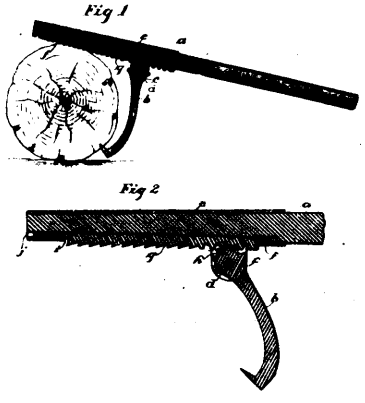
35477 **McGuinchey's Velocipede.**



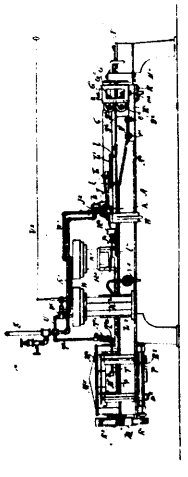
35478 **Leadbeater's Low Water Alarm.**



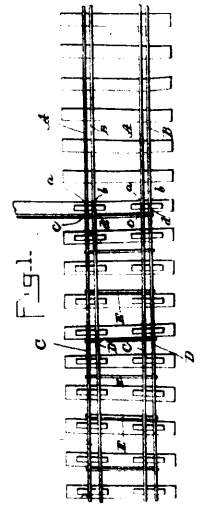
35479 **Heisey and Oliver's Can Handle.**



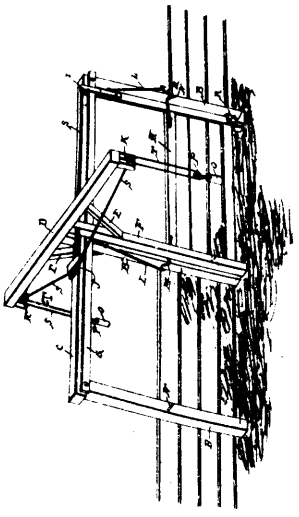
35480 **Thompson's Cant Hook**



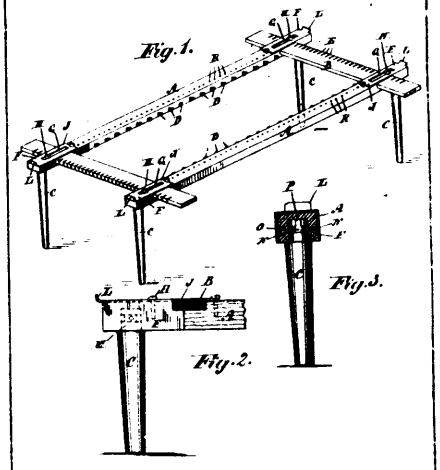
35482 **Shipe's Stove Pipe Making Machine.**



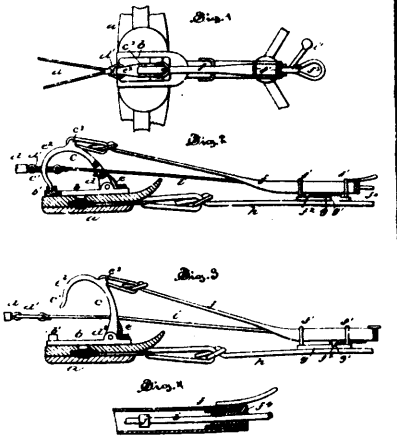
35483 **Garfield's Railway Switch.**



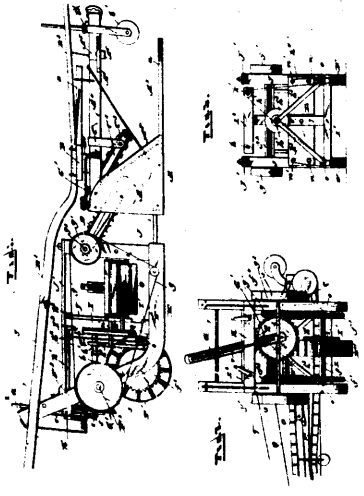
35484 Bacon's Gate.



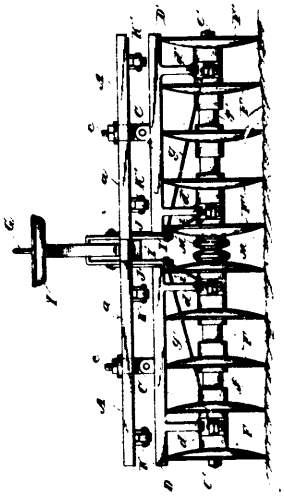
35485 Church's Quilting Frame.



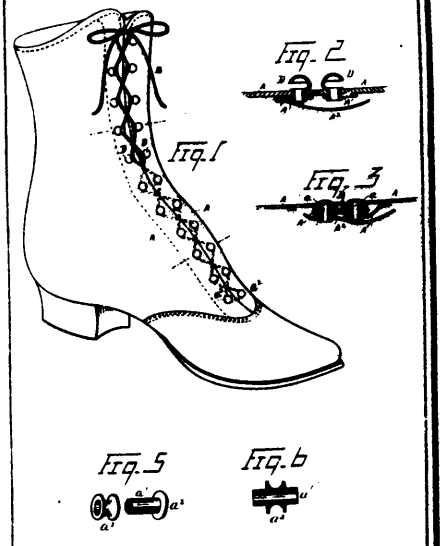
35486 Howard's Check Rein Attachment.



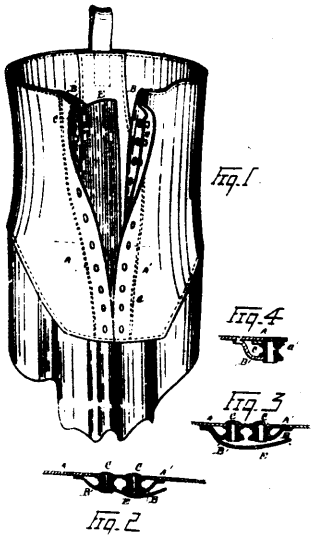
35487 Kelley's Ditching Machine.



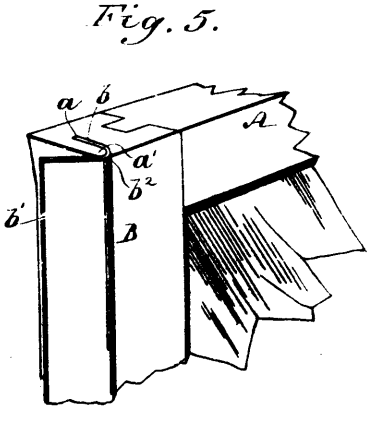
35488 Nauman's Disk Harrow.



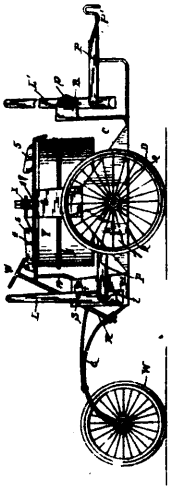
35489 McKenney's Lacing.



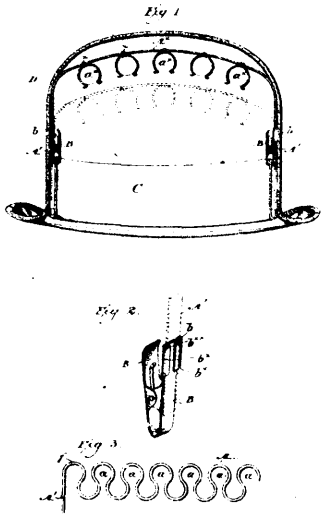
35490 McKenney's Shoe Upper.



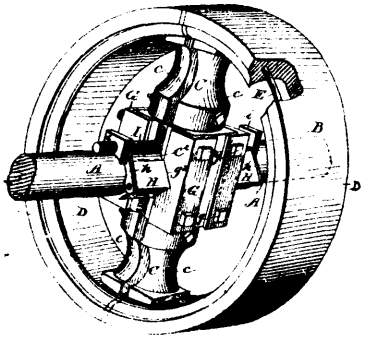
35491 Jones' Weather Strip.



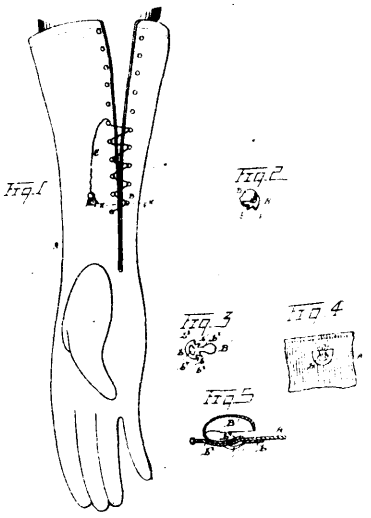
35492 Miller's Tricycle.



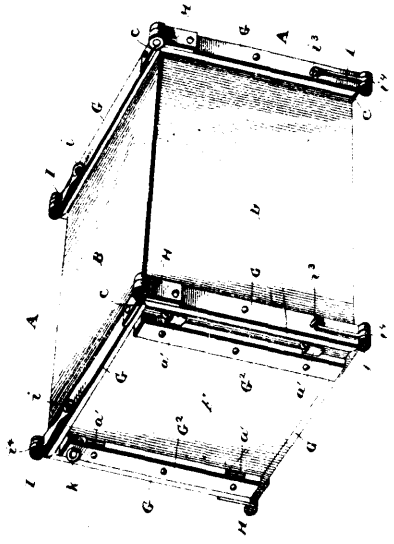
35483 Promis' Cigar Holder.



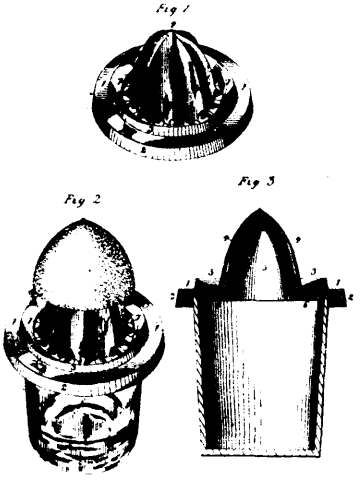
35484 Burt's Split Pulley.



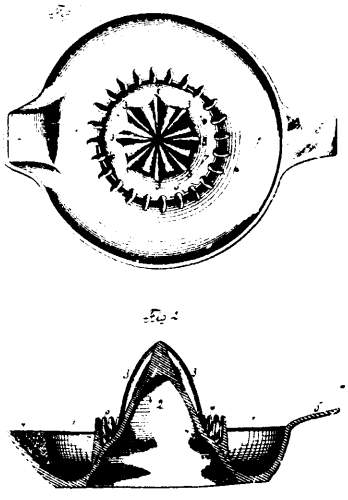
35485 McKenney's Cord Fastening for a Lacing Cord.



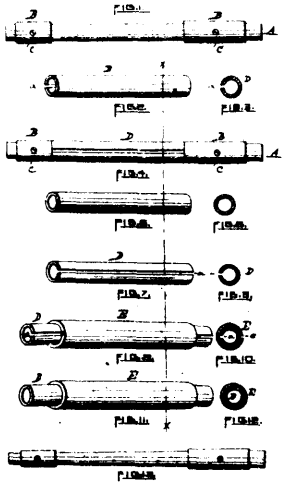
35486 Boyce's Folding Box.



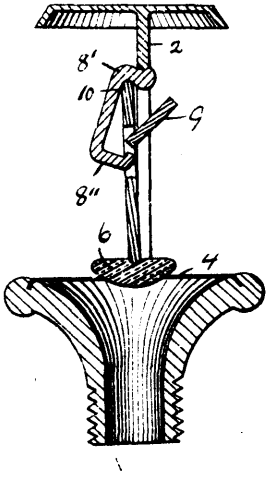
35487 Manny's Lemon Juice Extractor.



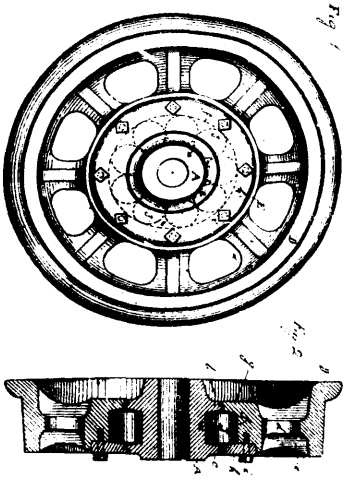
35488 Manny's Lemon Juice Extractor.



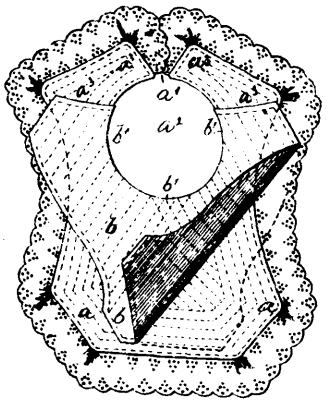
35489 Smith's Manufacture of Seamless Hollow Wire.



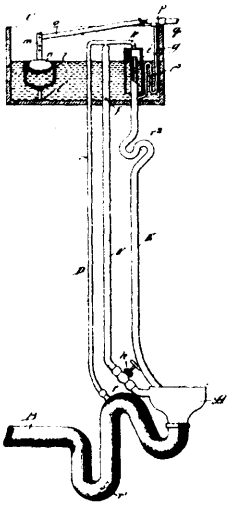
35500 Grinnell's Automatic Fire Extinguisher.



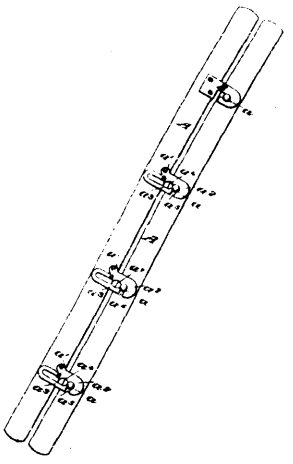
35501 Brown's Wheel.



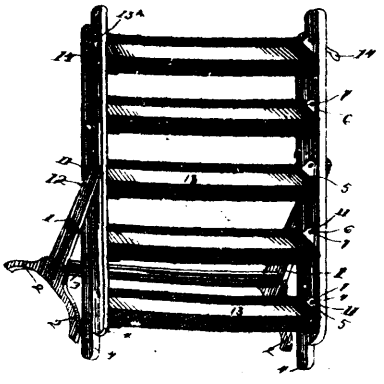
35502 Webber's Bib.



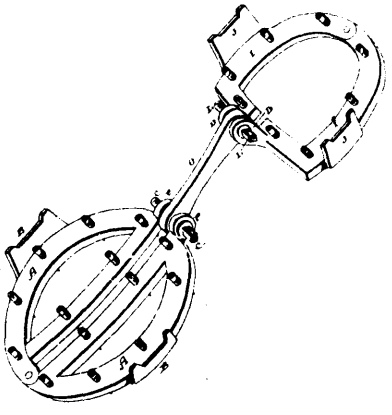
35503 Kelly's Water Closet Flushing Apparatus



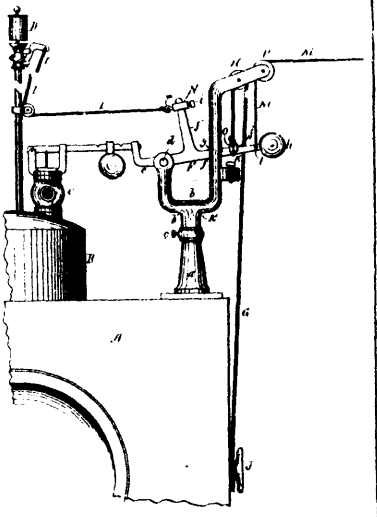
35504 Allen and Doolittle's Clasp.



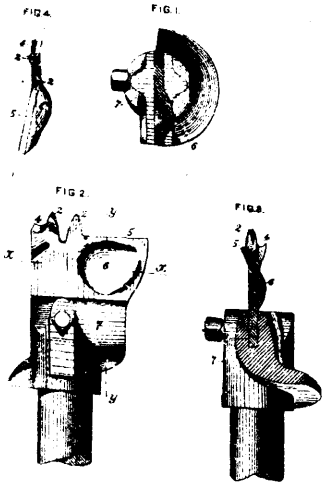
35505 Weston's Flower Stand.



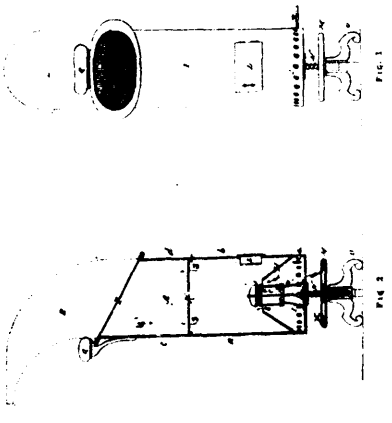
35506 Page's Log and Ice Creeper.



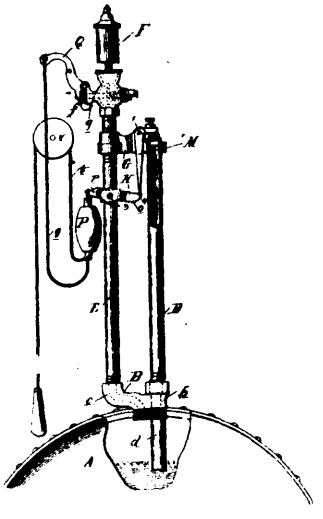
35507 Watson's Safety and Fire Alarm Apparatus for Steam Boilers, Radiators, etc.



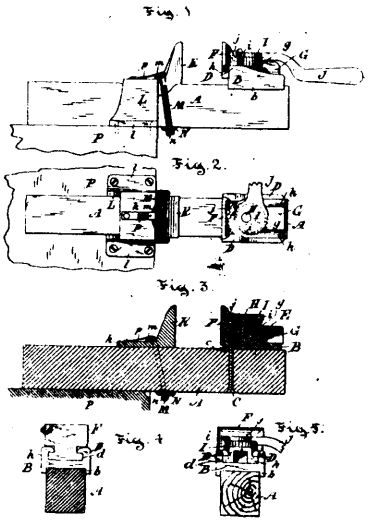
35508 Carter's Cutter for Mining Machines.



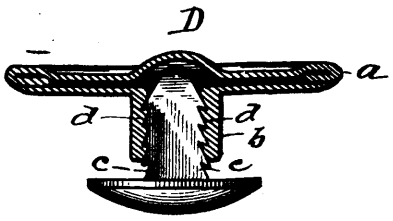
35509 Desplats' Hair Dryer.



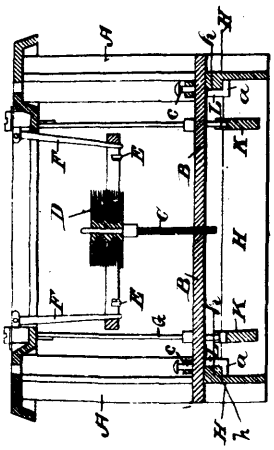
35510 Fox's Low Water Alarm



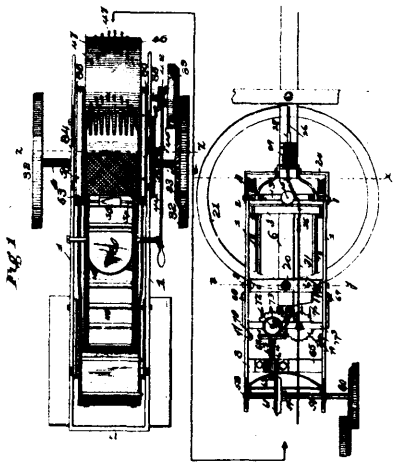
35511 Gatchell's Woodworkers' Vise



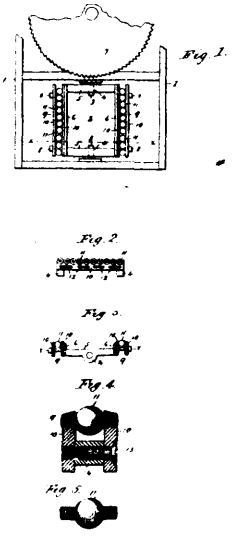
35512 Moore's Button.



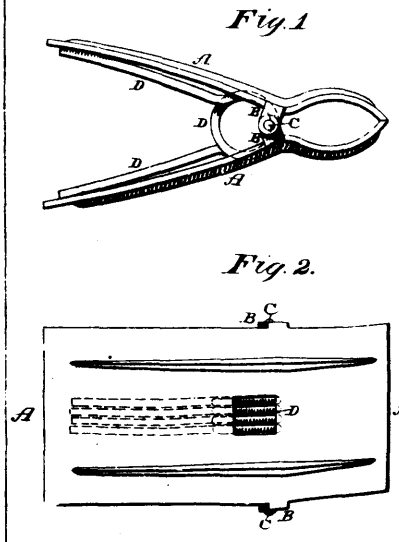
35513 Swartout's Type-Cleaning Brush.



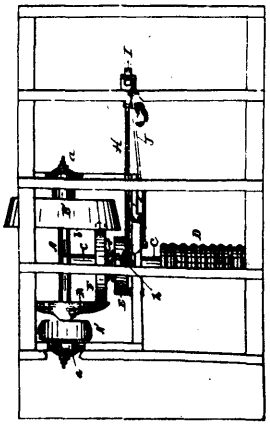
35514 Howard's Potato Digger.



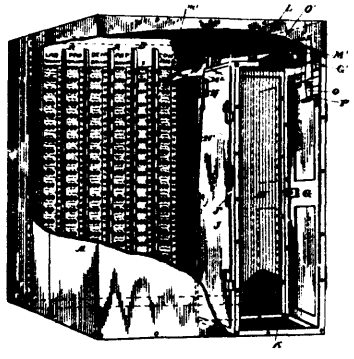
35515 Frank's Shingle Sawing Machine.



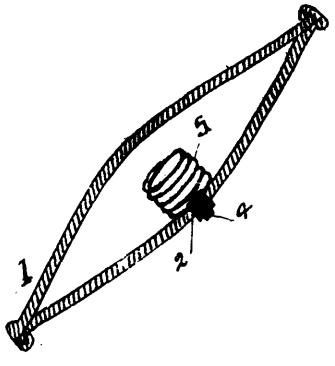
35516 Marsh's Cow Tail Holder.



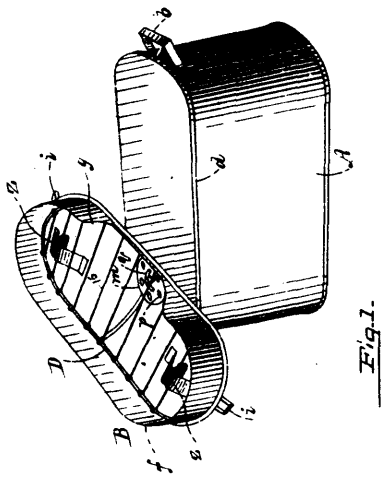
35517 Welch's Variable Feed for Saw Mills



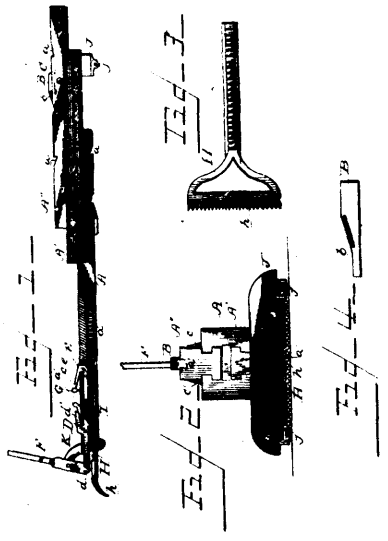
35518 Myers' Votiug Machine.



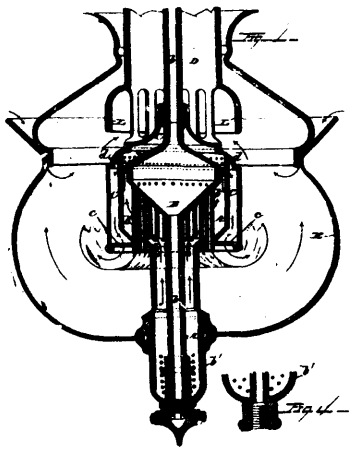
35519 Foulger's Carriage and Waggon Spring.



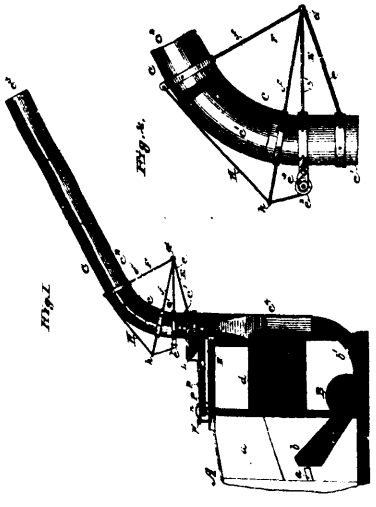
35520 Thissell and Bradstreet's Wash Boiler.



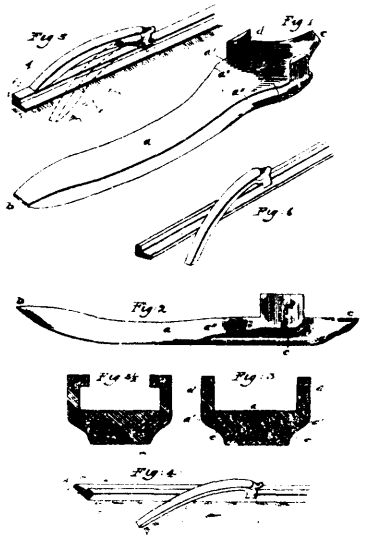
35521 Anderson and Stetter's Carpet Stretcher.



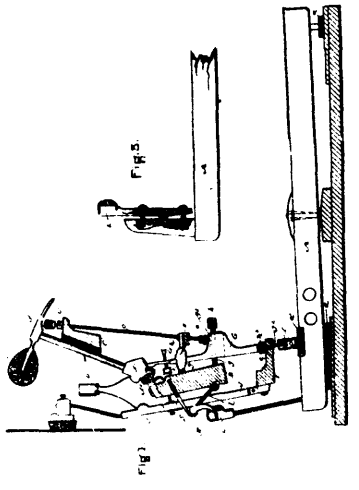
35522 Gordon and Swift's Regenerative Gas Lamp.



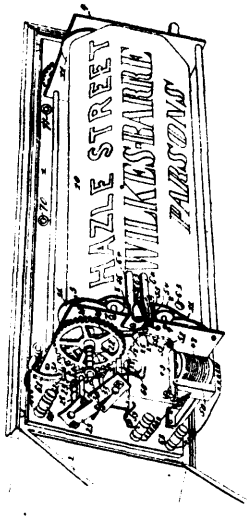
35523 Ross' Apparatus for Moving Straw and other Stalked Material.



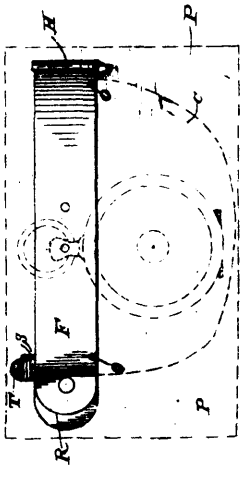
35524 Clouser's Car Replacing and Derailing Device.



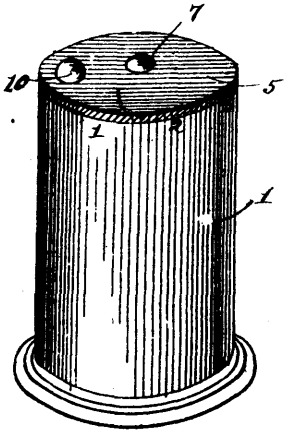
35525 Dinnick's Piano Action.



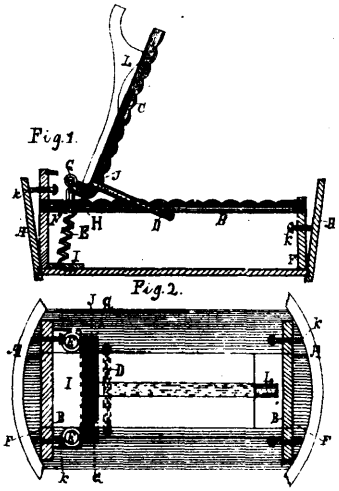
35526 Kirwan's Electric Station Indicator.



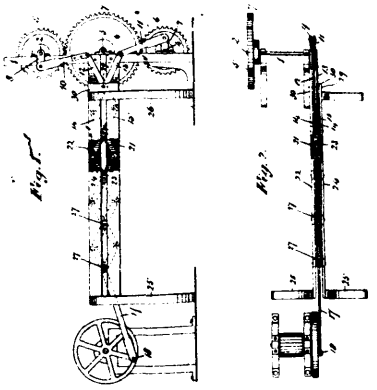
35527 Griffin's Safety Pocket.



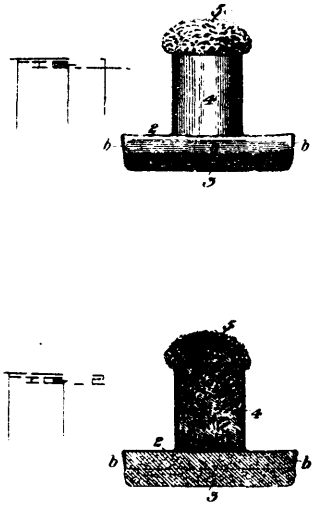
35528 Wilburn's Needle Case.



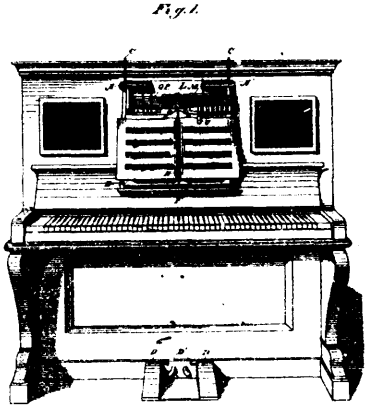
35529 Pottle's Washing Machine.



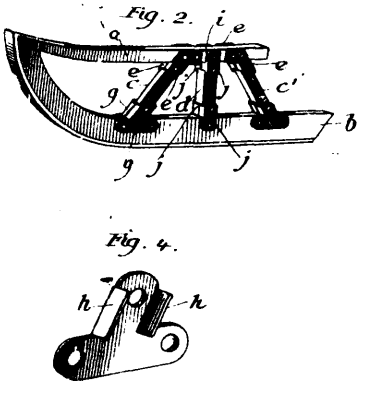
35530 Stephens' Crank and Lever for Piston Rod Connections.



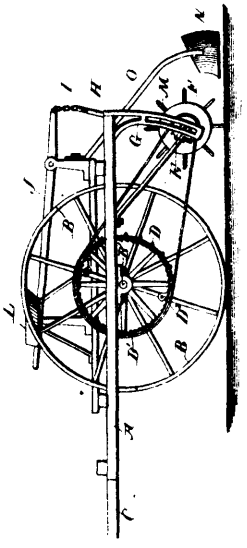
35531 Sloan's Slate Eraser.



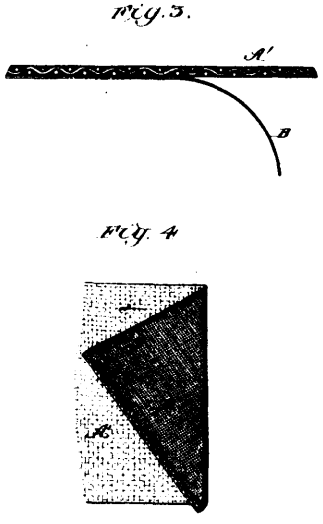
35532 Schuyler's Music Leaf Turner.



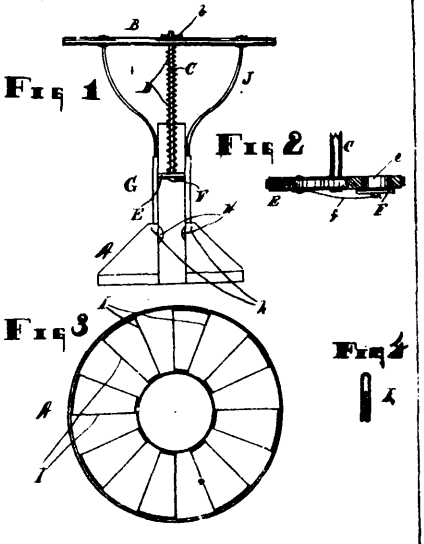
35533 Wyeth's Sleigh Runner Attachment for Wheeled Vehicles.



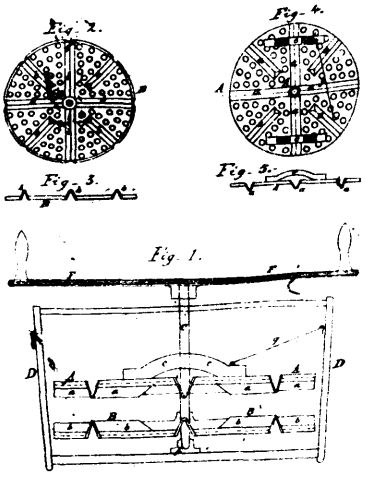
35534 Shepherd's Revolving Harrow, Roller, etc.



35535 Hopper's Roofing Material



35536 Ingalls' Washing Machine.



35537 George's Washing Machine