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INVENTIONS PATENTED.

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

No. 34,928. Art or System of Indexing.

(Mode d'index.)

Jerry Stober Bollman, and James C. Laser, Mansfield, Ohio, U.S.A., 1st September, 1890; 5 years.

Claim.—1st. In a chart to an index, the perpendicular column of alphabet I, in combination with the horizontal columns, of alphabet and spaces 2 and 3, or the series of such horizontal columns of alphabet and spaces 2 and 3, as shown and described, substantially as and for the purposes hereinbefore set forth. 2nd. The combination, in a chart to an index, of the horizontal columns or series of columns, of alphabet 2, with the perpendicular column of alphabet 1, as shown and described, substantially as and for the purposes hereinbefore set forth. 3rd. In a chart to an index, the combination of the horizontal column, or series of columns, of numerical figures, and blank spaces 3, with the horizontal column or series of columns, of alphabet 2, and the perpendicular column of alphabet 1, as shown and described, substantially as and for the purposes hereinbefore set forth.

No. 34,929. Method of Preparing Zincs for Batteries.

(Méthode de préparer le zinc pour les batteries.)

James H. Mason, Brooklyn, N.Y., U.S.A., and James MacKenzie, Pictou, N.S., 1st September, 1890; 15 years.

Claim.—The method of preparing battery zincs, which consists in first heating the zinc, and then immersing it in an amalgamating solution, composed of mercury and acid, whereby the zinc is thoroughly amalgamated, substantially as set forth.

No. 34,930. Fabric Turfing Implement.

(Outil à tapisserie.)

John H. Morse, Kansas City (assignee of Matrin Luther Connett, Pine Bluff, Arkansas, U.S.A.), 1st September, 1890; 5 years.

Claim.—1st. In an embroidery implement, in which a needle bar is operated to reciprocate a threaded needle through a fabric, the combination, with the needle-bar, of a clamp for the thread between the thread-supply and the eye of the needle, connected with and movable with the needle-bar, and operating by the reciprocation thereof alternately to lock and unlock the thread in the progress of the latter to the eye of the needle, substantially as described. 2nd. In an embroidery implement, in which a needle-bar is operated to reciprocate a threaded needle through a fabric, a clamp for the thread upon, and moveable with, the needle-bar, and a handle upon independent of the needle-bar with the clamp and having limited play movement of the handle to open and close the clamp, whereby clamp and unlocks the thread, to advance the needle-bar first opens the draw the needle-bar first closes the clamp and locks the thread, substantially as described. 3rd. In an embroidery implement, the combination, with the holder, of a reciprocating needle-bar carrying toward one end a block, C, provided with a needle socket p, a locking handle G, and provided at its opposite end with an eye for the thread, and a stop D¹ on the needle-bar to engage the locking strip and clamp the thread, substantially as described. 4th. In an embroidery implement, the combination, with the holder, of a reciprocating needle-bar carrying toward one end a pivotal block C, provided with a needle socket p, a spring D, bearing against the pivotal block and affording a stop D¹, and a locking strip F, movable in the holder and connected at one end with a handle G, and provided at its opposite end with an eye, and engaging at the eye when raised with the stop D¹, substantially as described. 5th. In an embroidery implement, the combination, with the holder A and presser-foot A¹,

of a reciprocating needle-bar within the holder, carrying toward one end a pivotal block C, provided with a needle-socket p, a stop D¹ on the needle-bar adjacent to the needle socket, and a locking strip F, extending through and movable in the holder, and having an eye at its end adjacent to the stop D¹, and a handle G at its opposite end, and operating when raised to raise the needle-bar, and when lowered to lower the latter, and having limited play independent of the needle-bar, whereby, in its reciprocation, it clamps and releases the thread alternately, substantially as described. 6th. In an embroidery implement, the combination, with the holder A and presser-foot A¹, of a channelled reciprocating needle-bar B, within the holder, carrying toward one end a pivotal block C, provided with a needle-socket p, a stop D¹ on the needle-bar adjacent to the needle-socket, and a locking strip F, within the channel of the needle-bar, and provided at one end with a handle G, and movable at its opposite end against the stop D¹, adjacent to which it is provided with an eye, the locking strip being of such length as to have limited play independent of the needle-bar, whereby it clamps the thread when the needle-bar is moved by the handle to withdraw the needle and release it when the needle-bar is moved by the handle to advance the needle, substantially as described. 7th. In an embroidery implement, the combination, with the holder A, reciprocating needle-bar B, provided toward its upper extremity with notches t, and carrying at its opposite end a needle, and locking mechanism to clamp the thread when the needle is withdrawn and release in when the needle is advanced, of a friction spring E, interposed between the holder and needle-bar, and provided with a head s, affording a stop, and engaging with the notches t, substantially as described. 8th. In an embroidery implement, the combination with the holder A and presser-foot A¹, of a channelled reciprocating needle-bar B, within the holder, provided with a recess at one end and a stop D¹ adjacent to the recess, a block C pivoted to the needle-bar and provided with a needle-socket p, a stop D¹ on the needle-bar adjacent to the pivotal block, and a locking strip within the channel of the needle-bar, provided at one end with a handle G, and extending at its other end over the stop D¹, adjacent to which it is provided with an eye, the locking strip being of such length as to have limited play independent of the needle-bar, whereby it clamps the thread when the needle is withdrawn, and releases it as the needle is advanced, substantially as described. 9th. In an embroidery implement, the combination, with the holder A, presser-foot A¹, and channelled reciprocating needle-bar B, within the holder, carrying toward one end a pivotal block C, provided with a needle-socket p, of a spring D, in the needle-bar bearing against the pivotal block and affording a stop D¹, a locking strip F extending through the channel of the needle-bar, and provided at one end with a handle G, and extending at its opposite end around the stop D¹, adjacent to which it is provided with an eye, the locking strip being of such length as to have limited play independent of the needle-bar, whereby it clamps the thread when the needle is withdrawn and releases it as the needle is advanced, and an adjustable stop s attached to the needle-bar to limit the advance of the needle, substantially as described.

No. 34,931. Automatic Cut-off Engine.

(Machine à détente automatique.)

Isaac Ferdinand Thompson, San Francisco, Cal., U.S.A., and Wales Lewis Palmer, San Francisco, Cal., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. In a reciprocating engine, independent steam and exhaust valves at each end, a single reciprocating eccentric rod connected directly with the exhaust valves, and an arm projecting from the rod, in combination with the steam valve-rod or stem having a trigger hinged thereto, so that one end will be engaged by the arm from the reciprocating eccentric rod, a wheel or shoe connected with said trigger, and an inclined or wedge-shaped foot connected with the governor, and movable to or from the wheel by the action of the governor, whereby the trigger is raised and disengaged from the arm moved by the eccentric, substantially as described. 2nd. A reciprocating engine, having a steam chamber with a separate slide-valve at each end, independent of each other, each valve having a rod connecting with it and extending out through the end of the steam chamber, and forming a piston upon which the steam within the chamber acts, so as to force it outward when released and close the steam ports, in combination with the cylinder of said engine, having

a separate exhaust chamber at each end, with slide-valve to each, all of said steam and exhaust valves actuated by one or more eccentric rods, substantially as described. 3rd. The sliding steam valve, with its steam-actuated piston or rod, the trigger hinged to said rod outside the steam chests, a spring by which said trigger is drawn down, an arm projecting from the eccentric rod, so as to engage the depressed end of the trigger, a wedge-shaped foot and a bell-crank lever, whereby the foot is advanced or retracted by the action of the governor, and a wheel or shoe connected with the trigger, so as to move upward on the wedge-shaped foot, and raise the trigger and disengage it from the arm, substantially as described. 4th. The combination, with the steam valve, the reciprocating rod extending outward through the end of the steam-chest, having its inner end formed to be acted upon by steam pressure, a trigger hinged to said rod, and an arm projecting from the eccentric rod, so as to engage said trigger, of a bell crank lever and inclined wedge-shaped foot adapted to ride under a projection on said trigger, whereby the latter is lifted and disengaged from the actuating arm, and the air-cushion chamber, and the piston reciprocating within said chamber, and connected with the steam valve-rod, substantially as described. 5th. The combination, with the sliding steam and exhaust valves, of a reciprocating engine, and an eccentric rod by which they are moved, of a trigger connected with the steam valve stem and actuated by the rod, a governor and intermediate connecting mechanism comprising a wedge-shaped foot and projection on the trigger, whereby the trigger is lifted and disengaged from the actuating rod, and the admission of steam to the cylinder is cut off, substantially as described. 6th. The combination, with the valve-actuating mechanism of the governor, the inclined foot, the bell-crank lever, the rods and levers, as shown, and the spring V, whereby the vibrations of the governor are modified, substantially as described. 7th. The bell crank lever, the inclined tripping foot, the governor and rods connecting it with the bell crank lever, in combination with the cross-bar having the pin n, the pulley k, the lever j and rod m, having its lower end slotted, substantially as herein described.

No. 34,932. Water Heater. (*Réchauffeur d'eau.*)

Warden King and Son (assignees of Thomas Joseph Best), Montreal, Que., 1st September, 1890; 5 years.

Claim.—1st. The combination, in a water heater, of the sections A and B, with the separate connections g and h, and water-jacketed fire pot a, the whole substantially as described for the purposes set forth. 2nd. The combination of the sections A, and B, with the connections g and h, the whole substantially as described for the purposes specified.

No. 34,933. Surface Cattle Guard.

(*Garde-bétail à niveau de chemin de fer.*)

Frank Chickering Balch, Kalamazoo, Mich., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. A surface cattle guard, consisting of sections composed of transverse bars, and longitudinal bars looped around said transverse bars, substantially as set forth. 2nd. A surface cattle guard, consisting of sections composed of transverse bars, and longitudinal bars looped around said transverse bars, said loops being shrunk or cold-pressed thereon, substantially as set forth. 3rd. A surface cattle guard, consisting of transverse bars and longitudinal bars looped around said transverse bars, the lower part of the periphery of the loops in the longitudinal bars resting on the ties of the track, substantially as set forth.

No. 34,934. Exhaust Valve.

(*Souape d'évacuation.*)

The Bruno Nordberg Company (assignee of Bruno V. Nordberg), Milwaukee, Wis., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. In combination with a cylinder, having an exhaust port, a valve seat located within the bore of the cylinder and intersecting the same, and a valve having its edge curved to conform to the line of intersection. 2nd. In combination, with a cylinder having an exhaust port, a valve seat intersecting the bore of the cylinder, and a valve mounted in the cylinder and forming an outlet of the width of the exhaust port over which it works. 3rd. In combination, with a cylinder having an exhaust port, a valve seat intersecting the bore of the cylinder, and a valve E, having a straight cutting edge a, and a curved outer edge b, all substantially as shown. 4th. The oscillating valve B, having a straight cutting edge a, and a curved outer edge b. 5th. In combination, with a cylinder having a valve seat intersecting the bore of the cylinder, a valve mounted in the seat, and constructed substantially as shown, whereby the width of the exhaust passage presented to the flow of exhaust steam is the same at every point of said passage throughout the length of the valve.

No. 34,935. Electric Riveting.

(*Rivelage électrique.*)

Ries and Henderson, (assignees of Elias E. Ries), all of Baltimore, Maryland, U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The method, or process, of riveting, which consists in first, interposing insulating material between the rivet and the articles to be riveted, then inserting the rivet into the rivet hole or holes, then heating the rivet, by the passage through the same of an electric current of comparatively great quantity and low tension, and then heading the rivet, substantially as described. 2nd. The method, or process, of riveting, which consists in interposing insulating material between the rivet and articles to be riveted, then heating the rivet to the required degree of incandescence, by the passage through the same of an electric current of suitable quantity and tension, then heading the rivet, and maintaining, the same in the de-

sired state of incandescence by suitably regulating the current during the heading operation, substantially as described. 3rd. The method or process of riveting, which consists in, first, interposing insulating material between the rivet and articles to be riveted, then inserting the rivet into the rivet hole or holes, then passing an electric current of comparatively great quantity and low tension, through the rivet until the latter is heated to the desired degree of incandescence, then heading the rivet and at the same time maintaining the incandescence of the same by the continued flow of current, and finally gradually reducing and cutting off the current while the heading is completed, substantially as described. 4th. The method, or process, of riveting metal structures together, which consists in, first, inserting a metal rivet, having an insulated shank and bare conducting ends into the rivet hole, then connecting the bare ends of the rivet with the terminals of an electric circuit, then charging said circuit with an electric current or currents of proper heating effect until the rivet is heated to the desired degree of incandescence, and then heading the rivet, substantially as described. 5th. The method or process of riveting metal structures together, which consists in first inserting a metal rivet having an insulated shank and bare conducting ends into the rivet hole, then connecting the bare ends of the rivet with the terminals of an electric circuit, then charging said circuit with an electric current, or electric currents until the rivet is heated to the desired degree of incandescence, then heading the rivet while the heating current is maintained, but gradually diminished, and finally breaking the circuit, substantially as described. 6th. The method, or process, of riveting metal structures together, which consists in, first, interposing insulating material between the rivet and the articles to be riveted, then making electrical contact between the ends of the rivet and an anvil and a heading die, respectively, which constitute the terminals of an electric circuit, then charging said circuit with an electric current, or currents, until the rivet is heated to the desired degree of incandescence, and then forcing the heading die upon the rivet, until the heading operation is completed, substantially as described. 7th. The method, or process, of riveting, which consists in interposing between the rivet and the articles to be riveted a coating of insulating material, then passing an electric current of the requisite volume through said rivet to raise it to the required temperature, and then heading or upsetting the rivet, substantially as described. 8th. The method or process of riveting, which consists in interposing between the rivet and the articles to be riveted, a temporary coating of non-conducting insulating material, then passing an electric current through said rivet of a volume sufficient to heat the same to incandescence, and to convert or drive off the said coating, and then heading or upsetting the rivet, substantially as described. 9th. The method, or process, of riveting, which consists in interposing between the rivet and the articles to be riveted, a film or coating of an insulating flux, then passing an electric current of the requisite volume through said rivet to raise it to the required temperature, and then upsetting the rivet, substantially as described. 10th. The method, or process, of riveting metal structures together, which consists in interposing between the rivet and the metals to be riveted a coating of an insulating flux, then passing an electric current through said rivet of a volume sufficient to heat the same to incandescence, and to convert or destroy the insulating properties of said flux, then further heating the rivet and the adjacent portions of the metals through which it passes to a welding heat, and then applying pressure to unite the heated metals, and to head or upset the rivet, substantially as described. 11th. The method, or process, of riveting metal structures together electrically, which consists in confining the electric heating current to the rivet or rivet blank until it has reached the desired temperature or degree of incandescence for riveting, and then heading or upsetting the heated rivet on one or both sides of the metals to be united. 12th. The method, or process, of electric riveting, which consists in heating the rivet while in place by the passage of an electric current of the required volume through the same, and localizing or confining the heat produced by the passage of the said current to the said rivet, until the latter has reached the desired temperature for riveting, then heading or upsetting the rivet, and permitting it to cool and contract. 13th. The method, or process, of electric riveting, which consists in confining the electric heating current to the rivet or rivet-blank until the latter has been heated to incandescence, then further electrically heating both the rivet blank and the surfaces of the metals threaded by or in contact, with it until the same have reached a welding temperature, then exerting pressure between the rivet and the said surfaces to weld, and unite the same, and simultaneously therewith heading or upsetting the rivet. 14th. The method, or process, of electric riveting, which consists in coating the rivet or rivet blank with a film or layer of oxide or other insulating material, removing the film or layer from the ends of said rivet or blank, so as to leave its body portion coated, passing an electric heating current through the cleaned ends of the rivet or blank while the latter is in place, of a volume sufficient to raise it to the desired temperature, and then heading or upsetting the rivet.

No. 34,936. Pile Covering. (*Couverture de pieu.*)

Robert James Davis, San Francisco, California, (assignee of Almon Ames, Berkeley, California,) U.S.A., 1st September, 1890; 5 years.

Claim.—1st. A pile covering, consisting of sheets of metal wrapped around the pile, and having their meeting edges united, so as to form a single longitudinal joint, in combination with rings or bands which fit over the adjacent meeting ends of said sections and the joints, substantially as herein described. 2nd. A pile covering, consisting of the sections formed of single sheets of metal having their edges united, so as to form a single longitudinal joint, and fixed successively upon the pile, so that their adjacent ends abut together, supplemental strips riveted upon the sections, so as to cover the longitudinal joint, and rings or collars having channels or depressions adapted to fit the supplemental strips when the rings are driven or forced upon the sections, so as to cover the meeting ends thereof, substantially as herein described. 3rd. A pile covering, consisting of sections formed of single sheets of metal having their meeting edges joined together, a supplemental re-enforcing strip

riveted over said meeting edges, and having the projecting lugs E at opposite ends, and rings or collars having channels formed in them, so as to fit over the supplemental strips and lugs, and be locked in place by means of said lugs, substantially as herein described.

No. 34,937. Vegetable Cutter.

(*Coupe-légumes.*)

Jesse M. Lillpop, Ryana, and John T. Corn, Jasper, both of Indiana, U.S.A., 1st September, 1890; 5 years.

Claim.—1st. In combination, the knockdown frame consisting of side uprights, a bottom cross beam, and an upper cross beam fitted removably, and sliding vertically between the uprights, the open ended cylinder having side ears for bending around the uprights, the knife plate forming the bottom of said cylinder, a vertical shaft carrying said knife plate, having a step bearing in the lower cross beam, and suitable means for rotating said vertical shaft, and passing through the upper cross beam, substantially as set forth. 2nd. In combination, a knockdown frame, an open ended cylinder provided with ears for attachment to said frame, a vertical shaft carrying a knife plate which forms the bottom of said cylinder, and a radially slotted weight plate, which, when in use, forms the cover for the material being operated upon in said cylinder. 3rd. A knockdown vegetable cutter, consisting of the combination of uprights G, horizontal beam E, passing through said uprights, horizontal beams J, at right angles to beam E, provided with pins K, an open ended cylinder removably secured between the uprights, a vertical shaft stepped in cross beam E, and carrying knife plate, removable weighted plate R, on said shaft, removable cross beam Q, through which the vertical shaft passes, and a horizontal shaft geared to the vertical shaft removably journaled in the uprights G, and H, all substantially as set forth.

No. 34,938. Surface Cattle Guard.

(*Garde-bétail à niveau de chemin de fer.*)

Frank Chickering Balch, Kalamazoo, Michigan, U.S.A., 1st September, 1890; 5 years.

Claim.—1st. A surface cattle guard, consisting of sections composed of transverse bars having open slots transversely through their upper surface, adapted to receive and retain in place longitudinal rails of suitable construction, substantially as described. 2nd. A surface cattle guard, consisting of sections composed of transverse bars having open slots transversely through their upper surface, said slots being laterally flared, and longitudinal bars representing an inverted T in cross section, interlocked with the slots of said transverse bars, substantially as set forth. 3rd. A surface cattle guard, consisting of sections composed of transverse bars, said bars being provided with open slots laterally flared at the base, and longitudinal bars laterally flanged at the base, substantially as set forth.

No. 34,939. Table, etc. (*Table, &c.*)

William Benjamin Pellett, Flint, Michigan, U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The combination, with the top, side rails and the apertured corner-securing plate connecting the adjacent ends of said rails, of the leg fitting against the said plate and ends of the rails, and provided with a bolt aperture inclined downwardly from its inclined face, and a bolt aperture inclined downwardly from its inclined aperture and the aperture in the plate, and provided with a nut bearing against the inner face of the corner plate, whereby when the nut is tightened the leg will be pressed inwardly and up-having detachable corner legs or supports, a top or upper bed, and latter to rest on, the combination, with said bed or top, and either rails B, B, having beveled pockets e, e, in its side, of the having hooked shaped pockets c, in their inner sides, the corner pockets c, in the rails, and the inclined screw bolt E, passed at a downward and outward incline entirely through said plate and leg, and having a nut thereon, whereby when the nut is tightened, the ends of the rails will be drawn tightly into the pockets e, and the leg drawn upwardly against the top or bed, substantially as specified.

No. 34,940. Water-tight Joint for Eave Troughs.

(*Joint étanche pour larmiers de toit.*)

Albert E. White, Dutton, Ontario, Canada, 1st September, 1890; 5 years.

Claim.—1st. As a new article of manufacture, a section of eave trough, having the end portions folded as shown at A¹, A², and for the purpose specified. 2nd. The combination of sections of formed with the end portions folded as shown at A¹, A², and shown and described, and the packing A⁴, substantially as of eave trough, one end of which is folded as shown at A¹, A², and with a section of eave trough, and the packing A⁴, in combination as and for the purpose specified. 3rd. The combination of eave trough, a portion of each of which overlap one another, in combination with the lock A⁷, substantially as shown and described, and for the purpose specified. 4th. The combination of sections of eave trough, having the end portions, folded as shown at A¹, A², and lock A⁷, substantially as shown and described, and for the purpose specified. 5th. A section of eave trough, one end of which is folded as shown at A¹, A², and formed with the extension A³, and the packing A⁴, in combination with a section of eave trough, one end of which is plain, and the lock A⁷, substantially as and for the purpose set forth.

No. 34,941. Dish Holder. (*Porte-assiette.*)

George Washington Carpenter, Toledo, Ohio, U.S.A., 1st September, 1890; 5 years.

Claim.—A dish-holder, comprising an annular metal plate, having a horizontal base and an inclined portion, and an inversely inclined portion adapted to clamp upon the dish, with a spring clamp connected with the annular plate, and adapted to impinge upon the under side of the table, as and for the purpose set forth.

No. 34,942. Winnowing Machine.

(*Tarare-cribleur.*)

Rudolf A. Baumgartner, Rosenheim, Bavaria, Germany, 1st September, 1890; 5 years.

Claim.—1st. In a winnowing machine, the combination of a series of closed compartments contiguous to, and communicating with each other, a central shaft passing through said compartments and carrying a fan or fans and drums, an annular continuous space formed between the external shell of the compartments containing drums, and an inner perforated shell, the plates separating the compartments having large apertures to form a continuous passage through the compartments, suction fan drawing from the annular passage, means of adjusting the draft by telescopic cylinder, and lever drums having perforated shells and vanes, and a drum having porcelain segments and spaces enclosed with finely perforated sheet, and vanes set alternately high and low, substantially as set forth. 2nd. The combination of the base G, columns separating plates and shell h, forming a cylinder divided in a series of compartments, a central shaft A passing through said compartments, and carrying a fan, and a series of drums, a suction fan A, a draft regulator C, with adjusting lever c¹, inner shell a, formed of perforated sheet forming an annular passage within the shell h, feed b, delivery c, orifices t, a drum D, having a perforated shell D², and perforated projecting vanes D³, a drum E, similarly constructed, but having finer perforations, and a polishing drum F, having porcelain segments k and spaces l, covered with perforated sheet, substantially as set forth.

No. 34,943. Blacking for Shoes.

(*Noir à finer pour chaussures.*)

Pierre Moisan, Quebec, Que., Canada, 1st September, 1890; 5 years.

Résumé.—Une composition de matières formée de logwood, couperose verte, bichromate de potasse, annominque et huile d'olive fine, dans la manière et les proportions, données et pour les fins décrites.

No. 34,944. Device for Administering Medicine to Animals. (*Appareil pour administrer des médicaments aux animaux.*)

William Henry Harrison Doty, and Albert A. King, Paterson, N. J., U.S.A., 1st September, 1890; 5 years.

Claim.—A medicine administering device, having its mouth, or discharge opening, provided with a reversible bag, substantially as described.

No. 32,945. Electric Rivetting Apparatus.

(*Appareil électrique à riveter.*)

Ries and Henderson (assignees of Elias E. Ries), Baltimore, Md., U.S., 1st September, 1890; 5 years.

Claim.—1st. An electric riveting apparatus, consisting essentially of a metallic anvil and a metallic heading tool, and a charged electric circuit including the anvil and tool, substantially as described. 2nd. An electric riveting apparatus, consisting essentially of a metallic anvil, a metallic heading tool, an electric generator, and conductors leading from the generator and terminating in the anvil and tool respectively, substantially as described. 3rd. An electric riveting apparatus, consisting essentially of a relatively stationary metallic anvil, a reciprocating metallic heading tool, and a charged electric circuit including the said anvil and tool, substantially as described. 4th. An electric riveting apparatus, consisting of an insulated and relatively stationary metallic anvil, a reciprocating metallic heading tool, an electric generator, and conductors leading from the latter to the anvil, and heading tool respectively, substantially as described. 5th. An electric riveting apparatus, consisting of an insulated metallic anvil, a metallic heading tool, an electric generator, conductors leading from the generator to the anvil and heading tool, and a current regulator, substantially as described. 6th. A riveting apparatus, consisting essentially of an anvil, and a heading tool, constituting the terminals of an electric circuit, which terminals are adapted to be bridged by a metallic rivet, substantially as described. 7th. The combination, with the terminals, of a charged electric circuit adapted to pass a heating current through and exert endwise pressure upon a rivet or rivet blank, of a current regulator for controlling the heat of the rivet while under such pressure, substantially as described. 8th. In an electric riveting apparatus, the combination of a metallic anvil and heading tool, a metallic rivet adapted to be headed by the same, and a source of current for heating the rivet to the desired heading temperature. 9th. The combination, with a suitable source of current, and a rivet or rivet blank to be heated thereby, of means for subjecting said rivet or rivet blank to the heating effect of said current, and a die or dies for heading or upsetting the rivet or rivet blank when heated. 10th. In an electric riveting apparatus, the combination, with a suitable source of current, and a rivet or rivet blank to be heated thereby, of means for subjecting said rivet or rivet blank to the heating effect of said current, and for simultaneously therewith applying pressure to head or upset the rivet, substantially as described. 11th. In an electric riveting apparatus, the combination, with a distant primary source

of electric current, of means for locally converting such current or a portion thereof into a current of lower tension, a metallic rivet included in the circuit of the converted current and adapted to be heated by said current, and means, such as a reciprocating heading tool and anvil, for heading or upsetting the rivet when sufficiently softened or heated. 12th. In an electric riveting apparatus, the combination, with a distant primary generator or source of electric current, of means for locally converting such current or a portion thereof, a metallic rivet adapted to be heated by said converted current, means, substantially as described, for heading said rivet when heated, and a current-controlling device for controlling or regulating the rivet-heating current. 13th. In an electric riveting apparatus, the combination, with the jaw or frame of the machine, of a removable metallic anvil or heading tool carried thereby, but electrically insulated from it by an interposed sleeve or bushing of non-conducting material, substantially as described. 14th. In an electric riveting apparatus, the combination, with the movable heading mechanism for exerting endwise pressure upon a rivet or blank, of means for regulating the degree of incandescence of the rivet or blank while undergoing such pressure. 15th. In an electric riveting apparatus, a movable heading die forming one terminal of an electric circuit, and arranged to make initial electrical contact with the rivet for heating the same, and means for increasing the pressure exerted by it upon the rivet so as to head the same when the latter is sufficiently heated. 16th. In an electric riveting apparatus, rivet-heating tools or terminals made of metal having a higher specific conductivity than the rivet to be heated, substantially as described. 17th. In an electric riveting apparatus, a metallic heading tool and anvil forming the terminals of an electric heating circuit, and having a higher specific electrical conductivity than the rivets to be heated, substantially as described.

No. 34,946. Gaining Machine.

(Machine à rayure progressive.)

Joseph W. Baker and Edward Abraham Pennock, Chatham, Penn., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The combination, with a bed plate or frame provided with a rack, of a carriage mounted on the bed plate or frame, standards carried by the carriage, curved slots 26 formed in the standards, a shaft 25, with the axis of which the curved slots are concentric, a means for driving the shaft, a gear connecting the carriage and rack and operated from the drive-shaft, a cutter-head shaft, boxes in which said shaft is mounted, said boxes riding in the standard slots, and a means for adjusting the boxes, substantially as described. 2nd. The combination, with a bed plate or frame provided with a rack, of a carriage mounted on the bed plate or frame, standards carried by the carriage, curved slots 26 formed in the standards, a shaft 25, with the axis of which the curved slots are concentric, a means for driving the shaft, a gear connecting the carriage and rack and operated from the drive shaft, a cutter-head shaft, boxes in which said shaft is mounted, said boxes riding in the standard slots, and adjusting screws 31, substantially as described. 3rd. In a gaining machine, the combination, with a bed plate provided with clamps and a rack, of a carriage, standards carried thereby, a driving-shaft a cutter-head shaft, gearing by which the shafts are connected, a worm carried by the driving shaft, a vertical shaft 35, provided with gears 34 and 39 meshing into the worm and rack respectively, and a shifting lever which engages the shaft 35, to throw the gear into and out of engagement with the rack, substantially as set forth. 4th. The combination, with the frame adapted to rest on the work, and provided on its under side with clamps for engaging opposite edges thereof, and a longitudinal rack on the frame, of a reciprocating carriage on the upper side of the frame provided with a horizontal tool shaft, a drive shaft parallel therewith and provided with an operating crank, and gearing connecting the crank-shaft and rack, whereby, when the crank is turned, the tool shaft will be rotated and the carriage propelled, substantially as set forth. 5th. The combination, with the frame 10, having longitudinal slots 12 in its side bars, clamps 14 on the underside of the frame, and provided with adjusting bolts 13 extending through said slots, a longitudinally extending screw 15 at the opposite end of the frame, provided at its inner end with a clamp 17, and the longitudinal rack 11 on one side bar, of the reciprocating carriage on said side bars, and provided with a tool shaft and gearing for operating said shaft and engaging said rack, substantially as set forth.

No. 34,947. Cooking Stove and Range.

(Poêle et landier de cuisine.)

The D. Moore Company, Hamilton, Ont. Canada, (assignee of William Augustus Greene, Berlin, Ont.), 1st September, 1890; 5 years.

Claim.—1st. In combination with a stove or range, a rabbet formed on the edge of the top plate and a corresponding rabbit formed on the top of a removable reservoir to fit the same, and the reservoir secured to the stove or range tops by bolts and nuts, substantially as and for the purpose described. 2nd. In combination, with a stove or range, a removable plate, detachable behind the lower part of the reservoir when the latter is attached to a stove or range, and arranged to be attached to the stove or range when the reservoir is removed, substantially as and for the purpose specified. 3rd. The combination of the removable plate E, with the top of the stove when the reservoir is removed, substantially as and for the purpose specified. 4th. In a stove, or range, the combination of the removable reservoir B, secured by bolts and nuts, oven set-off *u* and space *v*, under the bottom of reservoir, substantially as and for the purpose specified. 5th. In combination with a stove or range, the front fire-door I, constructed and arranged with three permanent openings and three mica lights, and its draft slide J constructed with two openings, so that when the slide is in position on the door, three draft openings, or three mica lights, will always be exposed, substantially as and for the purpose specified. 6th. In a stove, or range, the combination of the air chamber S, in front of the fire-box K, draft op-

enings *r*, in the front plate L, air chamber *t* on three sides of the fire box, perforations *u* in the linings of the fire-box, and outer draft openings *v, v, v, v*, in the outer plates of the stove or range, for admitting oxygen to the interior of the fire-box, substantially as specified.

No. 34,948. Tongue Support.

(Appui de timon.)

John All Lemmon, Velpen, and John T. Corn, Jasper, Ind., U.S.A., 1st September, 1890; 5 years.

Claim.—In a tongue support, the combination of the tongue, the prop constructed of metal and having its upper end bent upon itself to form an eye, the staple engaging the eye and hinging the prop to the tongue, the spring-catch adapted to engage the free end of the prop and hold the same along the lower face of the tongue, and consisting of the metal plate depending from the tongue, and the spring secured to the lower end of the plate, and being inclined toward the prop, and having its free end provided with a shoulder, substantially as and for the purpose described.

No. 34,949. Machine for Cutting Excelsior.

(Machine pour réduire le bois en fibres.)

Charles Giles Smith, Detroit, Mich., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The combination, in an excelsior cutting machine, of the square shaft for carrying the slitting knives, and washers provided with journals at the ends to engage the journal bearing or box suitably connected with the cutter-frame, the screw-threads between the journal, and the square portion of the shaft for the reception of the nuts *c, c'*, the nuts *c, c'*, for holding the blades and washers in position, the cutting blades *e*, and the washers *f*, threaded alternately on the square shaft and held in position by the nuts *c, c'*, all substantially as shown and described. 2nd. The combination, in an excelsior cutting machine, of the square shaft for carrying the slitting knives, and washers provided with journals at the ends to engage the journal bearing or box suitably connected with the cutter-frame, from the screw threads between the journal, and the square portion of the shaft for the reception of the nuts *c, c'*, the nuts *c, c'*, for holding the blades and washers in position, the cutting blade *e*, the washers *f*, threaded alternately on the square shaft, and held in position by the nuts *c, c'*, the movable journal box or bearing *h*, for the reception of the journal on the slitter, seated in a recess in the proper journal box bearing, the journal box bearing *A*, provided with suitable recess to receive the movable journal box or journal of the slitting knife, and provided with a stud *J*, to slide in the grooves *L, L*, in the post of the frame *D, D*, of the outer-plate, and the frame of the cutter-plate provided with grooves in the posts for the reception of the stud on the journal box bearing, all substantially as shown and described. 3rd. In an excelsior cutting machine, the combination of the posts *D, D*, provided with grooves *L, L*, for the reception of the shaving knives *A*, and the stud *J*, *D*¹, at the upper and lower ends of the frame for the purpose of connecting the posts *D, D*, and holding the shaving knives and roller slitter or slitters in place, the shaving knives inserted in the grooves in the posts of the frame, the journal bearing box of the roller slitter inserted in the grooves in the post of the frame at any desirable point, and the roller slitter, journaled in the journal box in the journal box bearing, and the journal box, all substantially as shown and set forth. 4th. In an excelsior cutting machine, the combination of the shaving knives *A*, provided with a shoulder *W*, at each end on the outer face of the knife to engage with suitable grooves or slots in the posts of the cutter frame, and suitable set-screws in the posts on the rear of the knife to press the knives forward and hold them in position against the front part of the grooves *L, L*, in the posts *D, D*, all substantially as described. 5th. In an excelsior cutting machine, the combination of the shaving knives *A*, provided with a shoulder *W*, at each end on the outer face of the knife, to engage with suitable grooves or slots in the posts of the cutter frame, suitable set-screws in the posts on the rear of the knife to press the knives forward and hold them in position against the front part of the grooves *L, L*, in the posts *D, D*, and the blocks *I*, inserted in the grooves in the posts of the cutter frame under opposite ends of each alternate knife, giving an angular set to the knives, all substantially as shown and described. 6th. In an excelsior cutting machine, the combination of the shaving knives *A*, provided with a shoulder *W*, at each end on the outer face of the knife, to engage with suitable grooves or slots in the posts of the cutter frame, suitable set-screws in the posts on the rear of the knife to press the knives forward, and hold them in position against the front part of the grooves *L, L*, in the posts *D, D*, the blocks *I*, inserted in the grooves in the posts of the cutter frame under opposite ends of each alternate knife, giving an angular set to the knives, the journal box bearing inserted in the groove in the posts of the cutter plate at any point desired with reference to the shaving knives, the movable journal box inserted in the recess in the journal box bearing *h*, and the roller slitter journaled in the journal boxes, all substantially as set forth and for the purposes described. 7th. In an excelsior cutting machine, the combination of the standards *B, B*, carrying the cutter plate *S*, the table *B'*, carrying the feed mechanism, the bracket *5*, arising from the table, and carrying the hub *7*, the arm *6*, extending from the bracket, slotted to receive the guide pin *9*, at the outer end of the screw threaded feed shaft *C*, the hub *7*, on the bracket, perforated for the passage of the feed shaft, the screw feed shaft passing through the hub *7*, having at its outer end a guide pin which runs in the slot in the arm *6*, the feed plate *F*, attached to the inner end of the screw feed shaft, supported by brackets *10*, which reciprocates in the groove in the table *B'*, the beveled spur wheel *Q*, cored out at its center, internally screw threaded to receive the screw threaded feed shaft, the arm *12* extending horizontally from the bracket *5*, and supporting at its outer end in a proper journal, the shaft *13*, the shaft *13*, bearing on its inner end the spur wheel *V*,

meshing with the spur wheel *Q*, the driving pulley *q*, keyed on the outer end of the shaft *l*, the cord *u* on the pulley *q*, the pulley *r*, on the side of the frame *D*, and the weight *n* on the lower end of the cord *u*, all substantially as set forth and described. 8th. In an excelsior cutting machine, the combination of the standards *B*, *B*, carrying the cutter plate *S*, the table *B'*, carrying the feed mechanism, the brackets *I*, *I*, on the under side of the table, supporting at their outer ends, the dogging roller *t*, and the dogging roller *t*, all substantially as shown and described. 9th. In an excelsior cutting machine, the combination of the standards *B*, *B*, carrying the cutter plate *S*, the table *B'*, the slot *l*, in the frame *B*, *B*, for the reception of the bar *G*, the bar *G*, inserted in the slot *l*, the rods *l*, attached to the outer ends of the bar *G*, and carrying at their lower ends, the weights *m*, *m*, the brackets *l*, projecting downward from the bar *G*, and having at their lower ends proper journal bearings for the dogging roller *t*, and the dogging roller *t*, all substantially as shown and described. 10th. In an excelsior cutting machine, the combination of the standards *B*, *B*, carrying the cutter plate *S*, the table *B'*, the slot *l*, in the frame *B*, *B*, for the reception of the bar *G*, the bar *G*, inserted in the slot *l*, the rods *l*, attached to the outer ends of the bar *G*, and carrying at their lower ends the weights *m*, *m*, the brackets *l*, extending downward from the bar *G*, and having at their lower ends proper journal bearings, for the dogging roller *t*, the dogging roller *t*, the bracket *p*, or the back side of the standard *B*, supporting the bent lever *o*, and the bent lever *o*, pivoted to the bracket *p*, and engaging by its shorter arm the outer ends of the bar *G*, all substantially as shown and described. 11th. In an excelsior cutting machine, the combination of the standards *B*, *B*, in which the cutter plate *S* reciprocates, and the cutter plate *S*, having the shaving knives *A*, and the slitting roller *E*, all substantially as described. 12th. In an excelsior cutting machine, the combination of the standards *B*, *B*, with the slides *y*, *y*, on the inside of the standards, the slides *y*, *y*, in which the cutter plate *S* reciprocates, and the cutter plate *S*, having the shaving knives *A*, and the slitting roller *E*, the table *B'*, the bracket *I*, and the feed mechanism for feeding the block to the cutter plate, all substantially as shown and described, and for the purposes specified.

No. 34,950. Pencil Sharpener and Holder.

(*Porte et taille-crayon.*)

Henry Fanoourt, Opoho, Dunedin, Otago, New Zealand, 1st September, 1890; 5 years.

Claim.—1st. A combined pencil sharpener and holder, comprising a plate provided with a roughened surface, and curved projections extending from one edge of the plate, and serving to receive the pencil, substantially as described. 2nd. The combination, with a plate, of a plate provided with a roughened surface, and secured on the wooden frame of the said plate, and having curved projections extending from one edge of the said plate over one edge of the slate frame, so as to form a convenient holder for the reception of the pencil, substantially as shown and described.

No. 34,951. Furnace Grate. (*Grille de foyer.*)

Maximilian H. Moskovits, Kansas City, Missouri, U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The improved grate bar, having an upper fire surface composed of a series of zig-zag webs *c*, *c*, which are united at their ends, the end web pieces *c'*, *c'*, and the lower straight longitudinal supporting web cast integral with the upper zig-zag webs, and the zig-zag webs by being connected with the series of air passages *h*, *h*, are formed between said upper series of webs, and the said supporting web, substantially as described. 2nd. The improved grate bar, having an upper fire surface composed of a series of zig-zag webs *c*, *c*, which are braced at points intermediate of their end web pieces *c'*, *c'*, and united at their ends, the end web pieces *c'*, *c'*, and the lower straight longitudinal supporting web cast integral with the upper zig-zag webs, and the end pieces, said supporting web being connected with the series of zig-zag webs *h*, *h*, are formed between said upper series of webs and the supporting web, substantially as described.

No. 34,952. Grain Drill. (*Semoir en ligne.*)

George Wilson Kirkpatrick, Macedon, N.Y., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. The main frame, the drag bars, and their hoes, the rock shaft and its arms, and links connecting the arms with the drag bars, in combination with the worm wheel on the rock shaft, the worm and the worm shaft provided with a hand crank. 2nd. In between the shaft, the drag bars, the rock shaft, and spring connections worm wheel on the rock shaft, the worm and crank shaft to operate in combination with the rock shaft, its arms connected with the drag bars, the worm wheel on the rock shaft, the worm, its shaft and the bearing for said shaft mounted at one end on the axle.

No. 34,953. Boot and Shoe. (*Chaussures.*)

Charles Frederick Martine, Boston, Mass., U.S.A., 1st September, 1890; 5 years.

Claim.—1st. In a boot, or shoe, of the class described, the combination of the fly, the spring thereon composed of a plurality of strips of metal, the cord *d* attached to the boot at one end, at or near the lower end of the fly, the quarter having at its upper end a holder to engage the cord, and devices between the attached end of the cord and the holder to engage the cord, and co-operate therewith in securing the fly, as set forth. 2nd. A boot of the class herein de-

scribed, having the flap or fly formed to overlap the quarter, and provided with a spring *b*, in its edge, and with an orifice *i*, in its upper end, the cord *d*, attached at one end to the inner side of the fly, and passed along said inner side to and through the orifice *i*, and provided with the enlargement *j*, the hook *k*, arranged to be covered by the fly, and to engage the cord near its point of attachment with the fly, and the hook *k'*, arranged above the hook *k*, in position to receive the cord *d*, and engage the enlargement thereof, as set forth. 3rd. The flap or fly having a spring inserted in its edge, composed of a plurality of strips of metal, as set forth. 4th. The boot having the fly *c*, spring *b*, orifice *i*, and hooks *k*, *k'*, combined with the lacing cord attached at one end to the inner side of the fly, and provided with the adjustable enlargement *j*, as set forth.

No. 34,954. Diving Apparatus.

(*Appareil de plongeur.*)

Oliver Polkey, West Duluth, Minnesota, U.S.A., Emery H. Brault, and Joseph L. Boucher, both of West Superior, Wisconsin, U.S.A., 2nd September, 1890; 5 years.

Claim.—1st. In a diving apparatus, the combination, with the upper armor section *A*¹, provided with a helmet portion formed integral therewith, and the lower section *A*², adapted to inclose the lower portion of the body, the meeting ends of said sections formed with straight rear portions, and diverging front portions, said sections having a pivotal connection, as shown, of an encircling band or plate pivotally supported on said armor over the meeting ends of said sections, substantially as described. 2nd. In a diving apparatus, the armor *A*, formed of two sections *A*¹, *A*², the upper section *A*¹, formed with a helmet provided with a foul air outlet in its upper end, a fresh air inlet in the front portion of the upper section, an air deflector arranged on the inner armor side of the section *A*¹, to receive the air from the inlet, said deflector consisting of a housing having air jets in its upper end, an air tight covering for said armor sections, the means for supplying the fresh air to the armor, substantially as and for the purpose described. 3rd. The combination, with the metallic body section *A*¹, provided with a series of projecting bolts, and the metallic boot sections, of a water proof suit detachably connected to the boot sections, and having an air and water tight connection at its upper end with the said body section *A*¹, such connection consisting of a series of plates, as *N*, provided with one or more apertures adapted to fit over one or more of said bolts, said water proof suit provided with a series of apertures fitting over said projecting bolts, and plates also provided with semi-circular recesses adapted to fit the bolts and to rest on the outside of the rubber suit, and the securing nuts, all arranged substantially as and for the purpose described. 4th. In a diving apparatus, substantially as shown, the combination, with the metallic boots having outwardly flared upper ends of a rubber suit having leg portions adapted to fit over the flared ends of the boot sections, and spring rings for making an air and water tight connection between said boot and leg portions, all arranged as and for the purpose described. 5th. In a diving apparatus, the combination, with a diving armor, substantially as shown, provided with a fresh air inlet at a point below the face of the wearer, and a foul air outlet arranged in the top of the helmet portion, the air pipes *C*, *D*¹, and the hoisting rope *S*, of the hoisting reel *O*, provided with sections *o*, *o*¹, *o*², to receive the air pipes *C*, *D*¹ and hoisting rope *S*, said reel provided with hollow cores at *p*, the fresh air pipe communicating with the core, as at *p*, and the foul air pipe, as at *p*¹, a fresh air inlet connected with the core portion *p*, and a foul air discharge pipe connected with the core at *p*¹, substantially as and for the purpose described. 6th. In a diving apparatus, substantially as described, the reel *O*, consisting of three sections *o*, *o*¹, *o*², the sections *o*, *o*¹ having hollow cores or hubs, apertures formed in the sections *o*, *o*¹, *o*², the sections *o*, *o*¹ having hollow cores or hubs, apertures formed in the sections *o*, *o*¹, communicating with the hollow core sections, said hub or core sections *o*, *o*¹, provided with fresh air inlet and foul air outlet, respectively, substantially as and for the purpose described.

No. 34,955. Culvert Top and Trap.

(*Couvercle et trappe de ponceau.*)

Robert Smith and George W. Strange, Toronto, Ont., Canada, 2nd September, 1890; 5 years.

Claim.—1st. A culvert top, consisting of a suitable shaped box, having a chute *C*, fitted with an outwardly-extending lip *c*, substantially as and for the purpose set forth. 2nd. A culvert top, consisting of a suitable shaped bottomless box, having a removable lid *B* and a chute *C*, provided with an outwardly-extending lip *c*, fitted with gratings *d*, substantially as and for the purpose set forth. 3rd. A culvert top, consisting of a suitable shaped bottomless box *A*, having gratings *a* in its front side, a removable lid *B*, and a chute *C*, having an outwardly-extending lip *c*, fitted with gratings *d*, substantially as and for the purpose set forth. 4th. The combination of a culvert top, consisting of a suitable shaped bottomless box *A*, having gratings *a* in its front side, and a removable top *B*, with a chute *C*, fitted with a valve seat *d*, and a valve *D*, substantially as and for the purpose set forth. 5th. The combination of a culvert top, consisting of a suitable shaped bottomless box *A*, having gratings *a* in its front side, and a removable top *B*, with a chute *C*, fitted with a valve seat *d* and a valve *D*, provided with female hinges *E*, through which extend pivots *e*, having points *e*¹, which rest upon the countersunk bearing surfaces *f*, of the male hinge *F*, substantially as and for the purpose set forth. 6th. A hinge, consisting of a female part *E*, fitted with a pivot *e* and a male part *F*, fitted with countersunk bearing surface *f*, substantially as and for the purpose set forth. 7th. A combined culvert top and trap, consisting of a suitable shaped bottomless box *A*, having a removable lid *B* and a chute *C*, provided with an outwardly-extending lip *c*, having gratings *a*, in combination with a valve *D*, provided with female hinges *E*, fitted with pivots *e*, male hinges *F*, having countersunk bearing surfaces *f*, on which the points *e*¹, of the pivots *e*, work, and the valve seat *d*, substantially as and for the purpose set forth.

No. 34,956. Automatic Railway Switch.*(Aiguille de chemin de fer automatique.)*

Albert P. Odell and Alonzo I. Wilcox, Bradford, Penn., U.S.A., 2nd September, 1890; 5 years.

Claim.—1st. The combination, with the rails of the main side track and switch, of the vertical levers T, which are placed beside the rails of the main track beyond the switch, the L-shaped levers operated by the vertical ones, the connecting rods, the L-shaped levers connected to the inner ends of the rods, the operating rod P, the spring-actuated cranked lever M, provided with the stud or projection N, the locking device L, which is operated by the lever M, the socket, the switch-rod and the switch-lever, substantially as shown. 2nd. The combination of the switch rails, the socket connected thereto, the notched switch-rod, which extend into the socket, the locking device J, the switch-lever A, locking device L, a mechanism for operating it, and the spring D for moving the free ends of the switch-rails from the side to the main track, substantially as described. 3rd. The combination of the rails of the main and side track, the switch-rails, the spring D applied to the free ends of the switch-rails with the socket applied to the free ends of the switch, and socket provided with openings for the locking devices J, L, the locking devices J, the slotted locking device L, the endwise moving notched switch-rod F, the switch-lever, the spring-actuated lever M, for operating the locking device L, and devices, substantially as shown, which are operated by the passing trains, whereby the locking device L is disengaged from the switch-rods, substantially as set forth. 4th. In an automatic switch, the combination of the switch-rails, a spring applied to the free ends thereof, and a switch-rod and lever applied to the free ends of the switch-rails upon the opposite side from the spring, a socket provided with two locking devices, one of which locks the switch-rails in position, so that they cannot be moved, and the other, which locks the switch-rod and socket together, so that the free ends of the switch-rails can be shifted from the main to the side track, and an automatically-operating mechanism for releasing the switch-rod from the socket, so that the spring can shift the switch-rails, substantially as specified.

No. 34,957. Carriage Pole.*(Timon de voiture.)*

William A. Galbrath, Flint, Michigan, U.S.A., 2nd September, 1890; 5 years.

Claim.—1st. In combination with the pole, the two-part circle-bar the inner ends thereof having a metal casing D, said casing having a pivotal connection with the rear end of the pole, the brace-rods pivotally coupled to the circle-bar at their rear ends, their forward ends attached to the sliding head, said sliding head adjustably coupled to the pole, substantially as and for the purposes set forth. 2nd. In combination with the pole having the metal coupling plates E and F, attached to the rear end thereof, the two-part circle-bar, the inner ends thereof having a pivotal coupling with the coupling plates of the pole, the set of metal extensions mounted on the free ends of the circle-bar, the brace-rods having a pivotal connection with said metal extensions, their forward ends being coupled to the travelling head mounted on the pole, said travelling head adapted to be locked when adjusted, as and for the purposes specified. 3rd. In combination with the pole having the irons E and F mounted on the rear end thereof, the two-part wooden circle-bar, the metal case D attached to the inner ends thereof, said case having a pivotal connection with the irons mounted on the rear end of the pole, the free outer ends of the circle-bar adapted to swing toward or from each other. 4th. In combination with the pole, having the irons E, F, attached to the rear end thereof, the two-part wooden circle-bar, the inner ends thereof, having the metal casings D, which casings are pivotally coupled to the irons on the rear end of the pole, the brace irons having their rear ends pivotally coupled to the circle-bar, their forward ends coupled to the sliding head, the toothed slotted plate attached to the under face of the pole, the travelling head having the toothed face P, which engages with the toothed face of the plate, the bolt attached to the travelling head and passing through the slot a, of the plate and nut, whereby said parts are locked when adjusted.

No. 34,958. Calendar Clock.*(Pendule calendrier.)*

Henry Smith Prentiss, Elizabeth, N.J. U.S., 2nd September, 1890; 5 years.

Claim.—1st. In a calendar, the combination of a motor, a positive stop for holding the motor out of action, a lever engaging with said stop, a locking device for the same, and means for actuating the locking device to release the lever, substantially as described. 2nd. In a calendar, the combination of a motor, a stop for holding the motor out of action, a gravitating cam lever engaging with said stop, a hinged locking arm for holding the cam lever in an elevated position, and means for turning the locking arm about its hinge to release the cam lever, substantially as described. 3rd. In a calendar, the combination of a motor, a lever positively engaging with the motor to hold the same out of action, a lever engaging with the stop lever, a hinged locking arm for holding the cam lever in an elevated position, a rod projecting from the said locking arm and means for vibrating the same, substantially as described. 4th. The combination with the motor, the day wheel and the day of the week cylinder mounted loosely upon its shaft, of a stop for holding the motor out of action, a lever engaging with said stop, a lock for said lever, a releasing device, a pawl bearing arm secured to the shaft of the day wheel, and engaging with the cylinder, a lever engaging with the day wheel and connected with the pawl bearing arm, and a finger on the shaft adapted to engage with the lever G, substantially as described. 5th. The combination, with the rotary cylinder A, of a pawl-bearing arm engaging with said cylinder, as described, a toothed wheel I, and a lever engaging with the latter and connected with the pawl bearing arm, whereby the said wheel actuates the cylinder during its rotation to gradually turn the same, substan-

tially as described. 6th. In a calendar, a cylinder having one head provided with a series of openings or notches, and a spring pawl adapted to engage the same to rotate the cylinder, in combination with a lock engaging the openings, substantially as described. 7th. In a calendar, a day wheel, and a month wheel eccentrically mounted upon the month wheel, substantially as described. 8th. In a calendar, a day wheel, a month wheel eccentrically mounted upon the day wheel, and provided with toothed and notched peripheries, and a stationary pawl engaging the notched periphery, substantially as described. 9th. In a calendar, a day wheel, a month wheel eccentrically mounted upon the former, and provided with teeth and notches, as described, a stationary pawl engaging with the teeth and notches, as described, carried by the day wheel and engaging with the notches, and a detent substantially as described. 10th. The combination of the month wheel, substantially as described, and the month wheel carried thereby, with the rotary day wheel and the month wheel, a cam actuating the month wheel through suitable mechanism, and a lever engaging the teeth of the day wheel and actuating the day cylinder through suitable mechanism, substantially as described. 11th. In a calendar, the toothed day wheel, movable teeth located near the periphery of the same, and a device for holding said teeth rigid at certain intervals, substantially as described. 12th. In a calendar, the combination of the day wheel, the movable teeth located near the periphery of the same, and a stop actuated periodically to retain one or both teeth coincident with the teeth of the day wheel, substantially as described. 13th. In a calendar, the combination of the day wheel, the movable teeth L, M, the stop P and the wheel N, engaging with the stop and actuating the same, and means for rotating the wheel, substantially as described. 14th. In a calendar, the combination of the day wheel, the pivoted teeth L, M, the stop P and the wheel N, all combined and operating substantially as described. 15th. In a calendar, the combination of the day wheel, the month wheel, the movable teeth L, M, the stop P, carried by the month wheel, the February wheel mounted on the month wheel and engaging the stop and provided with a raised portion, and means for rotating the said wheel, substantially as described. 16th. The teeth L, M, arranged upon the day wheel, coincident with two consecutive teeth thereof, and adapted to bridge over said teeth at determined intervals, substantially as described. 17th. In combination with the card displaying device C, a rim engaging and guiding the wires or arms, substantially as described. 18th. A shaft, a series of cards or plates, arms carried by said shaft to which said cards or plates are pivoted, a guide for the arms, and means for revolving the shaft, substantially as described. 19th. A shaft, a series of cards or plates, arms carried by said shaft to which the cards or plates are pivoted, a stationary guide for the arms, and means for revolving the shaft, substantially as described. 20th. The cylinder B, provided at one end with a bearing in the side frame D, and at its opposite end with the internal bearing e, in combination with the stud w, passing through the side frames and entering said bearing to support the cylinder at this latter end, substantially as described. 21st. In a calendar, the combination of the pivoted lever G, the elastic stop i for the same, and the finger r engaging with the stop, substantially as and for the purpose set forth. 22nd. In a calendar, a day wheel, a month wheel eccentrically mounted with respect to the day wheel, and means for imparting an intermittent rotary motion to the month wheel about its own axis, substantially as described. 23rd. The combination, with the volute gear track or surface formed by the parts R' and R'', and having a break or opening g' between them, of the pivoted trap g'', bridging said break. 24th. A cam, consisting of the piece R', having the volute shaped part R', and the volute rim, the piece g'', pivoted, as shown, to connect R' and the rim and the drop E. 25th. A clock, substantially as described, combined with and operating a calendar.

No. 34,959. Combined Bag, Twine and Sample Holder. *(Accroche-sac, divoair à ficelle et porte échantillon combinés.)*

Frank H. Smith, Chicago, Ill., U.S.A., 2nd September, 1890; 5 years.

Claim.—1st. In a bag and twine holder, the combination of the hanger arms, formed of single lengths of wire, and coiled in their middles about a suspending hook or ring to form a swivel support, and the hoop supported by said arms, substantially as shown and described. 2nd. In a bag and twine holder, the combination of the hanger arms, formed of single lengths of wire, and coiled in their middles about a suspension hook to form a swivel support, the hoop supported by said hanger arms, and the twine-holder supported by hooks formed at the upturned ends of the arms, substantially as shown and described. 3rd. In a twine and bag-holder, the hanger arms formed of single lengths of wire supporting the hoop, and the spring pin having upper curved approximately U-shaped portions to clamp over the hoop or ring, and the lower spring pin portion, substantially as shown and described. 4th. In a twine and bag holder, the combination of the hanger-arms, formed of single lengths of wire and coiled in their middles about a hook or ring to form a swivel-support, the twine-holder bushed at its outlet or opening and supported by hooks formed on the upturned ends of said hanger arms, the hoop supported thereby, and the spring pins having upper curved approximately U-shaped portions to clamp over the hoop or ring, substantially as shown and described. 5th. In a twine and bag holder, the combination of the supporting arms, formed of a single length of wire, said arms being coiled at their middles about a stemmed suspending ring to form a swivel support, the hoop supporting the hooks or pins and the twine support, substantially as shown and described. 6th. In a bag and twine holder, the hanger arms, formed of single lengths of wire, and coiled in their centre about a swivel support, substantially as shown and described. 7th. In a bag and twine holder, the hanger arms formed of single lengths of wire, and having their ends upturned and hooked, substantially as shown and described. 8th. In a bag and twine support, the spring pin formed of a single strand of wire, having the upper curved approximately U-shaped portions to clamp over the hook or ring, and the lower spring pin portion, substantially as shown and described. 9th. In a combined bag and twine holder, the hanger arms having the upturned hook, portions supporting the twine basket, substantially as shown and described.

coin-operated liquid-vending apparatus, the combination of an oscillatory vessel or tipper, a supply-pipe leading from a suitable reservoir or tank, and having an automatic valve, a float operating in said vessel and connected to the valve, a water-chamber arranged to deliver a predetermined quantity to said vessel, and a water-supply pipe leading to the water-chamber, substantially as and for the purpose described. 11th. In a coin-operated liquid-vending apparatus, the combination of an oscillatory vessel or tipper, a water-chamber having an independent supply-pipe, and arranged to deliver its contents to said vessel, a supply pipe leading from a beverage tank and having an automatic valve, a float operating in the vessel and connected to said valve, a lever controlled by the float and having a coin-detaining plate at one end, an elevated chamber intermediate the beverage-tank, and its supply pipe, and a float in said chamber having a rod which connects with the lever, all arranged and combined for service, substantially as described, for the purpose set forth.

No. 34,967. Coin-Operated Liquid-Vending Apparatus. (*Appareil actionné par une pièce de monnaie pour la vente des liquides.*)

Henri Schloesing and Benjamin Degremont, Marseilles, France, 3rd September, 1890; 5 years.

Claim.—1st. In a coin-controlled liquid-vending apparatus, the combination of a delivery pressure-cylinder, a valve-chest communicating with said cylinder, and having an automatic valve, a coin-controlled lever connected with said valve to automatically open the latter and permit the liquid from the pressure cylinder to escape through the valve chest, and mechanism for closing said valve when the pressure cylinder is emptied, all arranged and combined for service, substantially as and for the purpose specified. 2nd. In a coin-controlled liquid-vending apparatus, the combination of a pressure cylinder having a piston, a valve-chest communicating with said cylinder, a coin-operated lever arranged in the path of the coin deposited in the machine, a valve located in said valve-chest, and connected with said coin-operated lever to be maintained thereby in a normally-closed position, and mechanism connected to said valve and arranged to be operated by the piston to close the valve when the pressure-cylinder is emptied, substantially as and for the purpose described. 3rd. In a coin-controlled liquid-vending apparatus, a pressure cylinder having an outlet at or near its lower portion, and a piston operating in said cylinder and provided with an inlet port and a piston rod, the area of exposed surface on the upper side of the piston being less than the exposed area on the lower side thereof, for the purpose described, in combination with a valve-chest which communicates with the outlet of said pressure-cylinder, a valve, and a coin-operated lever connected to said valve, all arranged and combined for service, substantially as described. 4th. In a coin-controlled liquid-vending apparatus, a pressure cylinder, a reciprocating piston operating therein, and an adjusting screw arranged to limit and vary the stroke of said piston to regulate the capacity of the cylinder for holding liquids, in combination with a valve-chest communicating with the cylinder and having an automatic valve, and a coin-operated lever for operating the valve, substantially as described. 5th. In a coin-controlled liquid-vending apparatus, the combination of a pressure cylinder, a valve-chest communicating with said cylinder, an automatic valve housed within said valve-chest, a coin-operated lever having a trip-pawl, and a lever connected to said valve and normally supported by said trip-pawl, all arranged for service, substantially as described, for the purpose set forth. 6th. In a coin-controlled liquid-vending apparatus, the combination, with a pressure-cylinder, and a valve-chest having a valve, of a coin-tube, a lever arranged in the path of the coin that passes through said coin-tube, and another lever connected to the valve and normally sustained by the coin-operated lever in an elevated position to close the valve, substantially as and for the purpose described. 7th. In a coin-controlled liquid-vending apparatus, the combination, with a pressure cylinder and a valve, of a lever connected to said valve, a coin-operated lever for sustaining the valve-lever in an elevated position, and a lever operated by the piston of the pressure-cylinder, to raise the valve-lever after it has been released by the coin-operated lever, substantially as and for the purpose described. 8th. In a coin-controlled liquid-vending apparatus, the combination, with a pressure-cylinder and an automatic valve, of a coin-operated lever having a trip-pawl, a lever connected at one end to said valve and resting at its other end on the trip-pawl, and a lever fulcrumed on the pressure-cylinder to be operated by the piston thereof and having its free end arranged to lift the valve-lever, whereby, when said valve-lever is lowered after its disengagement with the coin-operated lever to open said valve, the descent of the piston actuates the piston-lever to elevate the valve-lever and cause it to re-engage with the trip-pawl, substantially as described. 9th. In a coin-controlled liquid-vending apparatus, a valve-chest having a valve-seat and the aligned guides, a vertically movable valve-stem fitted in said guides and carrying a valve, and a rock-shaft having an arm at one end on which the lower end of the valve-stem rests, in combination with a lever fixed to the extended end of said rock-shaft, a coin-operated lever for normally elevating the valve-lever, and a pressure cylinder, substantially as described. 10th. In a coin-controlled liquid-vending apparatus, the combination of a vertical coin-tube having a slot, a counterbalanced lever fulcrumed on an axis *C*, and having its free end fitted in the slot of the coin-tube, a trip-pawl carried by said lever, a valve-lever normally fitted on said pawl, an automatic valve controlled by said valve-lever, a pressure cylinder, and a bifurcated lever fulcrumed on the pressure cylinder, with one end arranged in the path of a protuberance on the piston of the cylinder, and having its other end arranged to lift the valve-lever, substantially as and for the purpose described. 11th. A coin receiver having a longitudinal coin passage, and a transverse opening which extends through one side, and the lower edge of said coin passage, combined with a counterbalanced plate arranged in said transverse opening at the base of the coin passage, and forming a continuation of the bottom of the coin passage, to sustain a coin of proper denomination as it passes across said opening, substantially as described. 12th. In a coin-operated

liquid vending apparatus, a fixed coin receiver having a longitudinal coin passage, and a series of transverse openings which intersect said longitudinal passage, and extend through one side, and the bottom of the coin passage, combined with a counterbalanced plate fitted in each of said transverse openings at the base of the coin passage, and forming a continuation of the bottom thereof, a series of levers, each of which carries one of the plates, and a common fixed support on which all the levers of the series are fulcrumed, substantially as described. 13th. In a coin-operated liquid-vending apparatus, the combination, with a coin receiver and counterbalanced plate, of a float-receptacle which communicates with the source of liquid supply for the vending apparatus, and a float connected by intermediate devices with said counterbalanced plate to hold the latter against movement under the weight of a coin, substantially as and for the purpose described. 14th. In a coin-operated liquid-vending apparatus, the combination, with a coin receiver of a plate carried by a counter-balanced lever, a float-receptacle having a rock-shaft journaled in one end thereof, a float, an arm carried by the rock-shaft and jointed to the float, and a lever intermediate of the rock-shaft and the counterbalanced lever, substantially as described.

No. 34,968. Variable Hose Nozzle.

(*Lance de tuyau en caoutchouc, variable.*)

Charles Wright Pearsall, Syracuse, N.Y., U.S.A., 3rd September, 1890; 5 years.

Claim.—1st. A hose nozzle body, provided with a variable or circum-rotary discharge mouth-piece, comprising, forwardly, a tubular discharge stem, and, rearwardly, a hemispherical, or cup-shaped, shell portion, that is adapted through the direct forward pressure of fluid against its interior concave surface, to move longitudinally forward against and in direct contact with the circum-adjacent forward body portion, creating an air and water-tight joint or union thereat, devoid of packing, and adapted through the cessation of the fluid pressure against its inner concave surface, to recede out of direct contact with the forward circum-adjacent body portion, all constructed and operating together, substantially as described. 2nd. A variable hose-nozzle, consisting of a main or body portion, comprising the tubular stem, threaded at its rear extremity, and terminating forwardly in a substantially hemispherical shell portion integral with said stem, and threaded at its forward extremity, and an hemisphero segmental retaining ring threaded at its rear end, and screwed to the forward threaded extremity of the hemispherical shell portion of the nozzle-body, an hemispherical shell portion lying movably within the semi-globular chamber, created by the attachment together of the hemispherical shell portion and detachable hemisphero retaining ring of the nozzle body portion, and adapted to forward, rearward, and circum-rotary movement therein, the said portion terminating forwardly in a tubular stem integral therewith, and conjointly forming a variable nozzle mouth piece, and provided at its forward extremity with a discharge mouth or orifice, all said parts being combined and operating together, substantially as hereinafter specified. 3rd. In a variable hose nozzle, the main or body portion A, comprising the tubular stem *b*, having the internally-threaded tubular head portion *a*, rearwardly, said stem *b*, terminating forwardly in a hemispherical shell portion *c*, integral therewith, and externally threaded at its front portion, a hemisphero-segmental retaining ring B, of convergent form forwardly, internally-threaded and detachably secured to the hemispherical shell portion *c*, at its threaded extremity, an hemispherical shell or cup portion *h* disposed movably within the semi-globular chamber of the body portion A, both longitudinally and circum-rotary, and terminating forwardly and centrally in an elongated tubular discharge stem *i*, formed integral therewith, and provided with a contracted nozzle discharge mouth or orifice K, at its forward portion, the hemispherical shell *h*, of the nozzle mouth piece C, decreasing in thickness rearwardly toward the shell's circumferential edge, as at *o*, and creating a thin edge thereat for the purpose specified, all constructed, combined, and operating in unison together, substantially as described and shown. 4th. In a variable hose nozzle, the combination of the main portion A, comprising the threaded tubular head *a*, integral tubular stem *b*, integral hemispherical shell *c*, circumferentially threaded forwardly, and detachable threaded retaining ring B, having the forward converging circumferential rim *g*, with the variable mouth-piece C, comprising a hemispherical or cup-shape portion *h*, movably seated within the chamber created by the union of the parts *c* and B, said cup portion *h* having walls decreasing in thickness rearwardly to or at its circumferential edge, as at *o*, and integrally connected with a tubular discharge stem *i*, provided at its forward extremity with a detachable discharge tip D, having a contracted discharge mouth or orifice K, said tip being secured by its threaded part to the threaded end of the stem *i*, of the mouth-piece C, substantially as described. 5th. The combination, with the discharge mouth-piece C, movably seated within the chamber of the nozzle body by its cup-shaped portion *h*, of the flat tip extension E, constructed as shown, having the elongated rectangular or flat discharge orifice *e*, and detachably connected to the tubular stem *i*, of the mouth-piece C, by the integral annular portion D, substantially as described and for the purposes specified.

No. 34,969. Car Coupling. (*Attelage de chars.*)

John M. Burden, Huntsville, Ky., U.S.A., 4th September, 1890; 5 years.

Claim.—1st. In a car coupling, a draw-head, comprising a body or main section B, having a flared forward end, provided in its upper side with a recess B', and having a groove B'', extending between the said recess B' and the flared forward end, and the spring-actuated section C, hinged to section B, having a flared forward end provided in its under side with a recess C', and having a groove C'' extending from recess C', forward to the front flared portion, all substantially as and for the purposes set forth. 2nd. The combination, of the body or main section, the section C, the shaft F, having a bevel-gear F', a connection between shaft F and section C, and the shaft G, having a

bevel-gear meshing that of the shaft F, substantially as set forth. 3rd. The improved car coupling, substantially as described, consisting of the draw-head having a section B, formed with recess B' and groove B'', section C, hinged at its rear end to section B, and formed with recess C' and groove C'', the dowels b, provided on one of such sections and entering the other, the spring for actuating the section C, the shaft F, connected with section C, and having a bevel-gear f', and the shaft G, having a bevel-gear meshing the gear f'.

No. 34,970. Vehicle. (*Voiture.*)

Michael Frederick Goodrich, Jackson, Mich., U.S.A., 4th September, 1890; 5 years.

Claim.—1st. As an improvement in vehicles, the combination of a rear axle bent or turned downwardly between its ends, so as to allow the body of the vehicle to swing below the centres of the rear wheels, an ordinary or straight forward axle, and a vehicle body, the floor of which is bent or turned upward at the forward end to permit the front portion of the body of the vehicle to swing downwardly a distance corresponding to the play of the rear portion of the body, an approximately corresponding space or distance being provided between the front axle vertically upward to the bed of the vehicle, and between the bed of the vehicle, vertically downward to the rear axle at its lower portion, whereby in an independent movement of either the front or rear portion of the body downwardly upon its springs will avoid contact with either of the respective axles, and a simultaneous depression of the whole body of the vehicle will permit the body to sink low down upon its springs, without either its front or rear end coming in contact with their respective axles, substantially as and for the purpose set forth. 2nd. As an improvement in vehicles, the combination of a rear axle bent or turned downwardly between its ends, so as to allow the body of the vehicle to swing below the centres of the rear wheels, an ordinary straight forward axle, a reach or equivalent devices connecting the said forward and rear axles, and a vehicle body mounted upon springs secured to the devices connecting the forward and rear axle, and having its floor turned or bent upward at its forward end to permit the body to sink low down upon its springs without either its front or rear end coming in contact with their respective axles, substantially as and for the purpose set forth. 3rd. As an improvement in vehicles, the combination of the rear axle extending upon a straight or horizontal plane from each end inward to points inside of the reaches, and then bent or turned down, the bent or lower portion of the rear axle thus being inside of the plane of the reaches, an ordinary or straight forward axle, reaches extending from the forward axle to the bent rear axle and secured to the straight end portions of the latter, and a vehicle body mounted upon springs and having its floor bent or turned upward at the forward end, to provide a space or distance between the front axle vertically upward to the bed of the vehicle, an approximately corresponding space or distance being provided between the bed of the vehicle, vertically downward to the rear axle at its lower portion, whereby the vehicle bed may sink upon its springs to a plane below the centres of the rear wheels, and avoid contact of either end of the vehicle bed, with either the forward or rear axle, substantially as and for the purpose set forth.

No. 34,971. Baby Walker. (*Chariot d'enfant.*)

Andrew Charles Davidson, Samuel Davidson, George Atoheson Barber (and John Anderson Carlow, David Carlow, Robert Alexander Dickson and John Grant Fraser, assignees), all of Toronto, Ontario, Canada, 4th September, 1890; 5 years.

Claim.—1st. A plate D, having a hole in it to surround a child's body, and suitably supported on a base carried on castors, and having a detachable ring F, substantially as and for the purpose specified. 2nd. A plate D, supported on a base carried by castors, in combination with a detachable ring F, fitted into a recess formed in the plate D and resting on friction rollers G, substantially as and for the purpose specified. 3rd. A plate D, supported on a base carried by castors, a detachable ring F, fitted into a recess formed in the plate D, and resting on friction rollers G, in combination with the adjusting strap H and belt J, arranged substantially as and for the purpose specified.

No. 34,972. Process of Manufacturing Iron Castings. (*Appareil de fabrication des ouvrages en fonte de fer.*)

George G. Mullins, Los Angeles, California, U.S.A., 5th September, 1890; 5 years.

Claim.—1st. The process of manufacturing cast iron, by heating the iron in the cupola with fluor spar and silica, as set forth. 2nd. The process of manufacturing superior cast iron, by treating the iron in the cupola with fluor spar and silica, in the precise and peculiar method of alternate layers, the fluor spar and the silica being separated by the iron. 3rd. The peculiar use of fluor spar and silica, not in mixture, but in conjunction, as auxiliaries, working together in the cupola to purify, strengthen, and otherwise improve cast iron.

No. 34,973. Apparatus for Heating Railway Cars. (*Appareil de chauffage des chars de chemin de fer.*)

Royal L. Higgins, (assignee of Theodore Staunton Glover), both of Norwalk, Connecticut, U.S.A., 5th September, 1890; 5 years.

Claim.—1st. The combination, with the shell, of a heater, having a door sliding vertically, and a case inclosing said shell, also having a door door registering therewith, of a brace 12, connecting said doors, so that they will rise and fall together. 2nd. The combination, with the case, of a vertically sliding door, having a catch 17, and a spring latch 18, adapted to engage said catch, and hold the door

locked when at its lowest position. 3rd. The combination, with the case, and a vertically sliding door, having a strap 15, of a lever pivoted to said case, and extending through said strap, and a swinging rack adapted in one position to be engaged by said lever to hold the door at any desired position, and in another position to release the door. 4th. The case, and a vertically sliding door, having a catch 17, in combination with a spring latch adapted to engage said catch, a lever engaging the door, whereby it may be raised or lowered, and a swinging rack, which is adapted in one position to be engaged by said lever, and when swung out of said position, allows the door to drop and to be locked by the engagement of the catch and latch. 5th. The case, and a rack pivoted thereto, and swinging in the horizontal plane, in combination with a vertically sliding door having a bevel nosed catch, a spring latch adapted to engage said catch, and a lever for raising and lowering the door, which is adapted to engage said rack to hold the door in the opened or closed position, under ordinary circumstances, and which when swung to the right or left allows the door to drop, and be locked by the engagement of the latch and catch. 6th. The combination, with a heater, of a case inclosing said heater doors in said case registering with each other, and a brace connecting said doors, so that they operate together. 7th. The combination, with a steam heater, of ordinary construction, and a steam supply pipe leading therefrom, of a valve in said pipe adapted to cut off the steam, a lever by which said valve is operated, and a spring connected to said lever and to a fixed point, the line of tension of said spring being slightly within the pivotal point of said lever, so that said valve is held at the open position until said lever is swung backward far enough to cause the spring to act on the opposite side of the pivotal point of said lever, said spring then acting to close the valve. 8th. The combination, with a heater a pipe 24, leading therefrom, said pipe having a valve 27, operated by a lever 28, a valve 29, upon the heater, and a pipe 38, leading therefrom, of a lever 31, pivoted to valve 29, and having a cup 36, a weight adapted to rest in said cup, in its normal position, a chain extending from said weight over a pulley, and connected to the end of the lever, and an arm and link connecting said lever with lever 28, so that when the ball is thrown out of the cup steam is cut off from pipe 24, and admitted to pipe 38. 9th. In a heater, of the class described, valve 29, pipe 38, leading therefrom, and a lever 31, ball 35, chain 33, and cup 36, whereby said valve is normally held in the closed position, in combination with a ring 43, in said pipe, having tongues supporting a ball, a cylinder containing a fire extinguishing solution, and a pipe leading therefrom under the grate, whereby when ball 35, is thrown from the cup, valve 39, is opened admitting steam to pipe 38, which forces ball 45, through the ring, causing it to break the cylinder, and allowing the fire extinguishing solution to be carried by the steam under the grate, to extinguish the fire. 10th. The combination, with the ash pit, grate, etc., of a heater of compartment 46, a pipe leading therefrom, having capped branches extending under the grate, a cylinder containing a fire extinguishing solution in said chamber, a pipe 38, leading therefrom to the steam chamber of the heater, and a ball in said pipe which is supported under normal conditions, and which when steam enters said pipe is driven downward to break the cylinder, as and for the purpose set forth. 11th. The combination, with the ash pit and grate, of a steam heater, a compartment 46, a cylinder containing fire extinguishing chemicals in said compartment, a pipe leading therefrom and having branches covered by hinged caps, and a pipe 38, leading from said compartment to the steam chamber of the heater, of a ring 43, in said pipe having tongues, and a ball supported by said tongues, which when steam is admitted to said pipe is driven through the ring and acts to break the cylinder, so that the chemicals are carried by the steam under the grate to extinguish the fire. 12th. The combination, with a chamber 46, containing a fire extinguishing cylinder, a pipe 38, leading from the steam chamber to said compartment, and a pipe 45, leading from said compartment under the grate, of a ball supported in pipe 38, a valve 29, between pipe 38, and the heater, and connections, substantially as shown, which normally act to close said valve, but which when the equilibrium is disturbed, permits the steam to open said valve, pass into pipe 38, dislodge the ball, and break the cylinder, so that the steam and chemicals pass under the grate and extinguish the fire. 13th. In a heater, of the class described, the combination, with a fire extinguishing cylinder, a pipe 38, leading from the heater and containing a suspended ball, a valve 27, in said pipe, a lever 31, pivoted to valve 29, a cup on said lever, a ball resting in said cup, a chain extending upward therefrom passing over a pulley and connected to the end of a lever, and an arm and link connecting said lever with valve 27, whereby, when the ball is thrown from the cup, the steam is cut off in the supply pipe, and allowed to pass into pipe 38, and release the ball, and break the cylinder.

No. 34,974. Sole Sewing Machine.

(*Machine à coudre les semelles.*)

Joseph Eli Bertrand, Boston, Mass., U.S.A., and Mellen Bray, Newton, Mass., U.S.A., (assignee), 5th September, 1890; 5 years.

Claim.—1st. In a sewing machine, the combination of a rocker shaft, two independent radius arms arranged side by side upon said shaft, and adjustable towards and from each other, a curved needle carried by one of said arms, a curved awl carried by the other of said arms, and movable in unison with said shaft about its axis, and in the direction of its length, and means having provision for adjusting said radius arms towards and from each other. 2nd. In a sewing machine, the combination of a needle and awl operating shaft, mounted in bearings so as to be revoluble and movable endwise therein, two radius arms arranged side by side on said shaft, one being fixed thereon, and the other movable in the direction of the length of said shaft, and both revoluble therewith, a curved needle mounted in the free end of said fixed arm, a curved awl mounted in the free end of the other arm in a position by the side of and parallel to said needle, a forked shipper arm constructed and arranged to engage with the hub of the awl carrying radius arm, and a hand lever, constructed and arranged to move said shipper

arm, and the awl carrying radius arm in the direction of the length of the needle and awl operating shaft to vary the distance between the needle and awl. 3rd. The combination, in a sewing machine, of a needle and awl operating shaft, mounted in bearings, so as to be revolvable and movable endwise therein, two radius arms arranged side by side on said shaft, one being fixed thereon and the other movable lengthwise of said shaft, and provided with a peripheral groove in its hub, and both revoluble with said shaft, a curved needle mounted in the free end of said fixed arm, a curved awl mounted in the free end of the movable arm in a position by the side of and parallel to said needle, a grooved collar fixed on said shaft, a sliding plate, a shipper arm carried by said plate and engaging with the grooved collar on said shaft, a second sliding plate mounted on the first mentioned plate, a forked shipper arm carried by said second plate and engaging with the groove in the hub of the awl radius arm, a hand lever mounted upon a fulcrum pin set in the first mentioned sliding plate, constructed and arranged to act upon the second sliding plate, to impart endwise motion thereto, by a movement of said hand lever about its fulcrum, a lever fulcrumed upon a pin set in a fixed portion of the machine, and provided in one arm with a curved groove to engage with a block or roll on the handle arm of said hand lever, and a cam constructed and arranged to act upon the other end of said lever to vibrate the same, substantially as and for the purposes described. 4th. The combination, in a sewing machine, of the shaft *b*, mounted so as to be movable endwise and about its axis, the arm *c*, fixed thereon, the arm *d*, mounted on said shaft and revoluble therewith, and movable lengthwise thereof, the curved needle, carried by the arm *c*, the curved awl carried by the arm *d*, the plate *R*, provided with the segmental ratchet *R*², the plate *S*, provided with the lug *s*, and roll *s*¹, the shipper arms *R*¹ and *S*¹, the hand lever *R*², fulcrumed upon the plate *K*, and provided upon one side of said fulcrum with the slots *r*¹ and *r*², and upon the other side of said fulcrum with the block or roll *r*², the dog or pawl *r*¹, the lever *T*, provided with a curved groove to receive the roll *r*², and at its opposite end with the roll or stud *s*¹, and the cylinder cam *E*¹, all constructed, arranged, and adapted to operate, substantially as described. 5th. The combination, in a sewing machine, of a curved needle mounted in the free end of a radius arm carried by an oscillating shaft, a pinion on said shaft, a lever having formed on one arm a segment of a gear to engage said pinion, a cam to act upon the opposite end of said lever, constructed and operating to impart to said needle a forward movement in two steps, with a rest between and a backward movement in a single step, and a rotary shuttle arranged to move in a plane at right angles to the plane in which the needle reciprocates, with its hook in position to intersect the path of the needle, and provided on its rear face with two segmental ribs concentric with the axis of said shuttle, and at such distances therefrom, that the point and barb of the needle when in its intermediate standstill position will be between said ribs, as set forth, and said ribs will have cast the thread off from the barb of the needle. 6th. The combination, in a sewing machine, of a curved needle mounted in the free end of a radius arm carried by an oscillating shaft, a pinion on said shaft, a lever having on the free end of one arm a toothed segment to engage said pinion, a cam to act upon said lever, constructed, and operating to impart to said needle a forward movement in two steps, with a period of rest between said steps, and a backward movement in a single step, with a period of rest between the forward and backward movement, a reciprocating rotary shuttle, a shuttle operating shaft, having mounted thereon, a pinion, a lever having a toothed segment on the free end of one arm thereof, to engage said pinion, and a cam to act upon said lever, constructed and operating to impart to said shuttle a complete revolution in a forward direction, and a corresponding backward movement, with a stand still at the end of each movement, said movements being so timed that the forward movement of the shuttle takes place while it is at or in the rear of its intermediate standstill position, and the backward movement of the shuttle takes place while the needle is in a state of rest at the extreme of its forward and upward movement. 7th. The combination, with the shaft *b*, the needle arm *c*, fixed thereon, the needle *c*¹, the bolt *c*², provided with the clamping head *c*³, of the awl arm *d*, movable lengthwise on said shaft and provided with the offset *d*¹, and the lip *d*², and the awl *d*³, formed in one piece with the block like haft *d*⁴, provided with the offset *d*⁵, and secured to the awl arm by a screw bolt, whereby said awl is adapted to be adjusted into close proximity to or away from said needle. 8th. In combination, with the presser foot bar, two ratchet bars secured thereto, upon opposite sides thereof, with the pawl engaging shoulders on one, facing downwards, and on the other upwards, a lever carrying on its front end a pawl, or pawls arranged to engage at the proper times with the teeth of each of said ratchet bars, a cam to act upon the rear end of said lever, and impart thereto a vibratory motion, and a guard pin constructed and arranged to retract said pawls from engagement with said ratchet bars during a portion of the time of each revolution of the cam shaft. 9th. The combination of the needle carrying and operating shaft, a radius arm fixed thereon, a second radius arm mounted upon and revoluble with and movable endwise of said shaft, a curved needle mounted in the free end of said fixed arm, a curved awl mounted in the free end of said movable arm in a position by the side of and parallel with said needle, a forked shipper constructed and arranged to engage with the hub of the awl radius arm, a pivoted hand lever engaging with said shipper to impart motion thereto, a pawl or dog mounted upon the handle end of said hand lever, and a ratchet constructed and arranged to be engaged by said pawl or dog to lock said hand lever, and through it the awl against accidental displacement. 10th. The thread tension wheel *g*, having a thread receiving groove, the bottom of which is polygonal, or composed of a series of flat sides meeting each other at angles. 11th. The thread tension wheel *g*, having a polygonal section between its flanges, and provided at one end with a ratchet wheel, in combination with the lever *Q*, the pawl *q*¹, pivoted thereto, the set screw *q*², the spring *q*³, and the cam *q*⁴, all constructed and arranged to operate, substantially as described. 12th. In combination with the needle carrying and operating shaft and a revolving shuttle, the stands *G*¹, *G*², detachably secured to the front of the bed by suitable bolts, and having formed in their upper ends bearings for said shaft, and in their under sides with bearing surfaces to fit the shuttle raceway, the raceway *G*³, made in the form

of a segment of a ring, and fitted between and supported by said stands, and the screws *a*, *a*, for securing said raceway to said stands. 13th. In combination, with the needle carrying and operating shaft, of a sewing machine, and a revolving shuttle, the stands *G*¹, and *G*², detachably secured to the front of the bed of the machine by suitable bolts, and having formed in their upper ends bearings, for said shaft, bearing surfaces upon their inner sides, to receive the shuttle raceway, and one of said stands being provided with a bearing to receive the work support, the shuttle raceway *G*³, made in the form of a segment of a ring and fitted between and supported by said stands, the screws *a*, *a*, for securing said raceway to said stands, and the work support *j*, detachably secured by a bolt or screw to one of said stands, substantially as described.

No. 34,975. Gondola Car. (*Char-gondole.*)

Thomas Watkins, Coal Bluff, Pennsylvania, U.S.A., 6th September, 1890; 5 years.

Claim.—1st. The combination, with the door opening, vertical posts 20, 21, at the sides thereof, and a round bar 19, connecting said posts above and in front of the door opening, of a door adapted to close said opening, and hinge straps 18, fixedly secured to the inner face of the door, and extending above its upper edge around the rod to rock and slide thereon, whereby the door may be held open by first swinging it outwardly, and then laterally until its upper edge engages the outer face of one of the posts, substantially as set forth. 2nd. The combination, with a car having its bottom inclined from opposite sides of the center, and door openings in its sides, of posts 20, 21, one of each pair of which has a recess *b*, and each pair having recesses *a*, in the lower ends of their adjacent faces, rods 19, doors *B*, mounted to swing on said rods and to slide laterally thereon into engagement with said recesses *b*, substantially as set forth. 3rd. The combination, with the posts 20 and 21, forming a portion of a car body, of a rod or bar carried by said posts, a trap or door mounted to turn and to slide upon such rod, one of the posts being provided with a recess adapted to receive the upper edge of the door, substantially as described.

No. 34,976. Attachment for Fanning Mills.

(*Disposition aux Tarares-cribleurs.*)

Robert K. Floeter, Chatham, Ontario, Canada, 6th September, 1890; 5 years.

Claim.—1st. The application of rolls of india-rubber, or other similar elastic material, to a fanning mill, substantially as and for the purpose set forth. 2nd. As a new article of manufacture, a fanning mill formed with rolls *R*, *R*¹, substantially as and for the purpose set forth. 3rd. The combination of the stationary or permanently placed roll *R*¹, and shaft *A*¹, the adjustable roll *R* and shaft *A*, said rolls being formed of india-rubber, or other elastic material and suitable supporting devices, substantially as and for the purpose set forth. 4th. The combination of stationary or permanently placed rolls *R*, *R*¹, the shafts *A*, *A*¹ and the brackets *B*, *B*, or other equivalent means for supporting said shafts, substantially as and for the purpose set forth. 5th. The combination of the rolls *R*, *R*¹, formed of india-rubber or other elastic material, the shafts *A*, *A*¹, the brackets *B*, *B*, and a plate of india-rubber, or other elastic material, placed between the outer sides of one or both of the shafts *A*, *A*¹, and the adjacent sides of their bearings, substantially as and for the purpose set forth.

No. 34,977. Revolving Book Case.

(*Bibliothèque tournante.*)

Curtis Goddard, Alliance, Ohio, U.S.A., 6th September, 1890; 5 years.

Claim.—1st. The within described revolving book-case, consisting of the central standard *A*, secured to the base *A*¹, provided with the rail *a*¹, the stationary case *B*¹, provided with the solid top cover *B*, secured to the top of the standard *A* and the door *b*, the bottom of the case having an opening adapted to receive and fit the lower revolving shelf, the inclosed revolving shelves *C*, with supports *c*, the casters *E* attached to the lower revolving shelf, and the circular hand rail *C*¹ secured to the lower shelf *C*, by means of the arms *c*¹, substantially as shown. 2nd. In a revolving book-case, the combination of the central standard *A*, the stationary case *B*¹, having the solid cover *B*, secured to the standard *A*, and the door *b*, the bottom of the case having an opening adapted to fit the lower shelf, the inclosed revolving shelves *C*, and means for revolving the shelves, consisting of the hand rail *C*¹, secured thereto by the arms *c*¹, substantially as shown. 3rd. The combination, in a revolving book-case, of the base *A*¹, supporting the central standard *A*, the stationary case *B*¹, having the solid cover *B* secured to the standard *A*, and an opening in its bottom adapted to fit the lower revolving shelf, the inclosed revolving shelves, and the hand rail *C*¹, secured to the lower shelf by the arms *c*¹, substantially as shown.

No. 34,978. Fruit Picker. (*Jaffet.*)

John W. Cain, Rusk, West Virginia, U.S.A., 6th September, 1890; 5 years.

Claim.—1st. In a fruit picker, the combination, with the handle *A*, the loop *B*, secured to the handle and projecting above the same, and the bag *E*, secured to the loop of the angular jaw *C*, pivoted to the said loop and provided with the pins *b*, projecting from its inner edge, and with the covering *C*², the spring *d*, for holding the jaw normally closed, the arm *D*, pivoted to the handle, the rod *k* connected to the arm and to the jaw, and the rod *k*¹ connected to the outer end of the said arm *D*, substantially as shown and described. 2nd. In a fruit picker, the combination, with the handle *A*, the loop *B*, secured to the handle, and the bag *E* secured to the loop, of the

angular jaw C, pivoted to the loop and provided with the pins b, and the covering C', the springs d, for holding the jaw normally closed, the arm D pivoted to the handle, the rod A, connected to the jaw and arm, the brace j, projecting from the handle below the arm D, and the rod h' secured to the outer end of the arm D, passed through the brace j, and provided with the hand loop h'', substantially as shown and described. 3rd. A fruit-picker, comprising the handle A, the miniating in the spout F, the receiving sack H, to which the spout is pivoted, provided with the strap m and the terminal spout H', the covering C', and means for opening said jaw, substantially as shown and described. 4th. In a fruit-picker, the combination, with the bag E, attached to the picking mechanism, as shown, of the spout F, having netting F', elbow F'', and opening F''' therein, substantially as shown and described.

No. 34,979. Eave Trough. (*Larmier de toit.*)

Thomas C. Snyder (assignee of John Wock), both of Canton, Ohio, U.S.A., 6th September, 1890; 5 years.

Claim.—1st. The combination of the sheet A, provided with the narrowed portion B, having the extension B', the groove b formed by bending the narrowed portion B against the sheet A, and a part of said narrowed portion against itself at a point to form the guide b', substantially as and for the purpose specified. 2nd. The combination of the sections A, provided with the bead C, having an oblique end, and the narrowed portion B, bent to form the groove b, and the guide b', substantially as and for the purpose specified. 3rd. The section A, provided with the bead C, having one of its ends formed obliquely to the end of the section, and the lip d, substantially as and for the purpose specified. 4th. The section A, provided with the bead C, and having one end of the bead C cut or formed obliquely to the end of the section A, substantially as and for the purpose specified. 5th. The sheet A, provided with the narrowed portion B, and having the extension B', substantially as and for the purpose specified.

No. 34,980. Cake Griddle. (*Moule à gâteau.*)

Barbara Shaffer (assignee of Milton Shaffer), both of Canton, Ohio, U.S.A., 6th September, 1890; 5 years.

Claim.—The combination of the hinged sections A and B, the section A, provided with the handles b and the studs c, the section B, provided with the cake cups d and the guide-flanges d', substantially as and for the purpose specified.

No. 34,981. Horse Shoe. (*Fer à cheval.*)

Philip Schissler, Andrew Hutson, John A. Eplett and Isaac S. Wardell (assignees of Frank Gaudaur), all of Victoria Harbour, Ontario, Canada, 6th September, 1890; 5 years.

Claim.—1st. A horse shoe, having tapered dove-tailed recesses made in it to receive tapered calks, substantially as and for the purpose specified. 2nd. A horse shoe, having projections formed on its bottom surface, with tapered dove-tailed recesses formed in them to receive tapered calks, each calk having a groove made in it, for the purpose specified.

No. 34,982. Cloth Measuring Machine.

(*Machine pour mesurer le drap.*)

Michael Joseph O'Hara, Creedmore, Ontario, Canada, and Henry Eldridge and Wesley George Reed, Toronto, Ontario, Canada, 8th September, 1890; 5 years.

Claim.—1st. In a cloth measuring machine, two measuring rollers, the spindle of one of which projects through the frame, and has a worm on it to mesh with the teeth of an index wheel, substantially as and for the purpose specified. 2nd. In a cloth measuring machine, two measuring rollers, the spindle of one of which projects through the frame, and has a worm on it to mesh with the teeth of an index wheel, in combination with a bar provided with adjustable clamps, so arranged as to securely lock in position the board containing the cloth required to be measured, substantially as and for the purpose specified. 3rd. In a cloth measuring machine, two measuring rollers, the spindle of one of which projects through the frame, and in combination with a bar provided with adjustable clamps so arranged as to securely lock in position the board containing the cloth required to be measured, and a bar provided with corresponding clamps to wound, substantially as and for the purpose specified. 4th. In a cloth measuring machine, the bars D and E, provided with clamps lengthways upon the said bars D and E, and are adjustable by the thumb screws I, substantially as and for the purpose specified. 5th. In a cloth measuring machine, the bar D, having a tapered bevelled end j, and a handle N, substantially as and for the purpose specified. 6th. In a cloth measuring machine, the bar D, having its bearing at one end, in the frame A, and at the other in the flanged roller J, which is formed, as shown, and has a friction roller K, supported in bearings on the spring L, substantially as and for the purpose specified. 7th. In a cloth measuring machine, the flanged roller J, the friction roller K, operating on the central oval portion of the flanged roller J, and supported in bearings on the end of the spring L, the pressure of the roller being regulated by the set of the screw N, substantially as and for the purpose specified. 8th. In a cloth measuring machine, the measuring roller R, provided with cylindrical brushes O, substantially as and for the purpose specified. 9th. In a cloth measuring machine, the index wheel F, provided with an adjustable index finger f, and stop z, substantially as and for the purpose specified.

No. 34,983. Metal Stove Pipe Collar.

(*Douilles métalliques pour tuyaux de poêles.*)

Eli Snyder, Toronto, Ontario, Canada, 9th September, 1890; 5 years.

Claim.—In a circular shaped metal stove-pipe collar, having its upper surface formed horizontally, and its front end a perfect circle, the rear end B, formed in its upper part, viz., above the dotted line b, b, in shape, a semi-circle, and its lower part in shape, a semi-elliptic, to allow the lower surface of the collar to incline downwards from the front end, substantially as and for the purpose hereinbefore set forth.

No. 34,984. Travelling Crane. (*Grue mobile.*)

Walter Wood, Philadelphia, Penn., U.S.A., 9th September, 1890; 5 years.

Claim.—1st. The combination, with a travelling crane, of hydraulic actuating mechanism, situated at a point independent of the crane structure, and means, substantially as set forth, whereby the movement of said actuating mechanism is transmitted to the moving members of said crane. 2nd. In a travelling crane, the combination, with the bridge trolley and fall block, of ropes connected with each of said members, which ropes lead thence to an actuating point or points independent of the bridge, and hydraulic cylinders and plungers at said actuating point or points connected with said ropes, substantially as set forth. 3rd. In a travelling crane, the combination, with the bridge trolley and fall block, of individual ropes connected respectively with each of said members, which ropes lead thence to actuating points independent of the bridge, and actuating mechanism for said ropes, substantially as set forth. 4th. In a travelling crane, the combination, with the bridge and trolley, of a rope leading from said trolley to an actuating point independent of the bridge, brake mechanism, whereby said rope may be temporarily applied to the bridge, and actuating mechanism for said rope, substantially as set forth. 5th. In a travelling crane, the combination, with the bridge and fall-block, of a rope leading from an actuating point independent of the bridge to and along the bridge to the fall block, and thence by way of the bridge to the distant end of the line brake mechanism whereby said rope may be temporarily applied to the bridge, and actuating mechanism for said rope, substantially as set forth. 6th. In a travelling crane, the combination, with the bridge trolley and fall-block, of a rope leading from an actuating point independent of the bridge to and along the bridge to the trolley, thence to the fall block, and thence by way of the trolley and bridge to the distant end of the line, brake mechanism, whereby said rope may be temporarily applied to said trolley, brake mechanism, whereby said rope may be temporarily applied to said bridge, and actuating mechanism for said rope, substantially as set forth. 7th. In a travelling crane, the combination, with the bridge trolley and fall-block, of actuating mechanism, and a lifting rope leading from said actuating mechanism to the initial end of the line, thence leading to one end of the bridge, thence to the trolley, thence descending to and around a sheave of the fall block, and rising thence to the trolley, thence passing to the end of the bridge opposite to that at which it entered, thence leading to the distant end of the line, thence returning in continuity to the initial end of the line, and thence leading to the actuating mechanism, said rope being freely supported throughout its entire circuit over the line, substantially as set forth. 8th. The combination, with the bridge trolley and fall block, of an hydraulic cylinder and plunger, a lifting rope leading in continuity from said cylinder to the initial end of the line, thence leading to the end of the bridge, thence to the trolley, thence descending to and around a sheave of the fall block and rising thence to the trolley, thence passing to the end of the bridge opposite to that at which it entered, thence leading to the distant end of the line, thence returning to the end of the bridge at which it first entered, thence leading to the trolley, descending to and around a second sheave of the fall-block and rising to the trolley, thence leading to the end of the bridge at which it first left it, and thence returning to the initial end of the line and completing its circuit at the cylinder, said rope being freely supported throughout its entire circuit over the line, substantially as set forth.

No. 34,985. Musical Scale Register.

(*Registre de transposition musicale.*)

George Byron Whelock Bliss, Calais, Vermont, U.S.A., 9th September, 1890; 5 years.

Claim.—A musical scale register, consisting of box A, cubical lettered blocks B and hexagon blocks C, in combination with arms D, all arranged as described and for the purpose set forth.

No. 34,986. Bag or Package.

(*Sac ou paquet.*)

Charles Cook Brayley, Toronto, Ontario, Canada, 9th September, 1890; 5 years.

Claim.—1st. A bag or package, provided with a bail threaded through it at or near its mouth, substantially as specified. 2nd. A bag or package, provided with a bail threaded through it, at or near its mouth, in combination with a stiffening bar D, substantially as specified.

No. 34,987. Load Lifter. (*Monte-charge.*)

Charles Wesley Armstrong, Brampton, Ontario, Canada, 9th September, 1890; 5 years.

Claim.—1st. A rope wheel A, having arms F projecting beyond its periphery, and a small pin d projecting from each arm, in combination with the pivoted lever or dog G and spring H, substantially as specified. 2nd. A rope wheel A, having arms F projecting beyond its periphery, and a small pin d projecting from each arm, to lock the pivoted lever G, in combination with the shafts B, ropes E, and J, swivel pulley K, and snub roller L, arranged substantially as specified.

No. 34,988. Back for Vehicles.*(Dossier de voiture.)*

William Albert Nason, Pleasureville, Penn., U.S.A., 9th September, 1890; 5 years.

Claim.—1st. In a lazy-back for vehicles, the curved springs passing through the staple, or U-shaped irons underneath the seat, having their front ends secured to the front of the seat and their uppermost ends to the back-rail, in combination with the vehicle-seat and the back-rail, whereby said springs are securely held in position and allowed a free vertical movement, substantially as described. 2nd. In a lazy-back for vehicles, the combination of the curved springs, the U-shaped irons secured underneath the seat, the back-rail of the vehicle to which the rear uppermost ends of said springs are secured and the vehicle-seat, substantially as described and for the purpose set forth.

No. 34,989. Cover for Curtain or Cornice Poles. *(Couverture pour bâtons de rideau ou corniche.)*

Thomas Picton Simon Brown, Belleville, Ontario, Canada, 9th September, 1890; 5 years.

Claim.—The covering of the curtain or cornice pole, with oil cloth of any colour or pattern, substantially as and for the purpose hereinbefore set forth.

No. 34,990. Step Ladder.*(Echelle de vitrier.)*

Thomas Harris, Meaford, Ontario, Canada, 9th September, 1890; 5 years.

Claim.—1st. The combination, with a step-ladder, of strap K, connected by staple, the adjustable sliding block L, pin N, guides M, M, substantially as and for the purposes herein set forth. 2nd. The combination of the vertical rotating standard O, secured at foot by staple Q, and hooks R, R, with the crane arm P, substantially as shown. 3rd. The combination, with the lateral braces J, J, of the single extension back leg D, substantially as and for the purpose specified.

No. 34,991. Lamp. *(Lampe.)*

Alvin Taplin, Forestville, Conn., U.S.A., 9th September, 1890; 5 years.

Claim.—1st. In a lamp, having a central draft-tube and tubular wick, the combination of the vertically-moving wick-carrier, having a handle, and the spring 12 fixedly secured to the bottom of the lamp-cup, and arranged parallel to the draft-tube to press upon said wick-carrier, substantially as described and for the purpose specified. 2nd. In a lamp, having a central draft-tube and tubular wick, the combination of the vertically-moving wick-carrier, having a handle and two cams secured to the bottom of the lamp-cup, one for withdrawing said carrier from the wick, and the other for forcing it against the same, substantially as described. 3rd. In a lamp, having a central draft tube and tubular wick, the combination of the wick-carrier 6, having the shank 8, cam 11 and shoulders 10, 10, the handle 9 secured to said shank, the spring 12, having the inclined bend near its lower end, and the cam 13, against which the shoulders 10, 10 act, substantially as described and for the purposes specified.

No. 34,992. Photographic Posing Chair.*(Chaise de photographe.)*

James McKenzie Dow, Ogdensburg, N.Y., U.S.A., 9th September, 1890; 5 years.

Claim.—1st. The combination, with a suitable seat, of a supporting rod extending around said seat and secured thereto, a vertical supporting rod for the back or head rests, loosely mounted on said supporting rod to slide and fulcrum thereon, whereby said vertical supporting rod may be adjusted laterally, and means for adjustably supporting the lower end of said vertical supporting rod, in a manner to allow the same to be adjusted backward and forward, substantially as described and for the purpose set forth. 2nd. The combination, with a suitable seat, of a horizontally-arranged supporting rod, extending around said seat and secured thereto, a coupling supported on said supporting rod and provided with a tension spring for engagement with said supporting rod, and a vertically-arranged supporting rod for the head or back rests, supported by said coupling, substantially as described and for the purpose set forth. 3rd. The combination, with a suitable seat or frame, provided with a horizontally-arranged supporting rod, extending around the same, and supported thereby, of a vertically arranged supporting rod adjustably supported in a coupling, said coupling being loosely mounted on said horizontally-arranged rod, and means for adjustably supporting the lower end of said vertical supporting rod, whereby either the back or head rest may have a vertical, lateral and backward and forward adjustment, substantially as described and for the purpose set forth. 4th. In a posing chair, the combination, with a suitable seat or frame, and a supporting rod secured thereto, of a tubular rod mounted on said supporting rod and having an adjustable connection at its lower end with a horizontally-arranged serrated rod, which extends and is loosely supported at its free end beneath the seat or frame, and a dog supported by said seat or frame adapted to engage said serrated rod, substantially as described and for the purpose set forth. 5th. In a posing chair, the combination, with a seat or frame provided with a supporting rod secured thereto, of a tubular rod adapted for the support of the back or head-rest, loosely mounted on said supporting rod and connected at its lower end with a horizontally-arranged rod, and a sleeve pivotally secured to a swivelled frame supported by the said seat or frame and adapted to loosely support the free end of said horizontally-arranged rod, substantially

as described and for the purpose set forth. 6th. The combination, with a suitable seat or frame, of a supporting rod extending partially around the same and secured thereto, a vertically-arranged supporting rod loosely mounted thereon, and a horizontally-arranged serrated rod, to one end of which said vertical rod is attached, a dog adapted to engage with said serrated rod, and a spring located on said vertically-arranged supporting rod, adapted to keep the said horizontal rod connected thereto, in engagement with said dog, substantially as described and for the purpose set forth. 7th. In a posing chair, the combination, with a seat or frame provided with a supporting rod extending partially around the same, and secured thereto, of a vertically-arranged rod, supported by said supporting rod in a coupling, to have a vertical and lateral adjustment thereon, and a horizontally-arranged toothed or serrated rod to which the lower end of said vertically-arranged rod is attached, and a sleeve and dog having a swivel connection with said chair or frame adapted to adjustably support and engage with the said horizontally-arranged rod, substantially as and for the purpose set forth. 8th. In a posing chair, the combination, with a seat or frame, of a vertically-arranged supporting rod, pivotally supported by said seat or frame at a point between its ends, and a horizontally-arranged rod connecting with and supporting the lower end of said vertically-arranged rod, and a sleeve pivotally secured to the chair or frame or a part thereof, for the support of the free end of said horizontally-arranged rod, substantially as described and for the purpose set forth. 9th. The combination, in a posing chair, with a seat or frame, of a pivotally supported vertically-arranged rod, a horizontally-arranged toothed or serrated rod, connecting with the lower end of said vertically-arranged rod, a dog for engaging said toothed or serrated rods, and a spring adapted to exert an elastic pressure upon said serrated or toothed rods, to keep the same in engagement with the said dog, substantially as described and for the purpose set forth. 10th. In a posing chair, the combination, with a suitable seat or frame, of a rotatable, vertically and horizontally-adjustable arm-rest, substantially as described and for the purpose set forth. 11th. In combination with a stationary plate or disc, a compound sliding pivotal and clamping disc J, consisting of a secondary plate or disc pivotally secured to the former or stationary plate, and provided with a longitudinal opening therein, for the adjustable reception of a rod, and a transverse opening, communicating with said longitudinal opening, a clamping plate adapted to be seated in said transverse opening, and a set-screw for adjustably supporting and operating said secondary disc and said clamping plate, substantially as described and for the purpose set forth. 12th. A head-rest for posing chairs, consisting of two arms adapted at one end for the support of the head or other object, and at their opposite end having a separate pivotal connection with a supporting plate or disc, and a set-screw for adjustably clamping said supporting plate or disc on a stationary plate or disc, with the pivoted ends of said arms between the adjacent surfaces of the same, substantially as described and for the purpose set forth.

No. 34,993. Button. *(Bouton.)*

Wallace Edward Jackson, and Levis Alfred Platt, Waterbury, Conn., U.S.A., 9th September, 1890; 5 years.

Claim.—1st. In a button, an independent die or clinching-piece, provided with a longitudinal bore, and an enlarged clinching-space, and having its closed end shaped to form a bearing-surface for the cap piece of the button, so that the said cap-piece will not be distorted or injured when under pressure during the upsetting of the rivet, substantially as described. 2nd. The combination, with a centrally-perforated button-flange, of an independent die or clinching-piece, having a closed end and a flared open end, respectively located on opposite sides of the button-flange, through the perforation of which the die or clinching-piece is passed, as set forth. 3rd. The combination, with a centrally-perforated button flange, of an independent die or clinching-piece having an enlarged head, and a shank, respectively located on opposite sides of the button-flange, the said enlarged head inclosing an enlarged clinching space, and the said shank having a longitudinal bore which opens into the said space, substantially as set forth. 4th. In a button, the combination, with a centrally-perforated button flange, of an independent die or clinching piece having a head and a shank, and provided with an enlarged clinching-space and a longitudinal bore, and a spacer encircling the said shank or a portion thereof, substantially as set forth. 5th. In a button, the combination, with a centrally-perforated button-flange, of an independent die or clinching-piece, having a head and a shank flared at its outer end, the said head and shank being located on opposite sides of the said flange, the head having an enlarged clinching-space, and the shank having a longitudinal bore, and a spacer encircling the shank and held in place by the flared outer end thereof, substantially as set forth.

No. 34,994. Load Lifter. *(Monte-charge.)*

Richard Sargent, Brampton, Ontario, Canada, 9th September, 1890; 5 years.

Claim.—1st. A load lifter, constructed substantially as herein shown and described, and consisting of a bull wheel revolving a shaft, which turns another similar shaft in an opposite direction by the unwinding of a rope made fast at both ends to these shafts, as set forth. 2nd. In a load lifter, the combination, with the wheel C, having the teeth *g* and axle D, of the rope J and axle E, whereby the lift ropes, terminated by the hooks *a, a, a*, are wound upon these axles to raise the load, as shown and described, when power is supplied by the pulling of the fall rope *c*, wound upon the barrel of the wheel C, substantially as set forth. 3rd. In a load lifter, the combination, with the frame A, B, having the dog I, of the trucks *c, c, c*, substantially as set forth.

No. 34,995. Reducing Ores.*(Reduction des minerais.)*

Charles James Eames, New York, N.Y., U.S.A., 10th September, 1890; 5 years.

Claim.—1st. As an improvement in the art of carbonaceous re-

ducing ore, subjecting a moist or plastic mass of admixed pulverized iron ore, and a reducing agent, to a reducing heat in a vibratory or other suitable furnace, substantially as and for the purpose specified. 2nd. As an improvement in the art of reducing ore, subjecting a mixture of pulverized ore and a carbonaceous reducing agent, which has been rendered moist or plastic by the addition of two fluids, which distill or vaporize at different temperatures, to a suitable reducing heat, substantially as and for the purposes specified. 3rd. As an improvement in the art of reducing ore, subjecting a moist or plastic mixture of pulverized ore, and a carbonaceous reducing agent, to which has been added paraffine or crude petroleum, residuum and water, to the action of a reducing heat, in a suitable furnace, substantially as and for the purposes specified.

No. 34,996. Auger. (*Tarrière.*)

Josiah Bailey, Wilmington, Ohio, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. An auger, which has a single main spiral web, together with a pointed cutter, backed by a spiral web which has a pitch greater than the pitch of the main spiral web of the auger, and which decreases gradually in radius as it ascends, and runs into and coincides with the said main spiral web at a short distance from the cutter, substantially as described. 2nd. An auger, which has a single spiral main web, which increases in thickness gradually and uniformly from the outer to the inner edge, together with a pointed cutter placed to one side of and at some distance from the axis of said auger, and a support for said cutter projecting from said axis, substantially as described. 3rd. An auger, which has a single main spiral web, which terminates in a suitable edge for removing the chips, together with a pointed cutter backed by a spiral supporting web, which has a pitch greater than the pitch of the main spiral web, and which decreases gradually in radius as it ascends, and runs into and coincides with the said main spiral web, substantially as described. 4th. An auger, which has a single main spiral web, which increases in thickness gradually, and uniformly from the outer to the inner edge, together with a pointed cutter which is backed by a short spiral web, which has a pitch greater than that of the main spiral web, and which decreases gradually in diameter as it ascends, and runs into and coincides with the main spiral web, substantially as described. 5th. In an auger, the single pointed cutter supported upon and projecting downward from a suitable web, which terminates in a straight cutting edge, a portion of the cutting edge of the pointed cutter being above said web, substantially as described.

No. 34,997. Combined Can Holder and Filler. (*Porte-bidon et entonnoir combinés.*)

Ephraim Abiger Foster, Port Clinton, Ohio, U.S.A., 10th September, 1890; 5 years.

Claim.—The herein described device, consisting of handles provided with curved bands constructed to surround a vessel and holding the same, said curved bands being provided at diametrically-opposite points with perforations, in combination with a filling-hopper provided with an annular flange, having diametrically-opposite perforations, vertical guide rods having their upper ends passing through the perforations in the annular flange of the hopper, and their lower ends bent inwardly to engage the perforations of the curved bands, and stops located upon the vertical guide-rods beneath the annular flange of the hopper, substantially as set forth.

No. 34,998. Composition for Bricks and Stones. (*Composition pour la brique et la pierre.*)

George Pepper and Thomas Walter Horn, Toronto, Ontario, Canada. 10th September, 1890; 5 years.

Claim.—The use of fresh burnt lime, to which at the moment of slaking, salt is added, substantially as and for the purpose specified.

No. 34,999. Clothes Wringer. (*Essoreuse à linge.*)

The Stone Manufacturing Company, (assignees of Thomas W. Stone), Columbus, Ohio, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. In combination with the main frame, having an adjustable roll mounted therein, with means for adjusting and clamping the same, and provided at its lower end with clamping arms H, with clamping frame having a roller mounted therein and provided main frame, substantially as and for the purpose set forth. 2nd. In a wringer frame, consisting of a main frame, and a pivoted auxiliary frame, the clamping arms H, J, having their lower ends bevelled or curved outward to enable them to be shoved down on the manipulation, as set forth. 3rd. In combination, with the main roller journals and their bearing A, recessed for the reception, of the provided with an adjusting screw B, and hand lever L provided with an eccentric a, arranged to bear on the follower D, substantially as shown and described. 4th. In a wringer frame, the recessed end pieces A, having the guides or lugs a, arranged therein, in combination with the presser blocks G, provided with the semi-circular recess at their lower ends, and arranged to fit and move between said guides, substantially as shown and described. 5th. The recessed end pieces A, provided with the vertical projections n, for keeping the roller journal in its central position, and preventing lateral displacement of the same, when relieved from pressure.

No. 35,000. Mattress. (*Matelas.*)

John Blocher, Franklin Grove, Illinois, U.S.A., and Daniel F. Riedesbarger, China, Illinois, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. In a mattress, the combination with the case formed with compartments, and with end flaps provided with holes, as shown, of the buttons, the lacings passed through the undermost of the overlapped flaps, and through the eyes of the buttons, which are passed through the holes in the outer flaps, and the lacing united, substantially as shown and described. 2nd. The mattress, described, composed of the case formed in sections connected by flexible connections, and with end flaps, provided with holes, as shown, the buttons, the strips united to the upper and lower faces of the case upon the inner side thereof, to form separate compartments, the filling in said compartments, with the end flaps overlapped over the ends of the compartments, the lacings fast at one end and passed through the holes in the undermost of the overlapped flaps, and the buttons having their shanks passed through the eyes of said flaps, and having the lacings passed through the eyes of said shanks between the flaps, and the said lacings united around the side of the sections, substantially as shown and described.

No. 35,001. Car Door. (*Porte de char.*)

Andrew B. Monck, and Charles A. Morton, Fargo, North Dakota, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. In a car door, the combination, with the swinging bail connected to the side beams of the door frame, of the vertical strips C, C, secured to the said side beams adjacent to the side arms of the bail, and the door provided with loops fitting and sliding on the said side arms, substantially as specified. 2nd. In a car door, the combination, with the swinging bail having the side arms b, b', and the bottom bar b, standing out from the side arms to provide a rest, of the door provided with loops fitting and sliding on the side arms of the bail, the supporting blocks H, H, to engage the bottom bar, when the door is elevated, and the transverse cleat G, to fit close to the said bottom bar when the door is lowered, substantially as specified.

No. 35,002. Car Axle. (*Essieu de char.*)

Charles Summer Bates, Braintree, Mass., U.S.A., (assignee of William F. Sherman, Lowell, Mass., U.S.A.) 10th September, 1890; 5 years.

Claim.—1st. A divided axle, having a removable collar secured to the inner end of each part, a sleeve secured to each part of the axle and means for securing the sleeves against separating movement. 2nd. A divided axle, a sleeve secured to each part, one sleeve fitting the recessed face of the other, anti-friction bearings between the sleeves and an annular ring secured to one sleeve, and overlapping the other. 3rd. A divided axle, having a sleeve on each part, fitting and secured one within the other, and anti-friction bearings between the opposing faces of said sleeves. 4th. A divided axle, having a sleeve on each part, provided each with an annular groove in their opposing faces, and bearings arranged in said grooves. 5th. A divided axle, sleeves on the inner ends of the axle having recesses to form a channel, anti-friction bearings in said channels, and means for securing the sleeves against separating movement. 6th. A divided axle, collars on the inner ends of the axle, sleeves secured to each part of the axle, having an annular channel, anti-friction bearings in said channels, and means for securing the sleeves against separating movement. 7th. In combination, with a divided axle connected by a socket, and dowel connections, a sleeve on each end of the axle having grooves in their opposing faces, bearings in said grooves and means for securing the sleeves together. 8th. In combination, with a divided axle connected by a dowel, a collar on each part of the axle, a sleeve surrounding each collar, bearings between the sleeves, and means for connecting the sleeves.

No. 35,003. Machine for Making Twine from Straw, Flax, Hemp, etc. (*Machine pour la fabrication du cordonnnet avec de la paille, de l'etoupe, de la filasse, etc.*)

George H. Ellis and Henry Keller, Sauk Centre, Minnesota, U.S.A., 10th September, 1890; 5 years.

Claim.—1st. The combination, with a series of rotatory strand-forming twisting-heads, having converging axes, each twisting-head having motion on its axis only, and the delivery portions of such heads being disposed in close proximity to each other, of a rotatory twister arranged to twist together the strands immediately upon quitting the delivery portions of the twisting-heads, substantially as described. 2nd. The combination, with a series of rotatory strand-forming twisting heads, having converging axes, each twisting-head having motion on its axis only, and the delivery portion of a rotatory twister being disposed in close proximity to each other, of a rotatory twister arranged to twist together the strands immediately upon being freed from the confinement of the delivery portions of the twisting heads, substantially as described. 3rd. The combination, with a converging series of rotatory strand-forming twisting-heads, having their axes each arranged at any angle of approximately forty-five degrees to a medial line, each having motion on its axis only, and each having a spinning-tube of exactly the diameter of the strand to be produced, of a rotatory twister arranged to twist together the strands immediately upon being freed from the confinement of the delivery-tubes of the twisting-heads, substantially as described. 4th. The combination, with the converging series of rotatory strand-forming twisting-heads, each having motion on its axis only, and being provided with a pair of feed-rolls, and with a delivery-tube, of exactly the diameter of the strand to be produced, of a rotatory twister arranged to twist together the strands immediately upon being freed from the confinement of the delivery-tubes of the twisting heads, and means for rotating the twisting-heads upon their axes, and turning the feed-rolls, substantially as described.

No. 35,004. Art of Manufacturing Twine from Straw. (*Mode de fabrication du cordonnet avec de la paille.*)

George H. Ellis and Henry Keller, Sauk Centre, Minnesota, U.S.A., 10th September, 1890; 5 years.

Claim.—The herein described method of making a multiple-ly straw twine, which consists in first twisting together straws to form the respective strands, and subjecting the twisting portion of each strand to compression while being twisted, and then twisting together the strands to form the twine immediately upon relieving them from this compression, substantially as described.

No. 35,005. Stiffener for Corsets.

(*Contrefort de corset.*)

Barton Peter Canniff and John William Canniff, Montreal, Quebec, Canada, 11th September, 1890; 5 years.

Claim.—1st. The combination, in a stiffener for corsets, of the stiffener, *a*, having holes *b*, also having slots *c*, and shoulders *e*, for retaining the eyelets *f*, in place, the whole, substantially as described. 2nd. The combination, in a stiffener for corsets, of the holes *b*, slots *c*, and bridge pieces *g*, the whole, substantially as described.

No. 35,006. Sulky Plow. (*Charruc à siège.*)

George Wilkinson, Aurora, Ontario, Canada, 11th September, 1890; 5 years.

Claim.—1st. A frame, formed of angle steel, shaped, substantially as shown, the side of the frame parallel with the draft, being bent downwardly to pivot on the end of the Y-brace B, the front end of the said side being bent horizontally at right angles, to form a support for the adjustable bracket X, in which the spindle S, is journaled, substantially as and for the purpose specified. 2nd. A frame, formed of angle steel, shaped, substantially as shown, the side of the frame parallel with the draft, being bent downwardly to pivot on the end of the Y-brace B, bolted to the plow-beam C, in combination with the chain J, connected at one end to the front of the plow-beam C, the sheaf-pulley K, to support and guide, the chain and the pivoted lever L, with its toothed quadrant M, to adjust the chain for the purpose of raising or lowering the front end of the plow-beam, substantially as and for the purpose specified. 3rd. The combination, of the lever V, pivoted at *a*, and to the sliding bar W, the adjustable bracket X, in which the spindle S, is journaled, substantially as and for the purpose specified. 4th. The adjustable bracket X, supported on the frame A, and forming a journal for the spindle S, connected to the spindle of the wheel U, the sprocket wheel R, fixed to the spindle S, and connected to the sprocket wheel P, by the chain Q, in combination with the pivoted lever V, connected to the bracket X, by the sliding bar W, and of the head-block Y, supporting the sprocket-wheel P, and connected to the spindle S, by the eye-bolt Z, substantially as and for the purpose specified.

No. 35,007. Steam Boiler.

(*Chaudière à vapeur.*)

Daniel Thomas Lawson, Wellsville, Ohio, U.S.A., 12th September, 1890; 5 years.

Claim.—1st. A steam boiler, having its steam space separated from the water space by a horizontal diaphragm, provided with openings in the same, and combined with upwardly-opening check-valves arranged upon the diaphragm, substantially as and for the purpose described. 2nd. The combination, with a steam boiler, of a horizontal diaphragm separating the steam space from the water space, and provided with upwardly opening check valves, and gathering troughs for sediment, and blow-out pipes extending through the boiler from the level of the troughs, substantially as and for the purpose described.

No. 35,008. Device for Testing Car Wheels.

(*Appareil pour faire l'épreuve des roues de chars.*)

Patrick Henry Griffin, Buffalo, N.Y., U.S.A., 12th September, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a wheel-testing device, consisting essentially of a base, two standards, two parallel ways, and a mandrel, said standards having levers and bearings, as described, whereby said wheel may be tested either upon the ways or upon the bearings, as stated. 2nd. In a car wheel testing device, the combination, with suitable standards and ways, of bearings for revolving said wheel to test its rotundity, and levers for lifting the wheel with its mandrel out of said bearings upon said ways, as and for the purpose stated. 3rd. The combination, with the base B, of the standards A, A', and G, G', the parallel ways secured to said standards, the mandrel D, having journals *d*, *d'*, and the levers E, E', with their short arms *e*, said standards A, A', having the bearings *a*, *a'*, as and for the purpose stated. 4th. The combination, with the standards, having bearings, as described, of the parallel ways, and the levers having their short arms curved, as stated.

No. 35,009. Balanced Car Wheel.

(*Roue de char équilibrée.*)

Patrick Henry Griffin, Buffalo, U.S.A., 12th September, 1890; 5 years.

Claim.—1st. In a railway car-wheel, having a solid plate, provided with a series of concentric-ly arranged protuberances, having recesses, the bottoms of which do not project beyond the plane of the plate, said recesses being adapted to receive a fastening for balancing weights, as and for the object set forth. 2nd. A car-wheel, hav-

ing projecting bosses on its plates, and balancing blocks having recesses fitting said bosses, and being secured thereto, as and for the object set forth. 3rd. A car wheel, having projecting recessed bosses in its plate, and balancing blocks fitting over said bosses, and secured thereto by rivets having enlargements fitting said recesses, as set forth.

No. 35,010. Harness Buckle.

(*Boucle de harnais.*)

Gustavus Adolphus Paddock, Beaver Dam, Wis., U.S.A., 12th September, 1890; 5 years.

Claim.—1st. A buckle shield, hinged to the buckle frame at a point in the rear of the cross-bar B, against which the point of the tongue rests, said shield being adapted to close outwardly over said cross-bar, and provided with a loop C, said loop extending, when the shield is closed down outside the cross-bar B, substantially as described. 2nd. A buckle shield, hinged to the heel of the buckle frame, and provided with a loop C, said loop being adapted to receive a strap outside the cross-bar B, substantially as described.

No. 35,011. Piston. (*Piston.*)

William Stafford, Lancaster, Ontario, Canada, 12th September, 1890; 5 years.

Claim.—1st. The rings *f, f*, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, of the rings *f, f*, with the rings *e, e*, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, of the rings *f, f*, with the piston body *a*, substantially as and for the purpose hereinbefore set forth. 4th. The combination, of the rings *f, f*, with the springs L, L, substantially as and for the purpose hereinbefore set forth. 5th. The combination, of the rings *f, f*, with the piston body *a*, flange *b*, cover *c*, studs *g* or holes *k*, springs L, L, and rings *e, e*, substantially as and for the purpose hereinbefore set forth.

No. 35,012. Dental Engine Motive Gear.

(*Moteur électrique pour engin dentaire.*)

Peter Brown, Montreal, Quebec, Canada, 12th September, 1890; 5 years.

Claim.—1st. The combination, with a dental engine or the like, of an electric motor and connections, a disk on the armature shaft of same, a counter shaft suitably carried, an adjustable friction wheel mounted on such shaft, and adapted to be shifted along same, so as to make contact with said disk at various points, and a treadle with connections for adjusting said friction wheel, as specified. 2nd. The combination, with the dental engine, of the electric motor C, and connections, disc C', on the armature shaft of same, counter-shaft G, suitably carried, adjustable friction wheel I, treadle M, and connections between said treadle and friction wheel for imparting lateral movement to the latter, as set forth.

No. 35,013. Non-Incubating Hen-Nest.

(*Pondeuse.*)

Ebenezer Butterick, Brooklyn, N.Y., U.S.A., 12th September, 1890; 5 years.

Claim.—1st. In a hen's nest, a concave shelf provided with an opening, and an artificial nest egg, or nest eggs, loosely attached to the shelf by a connection, so as to permit the egg or eggs to rest and roll on the shelf, substantially as described. 2nd. In a hen's nest, a concave shelf with an opening, a frame with a sheet of light fabric loosely mounted thereon beneath the shelf, and a vertical yielding projection below the opening in the shelf, and supporting the centre of the sheet of light fabric, substantially as described. 3rd. In a hen's nest, a concave shelf provided with an opening, and one or more artificial nest eggs loosely attached thereto by a connection to rest and roll on the shelf, in combination with a frame having mounted thereon hay or other suitable nest-forming material, projecting over the shelf, substantially as described. 4th. In a hen's nest, a concave shelf having an opening, and one or more artificial eggs loosely connected to the shelf, a frame located above the shelf and having mounted thereon hay or other suitable nest-forming material projecting beneath the shelf, and a vertical yielding projection below the opening in the shelf and supporting the centre of the flexible sheet of light fabric, substantially as described. 5th. In a hen's nest, the frame 14, consisting of strips 15, secured by pins 16 and hay or straw 17, clamped between the strips 15, and projecting inwardly in the frame 14, substantially as described. 6th. In a hen's nest, the shelf 8, having the concave portion 9, with a roughened surface, the central opening 10, the artificial nest-eggs 12, resting on shelf 8, and connected thereto by cords 13 and the ventilating holes 25, with pivoted covers 26, substantially as described. 7th. In a hen's nest, the frame 18, having the inwardly-beveled edges 19, and the light flexible fabric 20, loosely mounted on the frame 18, in combination with the spiral spring 23, having the oval top-piece 22, supporting the centre of the flexible fabric 20, substantially as described. 8th. A hen's nest, consisting of a casing 1, formed with the receptacle 3, having cleats 8', on its sides, a door 6, ventilating-holes 25, with pivoted covers 26, located in the side of the receptacle 3, below the cleats 8', and in the lower part of the door 6, a covered passage-way 4, and a partition 2, with opening 5 between the receptacle 3 and passage-way 4, in combination with a shelf 8, resting on cleats 8' and having the concave portion 9, with roughened surface, the central opening 10, the artificial nest-eggs 12, loosely connected by cords 13 to the top of shelf 8, and the ventilating holes 25, with pivoted covers 26, a frame 14, resting on shelf 8, and having hay or straw 17 projecting over the latter, a frame 18, with beveled edges 19, located in the bottom of the receptacle 3, beneath shelf 8, with a flexible fabric 20 loosely connected thereto, and a spiral spring 23, secured to bottom of receptacle 3, and having an oval top-piece 22, located below the opening 10 and supporting the fabric 20, substantially as described.

No. 35,014. Hen Coop. (*Poulailler.*)

Ebenzer Butterick, Brooklyn, N.Y., U.S.A., 12th September, 1890; 5 years.

Claim.—1st. The combination, with the coop or main enclosure having a slatted front, of the runway in front of the said coop, and having its sides at their inner ends overlapping the sides of the coop, whereby the runway and coop may be set at different inclinations forth. 2nd. The combination, of the coop having the upper part of its front closed and the lower part slatted, with the runway having a vertically-swinging door inclined from the closed upper part of the front of the coop downward, to prevent rain from driving through the slatted part, substantially as set forth. 3rd. The combination, of the coop having its front closed above the top edges of its sides and slatted below the same, the said sides being extended in front of the slats, and cleats 11, forming vertical ways to allow a board to be inserted therein against the front sides of the slats, with the runway having the inner ends of its sides overlapping the sides of the coop, the vertical cleats 14 on the inner faces of the sides of the runway, near their inner ends, and abutting against the extended ends of the coop, and the inclined hinged door 20, on top of the runway at its inner end, substantially as set forth.

No. 35,015. Disintegrating and Pulping Machine. (*Machine pour la fabrication de la pâte à papier.*)

George William Elliott, Sheffield, County of York, England, 12th September, 1890; 5 years.

Claim.—1st. The combination, of two grinding discs, each provided with concentric rows of teeth, of pyramidal section, and having spaces between the teeth, such teeth and spaces decreasing in length towards the periphery, and each circle of teeth being so placed as to intercept the spaces in the circles of teeth next thereto, substantially as described. 2nd. The combination, of two grinding discs, each provided with concentric rows of teeth of pyramidal section, and having spaces between the teeth, such teeth and spaces decreasing in length, width and height towards the periphery, and each circle of teeth being so placed as to intercept the spaces in the circles of teeth next thereto, substantially as described.

No. 35,016. Packing Cases for Bottles.*(Caisse d'emballage pour les bouteilles.)*

Simeon Goodnow Curtice, Rochester, N.Y., U.S.A., 12th September, 1890; 5 years.

Claim.—1st. The combination, with the packing case, of the perforated partition E, formed in one piece with the flanges F, F', H, H', and the perforated partition I, formed in one piece with the flanges J, J', L, L', the said partitions being arranged parallel with each other at suitable distances from the top and bottom of the case, and one set of the flanges extending inward on opposite sides of the case until they meet, and the other set upward to the top and bottom of the case respectively, substantially as described. 2nd. The combination, with the packing case, of the perforated partitions E, I, arranged parallel to each other at suitable distances from the top and bottom of the box, and having bent flanges extending along opposite sides of the case until they meet, and the centrally-located supports T, adapted to prevent the partitions from bending outward, substantially as described. 3rd. The combination, with the packing case, of the removable partitions E, I, extending parallel to each other at suitable distances from the top and bottom of the case, and having perforations adapted to support the bottles in reversed positions, and provided with integral flanges at their opposite extremities, extending in opposite directions along the sides of the case until they meet, substantially as described. 4th. The combination, with the packing case, of the removable partitions E, I, extending parallel to each other at suitable distances from the top and bottom of the case, and having perforations adapted to support the bottles in reversed positions, and provided with integral flanges at their opposite extremities, extending in opposite directions, and interlocking at their meeting edges, substantially as described.

No. 35,017. Time Lock.*(Serrure à mouvement horaire.)*

Charles Franklin Myers, McKinstry's Mills, Maryland, U.S.A., 12th September, 1890; 15 years.

Claim.—1st. The combination, with the bolt work of a safe door and a time lock, having a sliding locking bar, of a pivoted latch connected from the locking bar and arranged to be connected to or disconnected from the bolt work, substantially as shown and described. 2nd. The combination, of the locking bar B, having one or more locking arms B^a, one or more levers A, one or more segmental tumblers B^b, with slots B^c, pulling down said lever A, loosely connected to the tumbler, means for operating the same, substantially as shown and described. 3rd. The combination, of the locking bar B, having one or more locking arms B^a, one or more segmental tumblers B^b, with slots B^c, one or more levers A, with spring, for holding it up, and a stud playing in one slot of the tumbler, means for pulling down said lever, and a time mechanism for operating the same, substantially as shown and described. 4th. The combination, of a locking bar B, having two locking arms B^a, B^b, two segmental tumblers B^b, B^c, with slots B^c, the two levers A, pivoted upon a common fulcrum at their inner ends, and having their outer ends provided with studs working in the slots of the tumblers, springs for holding up these levers, a slide for pulling down these levers, and a time mechanism arranged upon each side of said slide, substantially as shown and described. 5th. The combination, with the locking bar B, and the means for locking it against withdrawal, of a time lock tripping and setting mechanism, having a loose connection with the locking mechanism for the

locking bar, whereby the tripping mechanism may be re-set while the locking bar is withdrawn or unlocked, substantially as described. 6th. The combination, with the locking bar, the locking devices for the same, and the time mechanism for operating them, of an arm or lever connected to the locking devices, and arranged in relation to the main spring of the time mechanism, so as to be struck by the expansion of the same to open the time lock, in case the spring becomes broken or run down, as described. 7th. The combination, with the locking bar B, having one or more arms B^a, the segmental tumblers B^b, one or more levers A, loosely connected to said tumblers, one or more link bars connected to said lever, a slide connected to said link, and made in two parts held together by a spring, and provided with a setting device and tripping device, substantially as shown and described. 8th. The combination, of slide section C, having spring bar C', with setting stud c', and also rock shaft C², with arms c², and c³, the lower slide section C¹, and tripping devices for the two sections of the slide, a time mechanism for operating the tripping devices, and a locking bar arranged to be released by the tripping of the slide, substantially as shown and described. 9th. The combination, of the locking bar B, tumblers for locking it, levers and attached links A², and a compound slide for unlocking bar B, consisting of parts C, and C', held together by a spring, the upper slide section being provided with a setting set stud, and a rock shift with tripping arms, a time mechanism for operating the trip arms, and a lift spring E, for the compound slide, substantially as shown and described. 10th. The combination, with the locking mechanism, the set mechanism, and the time movement, of a special dial H, and of a tripping mechanism for the set mechanism, consisting of a shaft F, operated by the time movement and having a disk with a tripping tooth, and also an index hand sustaining the same radial position to the zero point of the dial as the tripping tooth does to the set mechanism, substantially as described. 11th. The combination, of a dial, having forty-eight sub-divisions or sub-divisions which are multiples of the hours of a day, a shaft F, having two disks with tripping teeth or arms, and corresponding index hands, one index hand and toothed disk or arm being made adjustable with reference to the other tooth disk and index hand, substantially as shown and described. 12th. The combination, in a time lock, with a dial graduated into multiples of 24, of an independent index hand, with a corresponding tripping device for each multiple of 24, substantially as and for the purpose described. 13th. The combination, with the compound slide C, carrying a spring and a setting device, and means for connecting it to the locking bolt, as described, of a shaft F, bearing both a tripping device, and a lifting cam for raising and re-setting the upper section of the slide, substantially as shown and described. 14th. In a time lock, having a double time movement, the combination, with said time movement, and the tripping devices, of an independent train of gears from each time movement to the tripping devices, and a compound gear wheel connecting the time movement with the tripping devices for conjoint or independent action, substantially as shown and described. 15th. The compound wheel, consisting of two hollow loose toothed gears J, J', a shaft F, bearing the tripping devices, and also a rigid ratchet wheel within the hollow gears, and spring pawls connecting the sections of the compound wheel to the ratchet, in combination with the two independent time movements, and the tripping devices, substantially as shown and described.

No. 35,018. Straw Stacker.*(Machine à mettre la paille en meule.)*

Henry Theodore Kruse, Jules, Illinois, U.S.A., 15th September, 1890; 5 years.

Claim.—1st. A straw-stacker, having its conveyer-raising mechanism separably connected with the driving-shaft of the machine to be operated thereby, and lever-mechanism for producing and separating the connection, substantially as described. 2nd. A straw-stacker, having the raising mechanism for its conveyer separably connected with the driving shaft of the machine to be operated thereby, lever-mechanism for producing and separating the connection, and means, as the rope O, connected with the lever-mechanism through which to operate it and extending beyond the machine, whereby the raising of the conveyer may be produced at any desired distance away from the machine, substantially as described. 3rd. In a straw-stacker, the combination, with the driving shaft of the machine, and the mechanism for raising the conveyer, of gearing operated by the driving shaft, gearing connected with and operating the raising mechanism, and lever mechanism for throwing the said gearings, at will, into and out of engagement with each other, whereby the raising of the conveyer is produced by the driving power of the machine, substantially as described. 4th. In a straw-stacker, the combination, with the driving shaft of the machine, and mechanism for raising the conveyer, of gearing operated by the driving shaft, gearing connected with and operating the raising mechanism, lever mechanism for throwing the said gearing, at will, into and out of engagement with each other, and means, as the rope O, connected with the lever mechanism and extending beyond the machine, whereby the lever mechanism may be operated at any desired distance away from the machine, and the raising of the conveyer is produced by the driving power of the machine, substantially as described. 5th. In a straw-stacker, the combination, with the driving shaft of the machine, and mechanism for raising the conveyer, of gearing operated by the driving shaft, gearing connected with and operating the raising mechanism, a longitudinally movable shaft provided with gearing in continuous engagement with one of the aforesaid gearings, and caused by movement of the shaft to engage and release the other gearing, and lever mechanism for moving the shaft, at will, whereby the raising of the conveyer is produced by the driving power, of the machine, substantially as described. 6th. In a straw-stacker, the combination, with the driving shaft of the machine, and mechanism for raising the conveyer, of gearing operated by the driving-shaft, gearing connected with and operating the raising mechanism, a longitudinally movable shaft provided with gearing in continuous engagement with one of the aforesaid gearings, and caused by movement of the shaft to engage and release the other gearing, and mechanism for moving the shaft, at

will, comprising a lever M, fulcrumed on the frame of the machine, connected at one end with the movable shaft and provided at its opposite end with means, substantially as described, for operating it, at any desired distance away from it, whereby the raising of the conveyer is produced by the driving power of the machine, substantially as set forth. 7th. In a straw-stacker, the combination, with the driving-shaft of the machine, and mechanism for raising the conveyer, of gearing operated by the driving shaft, gearing connected with and operating the raising mechanism, a longitudinally movable shaft provided with gearing in continuous engagement with one of the aforesaid gears, and caused by movement of the shaft to engage and release the other gearing, and mechanism for moving the shaft, at will, comprising a lever M, fulcrumed on the frame of the machine, and connected at its short arm with the movable shaft, a crank shaft N, connected with the long arm of the lever, a ratchet wheel *g*, on the crank-shaft, a ratchet engaging the ratchet wheel, an operating cord, or the like, connected with the ratchet, and a spring *f*, for returning the ratchet, the whole being constructed and arranged to operate substantially as and for the purpose set forth.

No. 35,019. Wire Guy Gripper.

(*Déclie pour etais en fil de fer.*)

James Gibson, St. Louis, Missouri, U.S.A., 15th September, 1890; 5 years.

Claim.—1st. In a gripping apparatus, for wire rope, having a base plate, the combination therewith of cam jaws, consisting of opposite eccentrically pivoted circular plates, and operating levers rigidly connected laterally with said cam plates, and hinged and arranged to yield in a transverse relation thereto, for the purpose described. 2nd. In a grip apparatus for wire rope, having a suitable base plate, the combination therewith, of opposite eccentrically pivoted grasping cam plates, having pivot bolts on said base plates, and a hasp connected with one of said bolts and adapted to be removably secured to the other bolt, substantially as described. 3rd. In a grip apparatus for wire rope, having a suitable base plate, the combination therewith, of opposite eccentrically pivoted grasping cam plates, having pivot bolts on said base plate, (one of said bolts having a flat head or plate and the other bolt a contracted head), and a hasp hinged to the said plate on the head of one of said bolts at one end, and having its opposite end provided with a suitable opening adapted to receive said contracted bolt head, and keyed thereto, for the purpose described.

No. 35,020. Vessel for Transporting and Preserving Liquids. (*Vaisseau pour transporter et conserver les liquides.*)

Franz Welleba, Sr., and Franz Welleba, Jr., and Ferdinand Uffenheimer, Vienna, Austria, 15th September, 1890; 5 years.

Claim.—A vessel, for storing and transporting liquids, this vessel being composed of a number of flanged annular sections, and covers or heads, rivetted, bolted, or screwed together, the insides of these annular sections and covers, and the meeting surfaces of the flanges, being coated with ebonite.

No. 35,021. Machine for Manufacturing Bi-sulphite of Lime. (*Machine pour la fabrication du bi-sulfite de chaux.*)

William Harman Howell, Ottawa, Ontario, Canada, 15th September, 1890; 5 years.

Claim.—1st. The method of creating a draft from the sulphur furnace, through the condensing pipe, by forcing the liquid through a syphon nozzle, substantially and for the purpose set forth herein. 2nd. The method of incorporating or mixing sulphurous acid with the milk of lime, by drawing or pumping the milk of lime from the bottom of the tank, and forcing it with great velocity through the bottom of the condenser containing the acid or gas, and discharging the same into the tank, substantially and for the purpose set forth herein. 3rd. The method of liberating from a pipe or condenser of air or insoluble acids arising or likely to arise by the force of a liquid through a syphon nozzle, and passing through a pipe immersed in a solution, substantially and for the purpose set forth herein. 4th. In an apparatus, for the production of the bi-sulphite of lime or its equivalent, a syphon nozzle K, in combination with the pump L, and condenser C, substantially as described. 5th. The combination, of the tanks E, or E¹, containing a solution, of the pipe H, having the valves G, and G¹, leading therefrom to the pump B, and of the combination of the pump L, having the pipe D, leading to nozzle K, with aperture P, connecting with the condenser C, substantially as described. 6th. The water tank M, in connection with the condenser C, and pipe B, and in further combination with the pipes, and valves F, and F¹, immersed in the solution in tank E, or E¹, substantially as described.

No. 35,022. Sulphite Digester for Manufacturing Cellulose. (*Pourrissoir de sulfite pour la fabrication de la cellulose.*)

William Harmon Howell, Ottawa, Ontario, Canada, 15th September, 1890; 5 years.

Claim.—1st. The combination, of a boiler, having two independent shells, the outermost of iron or steel, and the innermost of less corrodible metal, so arranged as to have a steam space between them which allows independent contraction and expansion of each, substantially and for the purpose herein set forth. 2nd. The combination, of a steel or iron boiler A, with the inner boiler B, and the pressure valve D, and the escape valve C, in combination with steam space F, substantially and for the purpose herein set forth. 3rd.

The combination, in an upright sulphite digester, of a lead lined boiler enclosed in a steel shell or jacket, the inside boiler resting on the bottom of the jacket, upon a packing of asbestos or other suitable material, and continuing through the man-holes K¹, and K², flanged back making a face or joint to receive covers N¹, and N², substantially and for the purpose herein set forth. 4th. In an upright boiler, for paper pulp or analogous material, having an outer shell A, and an inner shell B, and steam space F, in combination with pipes E, O, and M, and valves C, and D, combined and arranged substantially and for the purpose herein set forth. 5th. A pulp boiler, for wood or vegetable material, using bi-sulphite of lime, and having two independent shells, the outermost of iron or steel A, and the innermost of lead B, having a steam space F, between, provided with a steam pressure, whereby the boiling liquor in B, is equalized and regulated by valves C, controlled by diaphragm B, and valve D, substantially and for the purpose herein set forth. 6th. In a boiler having two independent shells, shell A, of iron or steel, shell B, of lead, and steam space F, combined with pipes M, O, and E, the steam entering boiler A, through steam pipe E, and boiler B, through pipe M, thereby equalizing the pressure controlled by valve D, substantially and for the purpose herein set forth. 7th. In an upright pulp boiler, with an inside lead boiler being stayed or sustained by means of a false head X, hinged to a ring W, and linked to the outer shell A, by means of a movable attachment to allow for expansion, and clamped to lead boiler B, by clamps *d*, *d*, for the purpose of strengthening it, substantially and for the purpose herein set forth. 8th. In an upright steel boiler, with an inner lead boiler, which lead boiler is supported and strengthened by means of an upright support or stay placed at intervals or distances, secured to the lead boiler by means of lead clamps soldered thereto, substantially and for the purpose herein set forth.

No. 35,023. Disinfectant. (*Désinfectant.*)

Charles F. Bond, Thomas J. Bolender and Edward M. Barnard, Chicago, Ill., U.S.A., 15th September, 1890; 5 years.

Claim.—1st. The within described flaked or powdered compound to be used for disinfecting and deodorizing purposes, the same consisting of slaked lime, red ochre, carbolic acid, creosote, bichloride of mercury, salicylic acid, sulphate of iron and water, substantially in or about the proportions specified. 2nd. The within described caked compound, consisting of slaked lime, red ochre, carbolic acid, creosote, bichloride of mercury, salicylic acid, sulphate of iron and water, in or about the proportions specified, and added to the melted mixture of naphthaline and common bar soap, by being stirred thereto, poured into moulds and allowed to cool, substantially in the proportion and in the manner described.

No. 35,024. Metal Lathing.

(*Lattis métallique.*)

The Bostwick Metal Lath Company (assignees of Walter Whitfield Bostwick), New York, N.Y., U.S.A., 15th September, 1890; 5 years.

Claim.—A metal lath, having a series of loops stamped out of its surface in parallel rows, and a series of parallel ribs stamped out on the same surface between the loops, substantially as and for the purpose specified.

No. 35,025. Sifter. (*Tamis.*)

George Decarie Pearson and Ernest Cooper Mount, Montreal, Quebec, Canada, 15th September, 1890; 5 years.

Claim.—The combination, of an outer casing, having the sieves *p* and *m* situated therein, and deflecting diaphragm adapted to deliver the ashes into the hoppers *k*, adapted to deliver the ashes into the drawer *p*, with hoppers *k* and drawers *p* and *q*, the whole substantially as and for the purposes set forth.

No. 35,026. Nut Lock. (*Arrête-écrou.*)

David Albert Fraser, Cambridge (assignee of Joseph Howard, Boston), Mass., U.S.A., 15th September, 1890; 5 years.

Claim.—1st. A nut lock, bent upon one side and made thicker on the inside face of said bent side, said nut lock being provided with one thread extending completely round within the opening in the centre of said lock or washer, and also provided with one additional thread and groove in said thicker side, constructed and arranged substantially as described and shown and for the purpose set forth. 2nd. The nut lock or washer A, bent as shown at *a*¹, and made thicker at *a*, said washer being provided with the thread *a*² in the opening *a*², and also provided with the additional thread and groove *a*¹, in combination with the bolt B and nut C, the whole constructed and arranged substantially as described and shown and for the purpose set forth.

No. 35,027. Double Knitted Fabric.

(*Tissue à double tricot.*)

Thomas Alfred Code, Perth, Ontario, Canada, 17th September, 1890; 5 years.

Claim.—1st. New articles of manufacture, consisting of socks, mitts and similar goods, composed of a double-knitted fabric, each independent of the other, but continuously connected, and of any colors, shape and design, and fulled and napped, substantially as shown and set forth. 2nd. New articles of manufacture, consisting of socks, mitts and similar goods, composed of a double-knitted fabric, each independent of the other, but continuously connected, and of any colors, shape and design, substantially as set forth.

No. 35,028. Compound for Cleansing.*(Composition pour nettoyer.)*

Lewis Grave, Blackfriars, County of Surrey, Eng., 17th September, 1890; 5 years.

Claim.—1st. A cleansing preparation, composed of five parts, or thereabouts of an infusion or decoction of sapindus bark, one part or thereabouts of borax, and fifty to one hundred parts of water. 2nd. A cleansing compound, composed of five parts or thereabouts of an infusion or decoction of sapindus bark, one part or thereabouts of ammonia solution, and one part or thereabouts of borax, to be used with from fifty to one hundred parts of water.

No. 35,029. Metal Can Opener.*(Ciseau à boîte métallique.)*

Alexander Brownley, Ailsa Craig, Ontario, Canada, 17th September, 1890; 5 years.

Claim.—1st. The combination, of the arm A, cutter C, sleeve E, and set-screw F, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, of the arm A, cutter C, sleeve E, and set-screw F, with the anchors H, I and G, substantially as and for the purpose hereinbefore set forth. 3rd. The combination, of the arm A, cutter C, sleeve E, set-screw F, anchors H, I and G, with the slide B, the adjusting screw I and the milled nut J, substantially as and for the purpose hereinbefore set forth.

No. 35,030. Metal Can Opener.*(Ciseau à boîte métallique.)*

Alexander Brownley, Ailsa Craig, Ontario, Canada, 17th September, 1890; 5 years.

Claim.—1st. The combination, of the arm A, anchor B and cutter C, substantially as and for the purpose hereinbefore set forth. 2nd. The combination, with the arm A, anchor B and cutter C, of the clamp wheel D, substantially as and for the purpose hereinbefore set forth.

No. 35,031. Wall Paper Exhibitor.*(Montre de papier de tenture.)*

Theodore H. Fritz, Cass City, Mich., U.S.A., 17th September, 1890; 5 years.

Claim.—The improved wall paper exhibitor, described, consisting essentially of the pedestal mounted on rollers, the central rod rising therefrom, the revolving frame comprising the polygonal top E and base D, and the vertical corner posts P, said corner posts being triangular in cross-section, and arranged, as described, whereby the angles set forth may be had, the removable metallic eyes secured to one of the outer flat sides of the posts, and the removable hooks secured to the opposite flat sides, and the holder rods hinged to the eyes and having their free end adapted to enter the hooks, substantially as specified.

No. 35,032. Reduction of Ores.*(Réduction des minerais.)*

Horace Worth Lash and James Johnson, Pittsburg, Penn., U.S., 17th September, 1890; 15 years.

Claim.—1st. The method herein described, of reducing iron direct from ore, which consists in grinding ore and carbonaceous material into a pulverized homogeneous mass, spreading the material thus formed on the hearth of a furnace, and subjecting the same to a reducing heat, substantially as set forth. 2nd. The method, herein described, of reducing iron direct from ore, which consists in grinding moistened ore and carbonaceous material together into a pulverized homogeneous paste, spreading the paste thus formed on the hearth of a furnace, and subjecting the same to a reducing heat, substantially as set forth. 3rd. The method, herein described, of reducing iron direct from ore, which consists in grinding together ore and carbonaceous material moistened with oil into a pulverized homogeneous paste, spreading the paste thus formed on the hearth of a furnace, and subjecting the same to a reducing heat, substantially as set forth.

No. 35,033. Splasher Holder for Wash Stands. *(Lavabo à console.)*

Lydia Smith, Leonardville, Ks., U.S.A., 17th September, 1890; 5 years.

Claim.—1st. The wash-stand, provided at its opposite rear corners with a vertically-opposite pair of brackets, each of said pairs being provided with vertically aligning openings adapted to receive the standard wires of a splasher, and with openings for the reception of a towel rack having upper and lower branches, substantially as specified. 2nd. The combination, with a wash-stand, of opposite pairs of brackets secured thereto, and provided with set-screws and vertical grooves, of the herein described splasher frame, the same comprising opposite L-shaped wire sections, inverted, and having their adjacent horizontal portions terminating in eyes forming a sliding connection, and their angles provided with eyes, and their lower portions adjustably mounted in the brackets, substantially as specified. 3rd. The wash-stand, provided at its two rear corners with the pairs of vertically opposite bracket castings, each of which consists of a securing plate provided with a pair of vertical flanges disposed at a right angle to each other, and a connecting horizontal shelf having a perforation at the angles of the flanges, in combination with a towel rack provided with diverging arms terminating in bear-

ings, each taking into a perforation, substantially as specified. 4th. The combination, with a wash-stand, of brackets secured to the rear edges of the same, vertically opposite each other and adapted to adjustably support a splasher frame, said brackets being provided with a horizontal shelf, provided with right angularly disposed grooves, and perforated at the angle of the grooves, said shelf sloping in opposite directions from a point between the grooves, and a towel-supporting arm terminating at its rear end in diverging arms ending in bearings adapted to be mounted in the perforations of the brackets, substantially as specified.

No. 35,034. Gate. (Barrière.)

James Henry Slater, Hart, Mich., U.S.A., 17th September, 1890; 5 years.

Claim.—1st. The combination, with a rectangular gate, having one of its upright end bars made cylindrical, of a cylindrical supporting post, comprised of two reversed wedge-shaped sections, and strap or chain hinges attached near the top and bottom edges of the gate upon the loose section of the post, and also upon the cylindrical gate upright bar, around which the hinges are oppositely wrapped in S form, substantially as set forth. 2nd. The combination, with a rectangular gate, having one upright end bar made cylindrical, and a post having spaced latching notches formed on it to engage the latch of the gate at different heights, of a rounded supporting post, longitudinally divided into wedge-sections, which are reversed, and two pairs of reversed wrapped chain or strap hinges secured by their ends to the loose section of the post, and by opposite ends to the rounded upright gate end bar, substantially as set forth.

No. 35,035. School Desk. (Pupitre d'école.)

Fred H. Haley, Manitowoc, Wis., U.S.A., 17th September, 1890; 5 years.

Claim.—1st. In a seat, in combination with a standard, the seat arm pivoted thereto, the pivot being at a distance below the seat and forward of its rear edge, a stop on the seat arm forward of the rear edge, projecting toward the plane of the standard, and rubber stops secured in the standard, one at each edge of the path of the boss on the seat arm, whereby the rocking movement of the seat is arrested noiselessly, substantially as set forth. 2nd. In a seat, in combination, with the standard, the seat arm pivoted thereto at a point forward of its rear edge, and below the seat, and provided toward its rear end, with a boss projecting laterally toward the plane of the standard, the standard being provided with a channel in the arc of a circle about the axis of the seat pivot, said channel being closed at the outer side, and open only inwardly toward the boss, substantially as set forth. 3rd. In a seat, in combination, with the standard, and the seat arm pivoted thereto below the seat, and forward of its rear edge, and having the boss B², projecting outwardly toward the plane of the standard, the standard having the channel formed between flanges guarding the path of the boss B², through the rocking movement of the seat, and the rubber buffers K, K, secured for the purposes set forth. 4th. In a seat, in combination, with the standard, a seat arm pivoted thereto, the pivot being at a distance below the seat and forward of the vertical plane of the rear edge, a stop on the seat arm nearer the axis of the pivot than the nearest point of the seat, such stop projecting toward the plane of the standard stops on the standard in the path of the said stop on the seat arm, the seat projecting longitudinally beyond the vertical plane of the rear edge of the seat, and the standard being open rearward of the path of the stop to a point below the lowest position of the rear edge of the seat, substantially as set forth. 5th. In a seat, in combination, with the standard, the seat arm pivoted thereto, the standard being provided with a hemispherical cavity a¹, and the seat arm being provided with the hemispherical boss b¹, adapted to enter said cavity, and the removable box lining G, fitted to the cavity and to the boss, and adapted to be placed in the cavity and cover the boss, and the bolt H, inserted at the center of the joint, thus formed to secure the parts in the position described, substantially as set forth. 6th. In a seat, in combination, with the seat arm and standard, pivoted together in a bearing formed by a boss on the one, entering a cavity in the other, the pivot bolt H, uniting the parts at the center of such bearing, the washer G, located upon the inner side of the seat arm, and having an arm G¹, stopped by the standard at a distance from the pivot, said washer having a cavity in its inner face, the nut having a stop shoulder abutting against the washer, and a nut into which the bolt is screwed, lodged, and incapable of turning in the cavity of the washer, substantially as set forth. 7th. In a seat, in combination, with the standard and the seat arm pivoted together by means of a boss on the one, entering a cavity in the other, a bolt which retains them in such relation, a washer having a cavity on its face and pierced to admit the bolt at the center of such cavity, and having an arm stopped by the standard at a distance from the pivot, whereby it is prevented from turning with or on the bolt, a nut on the end of the bolt lodged in the cavity, and incapable of turning therein, the bolt having the shoulder to permit the nut to be tightened thereon, whereby the nut retains the washer upon the bolt, and the washer, by engaging the nut to prevent its turning, retains the bolt to prevent its rotating in the standard, substantially as set forth.

No. 35,036. Process for Effecting Electrolytic Deposition of Aluminum. *(Procédé d'électro-déposition de l'aluminium.)*

Salo Wohle, Burton Crescent, County of Middlesex, England, 17th September, 1890; 5 years.

Claim.—The herein described process for effecting electrolytic deposit of aluminum on suitable cathodes, by preparing as described, from alum carbonate of potash, carbonate of ammonia, and potassium cyanide, the liquid charge for the electrolytic bath, providing the bath with perforated aluminum plates as anodes, and subjecting the bath to electrical action.

No. 35,037. Furnace Chamber.*(Chambre à air chaud.)*

Edward Walter Wells, Oskaloosa, Iowa, U.S.A., 18th September, 1890; 5 years.

Claim.—1st. In a hot-air chamber for furnaces, the combination, of an off-take flue communicating with its interior, a damper box located upon the outside of the chamber and provided with an opening leading into the lower part of said chamber, a down-take flue communicating with the upper part of the damper-box, an outlet flue connecting the box with the chimney, and a damper pivoted to command the mouth of said outlet flue and lower portion of the box, in the manner and for the purpose, substantially as set forth. 2nd. In a hot-air chamber, for furnaces, a take-off flue leading out of the hot-air chamber, in combination, with a return flue leading into said chamber, and a damper-box provided with a damper interposed between the return flue and chamber, in the manner and for the purpose, substantially as described. 3rd. In a hot-air chamber for furnaces, a take-off flue leading out of said chamber, in combination with flues leading to the chimney, and a damper commanding said flues, whereby the escaping air may be directed up the chimney or returned to the hot-air chamber, in the manner and for the purpose, substantially as described. 4th. In a hot-air chamber for furnaces, the combination, of a take-off flue connecting the hot-air chamber with the room to be heated, a return or down-take flue connected with a damper-box located upon the outside of said chamber, and a water-pan located within said box, in the manner and for the purpose, substantially as described. 5th. A hot-air chamber, for furnaces, having its side and end walls hollow, and provided with shoulders and flanges bent out of one of the wall-sheers, and lap-joined together, in the manner and for the purpose, substantially as described. 6th. The combination, in a hot-air chamber provided with an off-take flue, of the hollow side and end walls, lap-joined as described, a fresh air flue entering the base of the chamber, a damper-box located upon the outside of the chamber, a return flue leading into said box, the latter being connected with a flue leading into the chimney, said box having an opening leading into the lower part of the hot-air chamber, a valve commanding said outlet-flue and opening, water-pans located within the valve-box, foul air flues located along the lower part of the chamber walls, and flues connecting them with the chimney, all arranged and adapted to operate in the manner and for the purpose, substantially as described. 7th. In a hot-air chamber, having the usual off-take flue for conveying the heat to the apartments to be heated, a return flue arranged to return the hot air from said compartment to the lower portion of said chamber, for re-heating, in combination with a foul air flue arranged to carry off the vitiated air, in the manner, and for the purpose, substantially as described.

No. 35,038. Umbrella. (Parapluie.)

John Bergesen, Brooklyn, N.Y., U.S.A., 18th September, 1890; 5 years.

Claim.—1st. A cane for umbrellas, consisting of three telescopic sections, the lower one of which engages the upper to push it out of the middle section, substantially as shown and described. 2nd. A cane for umbrellas, consisting of three telescopic sections, the upper section sliding in the middle section, and in the upper end of the lower section, and adapted to be engaged by the lower section to project it, substantially as shown and described. 3rd. In an umbrella, the combination, with a cane, of sectional ribs, and joint plates to which each of the rib plates are pivoted, substantially as and for the purpose set forth. 4th. In an umbrella, the combination, with a cane, of sectional ribs, and joint plates to which each of the rib sections and the braces are pivoted, substantially as and for the purpose specified. 5th. In an umbrella, the combination, with a cane, of sectional ribs, and joint plates to which each of the rib sections are pivoted, and means, substantially as described, for preventing the rib sections from moving too far outward, as set forth. 6th. In an umbrella, the combination, with a cane formed of three telescopic sections, of ribs each consisting of two sections, joint plates to which the ends of each of the rib sections are pivoted, and braces pivoted to the joint plates or upper rib sections, the upper ends of the upper sections of the ribs being pivotally connected with the upper section of the cane, and the braces with the middle section thereof, substantially as shown and described. 7th. In an umbrella, the combination, with a cane formed of three telescopic sections, of ribs each consisting of two sections, joint plates to which the adjacent ends of the sections of the ribs are pivoted, having a lug between the ends of the said ribs, braces pivoted to the said joint plates below the pivots of the rib sections, the upper ends of the upper sections being pivoted to the upper cane sections, and the braces to the middle cane sections, substantially as shown and described. 8th. In an umbrella, a cane comprising a middle section, a handle section held to slide in the said middle section, an upper section held to slide in the said middle section, and adapted to pass into the said handle section, and spring-pressed catches held in the inner end of the upper section, and adapted to be engaged by the upper end of the said handle section to extend the upper section, substantially as shown and described. 9th. In an umbrella, the combination, with an upper cane section, of a middle section, in which the said upper section is held to slide, and a spring-pressed lug held on the said middle section, and adapted to engage the lower end of the said upper section to lock the sections together, when extended, substantially as described. 10th. In an umbrella, the combination, with an upper cane section, of a middle section in which the said upper section is held to slide, a spring-pressed lug held on the said middle section, and adapted to engage the lower end of the said upper section, to lock the sections together when extended, and a handle section held to slide in the said middle section, and adapted to engage the said spring-pressed lug to hold the same out of contact with the upper section when the sections are telescoped, substantially as shown and described. 11th. In an umbrella, the combination, with a handle cane section, of an upper cane section fitted to slide in the said handle cane section, and spring-pressed catches

held on the said upper section, and provided with shoulders adapted to be engaged by the said handle cane section, substantially as shown and described. 12th. In an umbrella, a rib comprising two rib parts, and a joint plate for connecting the said rib parts with each other, the said joint plate being provided with an extension adapted to engage the under side of one of the rib parts, substantially as shown and described. 13th. In an umbrella, a rib, comprising two rib parts, and a joint plate for connecting the said rib parts with each other, the said joint plate being provided with an extension adapted to engage the under side of one of the rib parts, the said joint plate being also provided with a cross bar adapted to be engaged by an extension on the other rib part, substantially as shown and described. 14th. In an umbrella, a joint plate provided with an extension and a cross bar, substantially as shown and described. 15th. In an umbrella, the combination, with ribs each made of two parts and a joint plate, of a cord or elastic band connecting the uppermost rib parts with each other above the said joint plate, substantially as shown and described. 16th. In an umbrella, a catch made of a single piece of metal formed with two hook arms connected with each other by a spring, substantially as shown and described.

No. 35,039. Oven and Other Fire Chamber Door. (Porte de fourneau, de foyer, etc.)

Peter Abrahamson, San Francisco, Cal., U.S.A., 18th September, 1890; 5 years.

Claim.—1st. A door for ovens, and other heating and fire chambers, having oppositely arranged hollow casings on its inner side, each casing having an opening communicating with the interior of the oven, or chamber, and with damper controlled through openings in the door. 2nd. A door for ovens, and other heating and fire chambers, having on its inner surface, a hollow casing conducted in the course described, and having openings communicating with the interior of the oven or chamber, and with a damper controlled opening in the door, and an exhaust passage leading from the oven, or chamber, through the door. 3rd. A door for ovens, and other heating and fire chambers, having on its inner surface, a hollow casing forming an independent passage extending from the upper central portion of said door to one end, and down said end to its lower portion, and a second hollow casing forming an independent passage extending from the lower central portion of said door to the other end, and up said end to its upper portion, a damper controlled opening through the door, communicating with the upper end of the first passage, a damper controlled opening through the door, communicating with the lower end of the second passage, an opening in the lower end of the first passage communicating with the interior of the oven or chamber, and an opening in the upper end of the second passage communicating with the interior of the oven or chamber, substantially as herein described.

No. 35,040. Combined Baby Chair and Walker. (Chaise et chariot d'enfant combinés.)

Oskar Jacobs, Saginaw, Mich., U.S.A., 18th September, 1890; 5 years.

Claim.—1st. In a baby's chair, the combination, with the base mounted on castors, and adapted to form a baby walker and an upper ring C, having the vertical notches *c*, horizontal notches *c'*, and notch *c''*, of the chair portion having the case piece D, provided with the projections *a*, and spring *a'*, to engage said upper ring of the baby walker, substantially as described. 2nd. In a baby's chair, the combination, with the chair arms and a tray provided at one end with a hinge J, attached to one arm of the chair, and having a lip J¹, to which the said end is pivoted, of the stationary clip J², rigidly attached to the other end of the tray, to engage the adjacent chair arm, and the spring J³, attached to the under side of the tray and adapted to enter a notch *j*, in that arm, which said clip is engaged, substantially as described.

No. 35,041. Adjustment of Window Sashes. (Ajustage des croisées.)

William Driscoll, Brockville, Ontario, Canada, 18th September, 1890; 5 years.

Claim.—1st. The pulley D, inserted in the head of the window frame, instead of in the side or jamb of the frame, in combination with a cord or chain G, this cord or chain G running through the pulley D, and in combination with the two sashes E and F, operating as set forth in above specification. 2nd. The combination, of the pulley or pulleys D, the cords or chains G and the sashes E and F, for the purpose and in the manner as set forth in above specification. 3rd. The combination, of the sashes E and F, and the pulley D and cord or chain G, having the result of making one sash balance the other, as set forth in the above specification.

No. 35,042. Pulley. (Poulie.)

Arthur W. Wadsworth, West Toronto Junction, Ontario, Canada, 18th September, 1890; 5 years.

Claim.—1st. A pulley for power transmission, having a felloe, composed of two unequal segmental sections, containing metallic felloe blocks therein, and the joints of said sections on lines eccentric to the centre, and provided with dowel pins, metallic, hollow or solid, straight or curved spokes connecting said felloe blocks to the hub, and having reverse threads on their ends secured in adapted holes in said blocks and hub in the larger sections, and similar spokes provided medially with extension sleeves in the smaller sections of said felloe and hub, and the hub provided with clamping bolts through suitable lugs thereon, substantially as shown and described. 2nd. In a pulley, for power transmission, the felloe composed of two unequal segmental sections, recessed to contain inter-

nally felloe blocks, having threaded holes therein, and the said sections jointed on lines eccentric to the centre, in combination with the dowel pins in the said joints, the curved or straight, solid or hollow metallic spokes, in the larger sections, and similar spokes having extension sleeves in the smaller sections, and the hub composed of corresponding segmental sections, having threaded holes therein to receive said spokes, and clamping bolts through lugs on the radial joints of said hub, substantially as shown and described. 3rd. In a pulley for power transmission, the hollow or solid, curved or straight metallic spokes, provided with extension sleeves, and without, and felloe composed of two unequal segmental sections jointed on lines eccentric to the centre, dowel pins in said joints, metallic felloe blocks in said felloes, and a hub composed of corresponding unequal segmental sections, clamped by bolts through lugs along the radial joints of said hub, substantially as shown and described. 4th. In a pulley for power transmission, the metallic hub, composed of unequal segmental sections clamped together by bolts, through lugs, along the radial joints, and having threaded radial holes to contain, and in combination with, the metallic solid, or hollow curved, or straight spokes, with and without extension sleeves, a felloe composed of corresponding segmental sections, felloe blocks therein, and dowel pins in the joints between said sections of the pulley, substantially as shown and described.

No. 35,043. Attaching Device for Suspender Straps. (*Appareil pour joindre les bretelles.*)

William H. Messimer, De Land, Florida, U.S.A. (assignee of Henry Edgar Messimer, Williamsport, Penn., U.S.A., 18th September, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a clamping device, for the purpose mentioned, consisting of a continuous piece of wire, having a general yoke or triangular main portion, and the loops B, B', at the lower portion thereof, substantially as described. 2nd. As an improved article of manufacture, a clamping device for the purpose mentioned, consisting of a yoke or triangular shaped main portion, the loops B, B', formed at the lower extremities of the said main portion, and the link C connecting said loop, substantially as set forth.

No. 35,044. Shirt. (*Chemise.*)

William George Henry (assignee of Merritt Charles Gregory), Niagara Falls, Ontario, Canada, 18th September, 1890; 5 years.

Claim.—In combination, with a shirt, of a separate bosom front, the upper portion secured to the shirt proper, and the lower half open, with an airspace between the bosom front and the shirt proper substantially as and for the purpose specified.

No. 35,045. Washing Compound. (*Composé pour laver.*)

John Jacob Fisher (assignee of Ekins Hand), Rochester, New York, U.S.A., 18th September, 1890; 5 years.

Claim.—The washing compound, herein described, consisting of paraffine wax, sperm oil, alcohol, and oil of mirbane, in proportions, substantially as specified.

No. 35,046. Spectacle Lens. (*Verre oculaire.*)

Frederick Morek (assignee of August Morek), Penn., U.S.A., 18th September, 1890; 5 years.

Claim.—1st. The combination, with a far-vision lens, having its lower edge cut out centrally in semi-circular form, of a near-vision lens shaped to fit said central semi-circular opening in the far-vision lens, and secured therein by suitable adhesive substance, substantially as set forth. 2nd. A far-vision lens, having its lower edge cut out centrally in semi-circular form, and having the surface on both sides of the opening thus made extended to the lower rim of the enclosing frame, in combination with a near-vision lens shaped to fit said central semi-circular opening, substantially as set forth.

No. 35,047. Die for Swaging Screw Threads. (*Filière à vis.*)

Russell and Erwin Manufacturing Company, New Britain, Conn., U.S.A. (assignee of Horace Kimball Jones, Hartford, Conn., U.S.A.), 18th September, 1890; 5 years.

Claim.—1st. A die for swaging screws, having its face provided with a series of alternate tapering grooves, and ridges, with a series of rounding grooves and narrow ridges at the beginning thereof, substantially as described and for the purpose specified. 2nd. A die for swaging screws, having on its face a series of tapering ridges and grooves, and at the end of said tapering grooves and ridges, a finishing portion consisting of parallel grooves and ridges, substantially as described and for the purpose specified. 3rd. A pair of dies, for swaging pointed screws, both of which have the general shape in section of the profile of the screw, and one of which is truncated at the point forming portion, and the other of which is provided at the point forming portion with a projection *d*, extended towards the companion die to a point beyond a plane coincident with the axis of the screw-swaged in said die, substantially as described and for the purpose specified. 4th. A die, for swaging screws, having its face provided with a series of alternate tapering grooves, and ridges, with a series of rounded grooves and narrow ridges at the beginning thereof, and a finishing portion, consisting of parallel grooves and ridges, substantially as described and for the purpose specified.

No. 35,048. Hammer. (*Marteau.*)

Ambrose L. DeVol, Binghamton, N.Y., U. S. A., 18th September, 1890; 5 years.

Claim.—1st. In a hammer, the combination, with the hollow handle A, having a slot *a*, of the head D, having a groove *d*² in its rear side, connecting with said slot wings *e*¹ at the inner end of said groove, and a guide wire F, its inner end having hooks *f*¹ engaging said wings, its body *f*² standing within said slot, above the bottom thereof, and its outer end continuing around the end of the head, substantially as described. 2nd. In a hammer, the combination, with the hollow handle, having a slot *a*, of the head D, having a groove *d*² in its rear side connected at its inner end with said slot, and at its outer end extending around the curved edge *g* of said head, and a guide wire F, its inner end connected to said head, its body *f*² standing within said groove, above the bottom thereof and extending around said curved edge *g*, and its centre being looped to form an eye *f*¹ standing against the outer face of the hammer head, substantially as described. 3rd. In a hammer, the combination, with the hollow handle A, having a slot *a*, of the head D, having a groove *d*² in its rear side, said groove comprising an oblique portion *d*³ at its upper end, connecting with said slot, a vertical portion *d*⁴, and an extension at its lower end, around the curved edge *g* of said head, wings *e*¹ on said head at the inner end of said groove, and a guide-wire F, its inner end having lateral hooks *f*¹ engaging said wings, its body *f*² standing within said groove, above the bottom thereof, and extending around said curved edge *g*, and its centre being looped to form an eye *f*¹ standing against the outer face of the hammer head, and having its bottom a little below the face of the extremity *e*² of the head, substantially as hereinbefore described.

No. 35,049. Screw Blank. (*Ebauche de vis.*)

Nettleford Limited (assignees of Hugh Nettleford and John Sheldon), Birmingham, Eng., 18th September, 1890; 5 years.

Claim.—Forming on the face of the partly made head of the blank, during the heading operation, ribs or projections near the parts where the ends of the closed groove are to be formed, and also parallel ribs or projections situated at opposite sides of the centre of the head, and in the same direction as the intended groove, the said ribs or projections, when the grooving tool enters the flat face of the head being flattened and made to prevent any deficiency of metal at the ends and side edges of the closed groove, and preserving the circular figure of the head, substantially as hereinbefore described and illustrated in the accompanying drawings.

No. 35,050. Process of and Apparatus for Smelting Ores. (*Appareil et procédé de fusion des minerais.*)

Frank Leslie Bartlett, Portland, Me., U.S.A., 19th September, 1890; 5 years.

Claim.—1st. The herein described process of treating ores, containing zinc, sulphur and other volatile metals, which consists in burning the ore mixed with fuel in a suitable furnace, whereby the non-volatile metals and a portion of the zinc, sulphur, etc., settle down and form a scorifying bath, directing an air-blast through the superposed mass of unfused ore and fuel down onto the surface of said bath to volatilize the volatile metals, and directing an air blast at or near the top of the body of ore to prevent the condensation of said zinc and sulphur, substantially as described. 2nd. The herein described method of treating ores of the kind described, which consists of burning the ore mixed with fuel in a suitable furnace, whereby the non-volatile and a portion of the volatile metals are fused and form a scorifying bath, directing an air-blast through the superposed mass of unfused ore and fuel down onto the surface of said bath, to volatilize the volatile metals, and keeping up the heat in the unfused ore to prevent condensation of said volatile metals, substantially as described. 3rd. The herein described method of treating ores of the kind described, which consists in burning the ore mixed with fuel in a suitable furnace, whereby the non-volatile and a portion of the volatile metals are fused to form a scorifying bath, and directing an air-blast through the superposed mass of unfused ore and fuel down onto the surface of said bath for driving off said volatile metals, substantially as shown. 4th. The herein described scorifying furnace, having a tight hearth or bottom, and a row of downwardly-inclined tapering tuyeres near said bottom, and directed to strike the same, and having narrow horizontal openings, substantially as shown. 5th. The herein described scorifying furnace, having a tight hearth or bottom, a row of downwardly-inclined tapering tuyeres near said bottom, and dumpers in said tuyeres for regulating the size of the inner openings of said tuyeres, substantially as shown.

No. 35,051. Blind Hinge. (*Penture de jalousies.*)

Arthur Davis, Ogdensburg, N.Y., U.S.A., 19th September, 1890; 5 years.

Claim.—1st. A metallic hinge, having two leaves, with its axis of motion placed so far upon one side of the common center between the two face plates of the hinge, that when the blind is swung open the two face plates are removed from before the opening, so that all parts of the hinges are removed from the window frame without outside or double sashes can be placed in the window frame without moving the hinges or cutting notches in the sash, as set forth. 2nd. A hinge comprising the leaf A', provided with a hollow box like U-shaped socket D, having its bottom provided with an opening *d*, of sufficient size to receive the pintle of the other leaf, and having its top entirely open and the upper surface of its walls flat, and the leaf A', provided with an outwardly extending arm *a*, having its lower surface flat, and provided with a depending arm *b*, and a lug C, extending from the pintle, said lug riding upon the upper surface of the wall of the box like socket until directly over the opening thereof, and dropping down and lying entirely within the socket, as set forth.

No. 35,052. Conduit for Electric Railways.*(Conduit pour chemins de fer électriques.)*

Patrick Henry Griffin, Buffalo, N.Y., U.S.A., 19th September, 1890; 5 years.

Claim.—1st. A conduit, for electrical conductors, composed of a metallic body, with a non-conducting lining attached thereto, by means of prongs as described. 2nd. A conduit, for electrical conductors, composed of a metallic body, with a non-conducting lining, composed of silicate of soda and sand, attached to the inner surface of said metallic body, as and for the purpose set forth. 3rd. A metallic conduit, for electrical conductors, having an inner lining, composed of silicate of soda and sand, attached to the inner surface of the metallic body by means of prongs on said inner surface, as stated.

No. 35,053. Water Elevator.*(Appareil pour puiser l'eau.)*

George W. Gale, Greeley, Col., U.S.A., 19th September, 1890; 5 years.

Claim.—1st. The combination, with the well curb and the endless water elevator, having barrels, of a trip at the top of the curb for discharging the water, and a second trip at the bottom of the curb for tripping the barrels to insure their filling, substantially as set forth. 2nd. The combination, with the curb and the endless water elevator, of the adjustable head or cross braced frame at the bottom of the curb, substantially as and for the purpose specified.

No. 35,054. Pool Register.*(Compteur pour jeu de poule.)*

James H. Clark, Western, Nebraska, U.S.A., 19th September, 1890; 5 years.

Claim.—1st. The combination, with the depending standards, secured to the ceiling, of a case rigidly secured to the lower ends thereof, provided with a perforation at its lower end, and a spotting frame support mounted for sliding in the case, a spring actuated drum mounted for rotation in the case, a cord wound upon, and having one end secured to the drum and passed through the perforation, a spotting frame secured to the opposite end of the cord, a register, and a cord or wire leading from the operating mechanism thereof, to the said sliding spotting frame support, substantially as specified. 2nd. The combination, with depending standards secured to the ceiling, and a collar connecting the lower ends of the standards, of a casing terminating at its upper end in a block fitting the collar, and secured therein, a spring actuated drum mounted in the casing, a cord wound upon and secured to the drum, and a spotting frame connected to the opposite end of the cord, substantially as specified. 3rd. The combination, with the depending standards or supports, terminating at their upper ends in screw-eyes, screws connecting the standards to the ceiling, and a collar connecting the lower ends of the standards, and serving as a socket, of a triangular case provided with a block at the upper end of the same and fitted and secured within the collar, a drum actuated by a spring mounted in the case, a cord having one end connected to the drum, and the opposite end passed through an opening in the case, and a spotting frame connected to the cord, said cord being provided with a button for limiting the amount of cord taken up by the drum, substantially as specified. 4th. The combination, with the register, mechanism comprising a reciprocating rod for operating the same, of a case, a spotting frame supporting hook sliding in said case, a cord connecting the same with the rod of the register, and a spotting frame mounted on the supporting hook, and adapted to depress the same and operate the rod of the register, substantially as specified. 5th. The combination, with a register, comprising a reciprocating rod for actuating the same, and a spring for reciprocating the rod in one direction, of the spotting frame support connected to one end of the cord, the opposite end of which is connected with the rod of the register, and an independent spotting frame adapted to be mounted on the support, and to depress the same and operate the rod of the register against the tension of the spring, substantially as specified. 6th. The combination, with a register, comprising a reciprocating rod, of a spring actuated drum or take-up, a spotting frame support mounted for vertical movement in the upper end of the casing of the same, a cord connecting the support with the operating rod of the register, a cord wound upon the take-up rod, and passed through its casing, and a spotting frame connected to the opposite end of the cord, and adapted to be mounted upon its support to depress the same, and raise the operating rod of the register against the tension of its spring, substantially as specified. 7th. The combination, with a support, comprising a reciprocating support actuating rod, of supports secured to the ceiling and terminating in a socket, a take-up frame having an internally bored block at its upper end, slotted and mounted in the collar, a T-shaped rod mounted in the bore and having its arms projecting through slots, a cord connecting the rod with that of the support, a spring for normally depressing the support, and thus elevating through the medium of the cord the T-shaped arm, and a spotting frame mounted upon one of the arms, and adapted to counter-balance the spring, and raise the rod of the support, substantially as specified. 8th. The combination, with a case, a point mounted on the shaft, a dial mounted on the shaft, a disk mounted on the shaft and having a plain periphery provided at one side with a ratchet flange, a flat spring bearing on the plain portion, a bell shaft located above the disk and having an arm depending inextending from the bell shaft, a series of pins projecting from the disk, a hammer, a reciprocating bar having a spring for normally depressing the same, a pawl pivoted to the rod and meshing with the ratchet of the disk, a spotting frame support adapted for vertical reciprocation, and connected with the rod, and a spotting frame mounted on the support, and adapted to depress the same and elevate the rod against its spring, substantially as specified.

No. 35,055. Automatic Ink Stand.*(Encrier automatique.)*

Charles G. Knott, Hamilton, Ontario, Canada, 19th September, 1890; 5 years.

Claim.—In an automatic ink stand, a stand or casing A, prepared to receive the bottles C, provided with lids B, having shanks I, pivoted at J, in combination with the buttons S, the levers E, bearings F, connecting rolls H, the projections P, having eyes O, the lugs N, and the cord K, substantially as and for the purpose hereinbefore set forth.

No. 35,056. Game Composed of Music and Alphabet Blocks.*(Jeu composé de notes musicales et de lettres alphabétiques sur blocs.)*

Gustavo Smith, Ottawa, Ontario, Canada, 19th September, 1890; 5 years.

Claim.—1st. The musical and alphabetical characters, and the process of teaching to children without tediousness, and as a means of recreation the first notion of music and reading. 2nd. A building game, in which, the blocks have musical notes on some of the faces, and alphabetical letters on the other, as shown and described for the purpose set forth.

No. 35,057. Rivet. (Rivet.)

Judson Levator Thompson, assignee of Jacob John Unbehend, Syracuse, N.Y., U.S.A., 20th September, 1890; 5 years.

Claim.—1st. A rivet, formed from solid wire, composed of a head H, prongs S and intervening spaces h, substantially as and for the purpose specified. 2nd. A rivet, formed from solid wire, composed of a head H, prongs S, having rounding outer face S¹ and flat inner face S², and intervening spaces h, substantially as and for the purpose set forth. 3rd. A rivet, formed from solid wire, composed of a head H, prongs S, having rounding outer face S¹ and flat inner face S², and cutting edges S³, and the intervening spaces h, substantially as and for the purpose set forth.

No. 35,058. Railway Crossing.*(Passage de chemin de fer.)*

John Swegles, David Zimmerman, Owen Raymo, Samuel Zimmerman and William Hoops, Wayne, Michigan, U.S.A., 20th September, 1890; 5 years.

Claim.—1st. In a railroad crossing, the combination, with the line rails and the crossing rails, the ends of which are cut off obliquely and parallel to each other at the four corners of the crossing, of the cylindrical shafts arranged diagonally under the corners of the crossings and the rail connecting sections or bridge-pieces mounted upon the said cylindrical shafts, at right angles to each other, having obliquely cut-off ends, substantially as set forth. 2nd. In a railroad crossing, the combination, with the line rails, and crossing rails having their ends cut off obliquely and vertically parallel to each other at the four corners of the crossing, of the cylindrical supporting shafts arranged diagonally at the corners of the crossing, the rail sections mounted upon the said cylindrical shafts at right angles to each other, and having their ends cut off obliquely and vertically, and suitable mechanism for simultaneously adjusting the said shafts, substantially as set forth.

No. 35,059. Bridle Bit. (Mors de bride.)

Jacques Onésime Robinette and Howard Shaw, Quebec, Que., Canada, 20th September, 1890; 5 years.

Claim.—A bridle bit, extended with gag and legs or levers, substantially as described and for the purposes hereinbefore set forth.

No. 35,060. Fence. (Clôture.)

James Thomas Mayhew, Vista, California, U.S.A., 20th September, 1890; 5 years.

Claim.—The open panel pickets A, formed by dies of sheet metal, with transverse grooves a upon one side, and longitudinal adjoining grooves or loops b on the opposite side, in combination with stringers c and keys d, constituting a removable adjustable fence, as described.

No. 35,061. Automatic Signalling Target.*(Cible à indicateur automatique.)*

Arthur Thomas Metcalf Johnson, East Melbourne, Victoria, Australia, 2nd September, 1890; 5 years.

Claim.—1st. In an automatic signalling target, the employment of a target divided into any convenient number of independent parts or sections, such as A, A¹, A², A³, each supported upon oscillating bell crank levers, such as B, B¹, in combination with a pawl or pivoted catch-lever, such as C, adapted to retain a bar, such as D, carrying a disk or other signal, and so arranged that upon one of the sections of the target being struck by a bullet, the signal corresponding with such section will be exhibited, substantially as herein described. 2nd. In an automatic signalling target, the combination, with a signal bar, such as D, adapted to be released upon a bullet striking the target, of a train of gearing, such as E¹, in combination, a toothed or notched wheel, as F¹, together with a pawl, such as F², engaging with said wheel and connected through the medium of suitably arranged levers and connecting rods or otherwise, either with a bar, such as F³, or else with a crank arm or arm, such as F⁴, adapted to be operated

by the falling either of a signal rod, such as D, or of a weighted rod, such as c^2 , connected therewith, substantially as and for the purposes specified. 3rd. In an automatic signalling target, the combination, with a target made in sections, such as A, A¹, A², and A³, of a number of oscillating bell-crank levers, such as B, B¹, either provided rods, such as b^2 , on their rear-most extremities, or else having striking one of said target sections, a hooked retaining bar or catch, such as C, will be operated, either through the medium of the lug, or else of the connecting rod hereinafter mentioned, substantially as and for the purpose specified. 4th. In an automatic signalling target, the combination, with a number of pivoted bars, such as D, carrying suitably constructed signals, of a number of pivoted hooked retaining bars or catches, such as C, arranged to hook over or engage with the upper end of said signal bars, and so arranged as to release said signal bars when the target is struck by a bullet, substantially as and for the purposes specified. 5th. In an automatic signalling target, the combination, with a series of pivoted signal bars, such as D, each having a downwardly projecting arm or extension, such as d^1 , of a pair of bell-crank levers, such as f^1, f^2 , and f^1, f^2 , connected together by a rod, such as f^3 , and both connected to a retaining pawl, such as f^4 , adapted to engage with a notched disc or wheel, such as f^5 , in order to provide for the release of the signal returning devices, substantially as herein described. 6th. In an automatic signalling target, the combination, with a pair of rocking levers, such as h^2 , of a pair of crank arms, such as h^3 , connected together at their ends by a bar, such as h^4 , and so arranged as to return any released signal bars to their normal positions, substantially as and for the purpose specified. 7th. In an automatic signalling target, the combination, with a weighted vertically sliding bar, such as c^2 , connected by a cord or chain passing over a pulley to another vertically sliding bar, such as D, having a suitably constructed signal at its upper end, of a pivoted retaining pawl, such as C, adapted to engage in a notch or tooth cut in said weighted vertically sliding bar, and adapted to be released by the action of a bullet striking the target, substantially as and for the purpose specified. 8th. In an automatic signalling target, the combination, with a vertically sliding signal bar, such as D, provided with projecting pins, such as d^1 , as well as with a notch, in which a retaining pawl, such as C, can engage, of a pair of pivoted upwardly projecting fingers, such as C¹, arranged one on either side of said retaining pawl, and adapted to be withdrawn one at a time therewith, substantially as and for the purpose herein specified. 9th. In an automatic signalling target, the combination, with a series of pivoted arms, such as D, carrying signal disks with comparatively large numbers, or other devices on their surface, of a number of other pivoted arms, having similar, but smaller, devices cut out of a solid sheet, so as to be in skeleton form, and therefore adapted to show over the devices on the signal disks; just mentioned to indicate a "line" shot, substantially as herein described.

No. 35,062. Pulverizing Mill.

(Moulin à broyer.)

Vietta Lysands Rice, New York, N.Y., U. S. A., 22nd September, 1890; 5 years.

Claim.—1st. In a pulverizing mill, the combination of a chamber for receiving material to be pulverized, a main shaft, a number of rolls, shafts upon which these rolls are mounted, a head connected to the main shaft, and oscillating journal bearings having such relation to the main shaft that, when the rolls are at rest, said rolls will fall away from the wall of the chamber, substantially as specified. 2nd. In a pulverizing mill, the combination of a chamber for receiving material to be pulverized, a roll or rolls arranged to travel around the interior of the same, a shaft or shafts connected with the roll or rolls, and provided each with a spiral flange, and a main shaft revolving the roll shaft or shafts, substantially as specified. 3rd. In a pulverizing mill, the combination of a chamber for receiving material to be pulverized, a roll arranged to travel around the interior of the same, a shaft with which said roll is connected, a main shaft, having a flange which is sustained by the main frame of the machine, and which has a downwardly tapering portion, a sleeve having an upwardly flaring interior surface, fitting the downwardly tapering portion of the main shaft, and an exterior surface fitting a cavity or opening in the said frame, and a lever engaging with the sleeve for adjusting it longitudinally, substantially as specified. 4th. In a pulverizing mill, the combination of a chamber for receiving material to be pulverized, a roll arranged to travel around the interior of the same, a shaft connected with the roll, a main shaft having a downwardly tapering portion and a laterally-extending flange, a frame through which said main shaft passes, and which sustains the flange of the latter, and a sleeve tapering internally to fit the tapering portion of the main shaft, and having a tongue and grooved connection in the cavity of said frame, whereby said sleeve may be removed, and, after being partially rotated, may be reinserted to present its surface more advantageously for wear, substantially as specified. 5th. In a pulverizing mill, the combination of a chamber for receiving material to be pulverized, a roll arranged to travel around the interior of the same, a perforated or reticulated screen rising from the said chamber, a shell surrounding the screen and chamber, a hopper arranged beneath the chamber, and having its upper portion extended beneath the space, which is between the chamber and the said shell, and a spiral flange carried by the roll to convey material to the screen, substantially as specified. 6th. In a pulverizing mill, the combination of a chamber, rolls revolving around the interior of the same, a main shaft, a head carried by the main shaft and upon which the rolls are mounted, and composed of two parts, the outer of which have shoulders for receiving heads extending from the roll shafts, and the inner of which are longitudinally adjustable related portions of the outer and internally tapered to fit correspondingly tapered portions of the roll shaft, substantially as specified. 7th. In a pulverizing mill, the combination of a chamber, rolls working within the chamber, shafts carrying the rolls, a hollow main shaft, a head carried by the main shaft and having radial cavities, bearing for the roll shafts, having trunnions provided with cavities communicating

with the cavities of the head and composed of two sections, the inner of which are adjustable relatively to the outer, and are internally tapered to fit the tapering portions of the roll shafts, substantially as specified. 8th. In a pulverizing mill, the combination of a hollow main shaft vertically arranged, and provided with a flange, a frame having a part sustaining said flange, and a passage for oil from the interior of said shaft to the space between the collar and hub, substantially as specified.

No. 35,063. Vehicle Spring.

(Resort de voiture.)

Francis L. Perry, Brooklyn, N.Y., U.S.A., 23rd September, 1890; 5 years.

Claim.—1st. The combination, with a vehicle body, of a W-shaped spring attached at the several bends thereof to said body, and running gear, to which the outer ends of the spring are connected, substantially as set forth. 2nd. The combination, with the body and running gear, of a W-shaped spring attached to the body at the bends, and having pintles on its outer ends, and two-part boxes secured to the running gear, and means for retaining the pintles in the boxes, substantially as set forth. 3rd. The combination, with a body and running gear, of a W-shaped spring attached to the body at the bends, and having pintles at the outer ends, and two-part bearing boxes, between which the pintles are supported, said boxes having ribs therein, which enter corresponding recess in the pintles, to prevent endwise movement, substantially as set forth. 4th. The combination, with a body, a rear axle and front cross-bar or axle, of a pair of W-shaped springs attached to the body at the bends, and to the axle or cross-bar at the ends, substantially as set forth. 5th. The combination, with a body and axle, of a W-shaped spring attached to the body at the bends, and having boxes secured diagonally to the axle, and adapted to receive and form bearings for the outer ends of the spring, substantially as set forth.

No. 35,064. Car Coupling. (Attelage de chars.)

Henry Marshall, Lincoln, Nebraska, U.S.A., 23rd September, 1890; 5 years.

Claim.—1st. In a car coupling, the combination, with the draw head having a slot in its front end, which is enlarged on the interior of the draw head and provided with an inclined bottom, of a pin moving vertically through the draw head, and having a shoulder moving through the enlargement of said slot, and a ball in said enlargement, substantially as described. 2nd. In a car coupling, the combination, with the draw head having a slot in its front end, which is enlarged on the interior of the draw head, and provided with an inclined bottom, and the jaw pivoted in said draw head and having a foot extending into said slot, the latter being struck on a curve around the pivot of the jaw, of a ball in said enlargement of greater diameter than the thickness of the foot, and a pin moving vertically through the draw head in rear of the enlargement, and having a shoulder extending into the enlargement, the whole adapted to operate, substantially as described. 3rd. In a car coupling, the combination, with a draw head, a jaw pivoted therein, and having a rearwardly extending foot, and a pin having a shoulder adapted to drop in front of said foot, of an enlargement at the lower end of said pin, and a cranked rod mounted in eyes on the end of the car body and standing below said enlargement, and at right angles thereto, as and for the purpose set forth. 4th. In a car coupling, the combination, with the draw-head, having perforated ears at its sides, of draft-boxes engaging said ears, pins passing through the perforations therein, and removably securing the boxes, and rods connecting the boxes with those at the other end of the car-body, substantially as described.

No. 35,065. Gate Hinge. (Penture de barrière.)

Gabriel Rohrbach, Del Rio, Texas, U. S. A., 23rd September, 1890; 5 years.

Claim.—1st. A gate hinge, consisting of two angled plates, one member being provided with a pintle and the other member with a series of apertures adapted to receive said pintle, substantially as shown and described. 2nd. A gate hinge, consisting of the angled plates B¹ and B², provided with the strengthening ribs c , the plate B¹ having its horizontal portion provided with the pintle b , and the plate B² having its horizontal portion of greater length than the horizontal portion of the plate B¹, and provided with the series of apertures a , substantially as shown and described.

No. 35,066. Gate Latch. (Loquet de barrière.)

Gabriel Rohrbach, Del Rio, Texas, U. S. A., 23rd September, 1890; 5 years.

Claim.—1st. A gate latch, comprising a slotted sleeve, a pivoted and spring-actuated latch plate and a bolt mounted to turn in the latch plate, and extending through the sleeve, and provided with a transverse pin, substantially as shown and described. 2nd. A catch for a gate latch, consisting of a plate bent to form two aligning recesses, divided by a partition, two opposite inclines and two wings for attachment to a post, substantially as shown and described. 3rd. In a gate latch, the combination, with a base plate and a slotted sleeve carried by the base plate, of a spring-actuated latch plate, pivoted on the base plate, a bolt held to turn in the base plate, and extending through the sleeve, a transverse pin in the bolt, and means for turning the bolt, substantially as shown and described.

No. 35,067. Lathing. (Lattis.)

Lauren Sylvester Scott, Bristol, Vermont, U.S.A., 23rd September, 1890; 5 years.

Claim.—1st. A lathing fabric, composed of parallel wooden strips, arranged in proper position to be nailed in place, and sewed to-

gether with twine, or thread, or wire, the stitches passing through the bodies of the strips, as specified. 2nd. A lathing fabric, composed of lathing strips of any suitable material, stitched together, substantially as specified.

No. 35,068. Axle Check for Vehicles.

(Arrêt pour essieux de voiture.)

Daniel C. Funcheon, Denver, Colorado, U.S.A., 23rd September, 1890; 5 years.

Claim.—The combination, with the forward axle and the reach of a vehicle of the chains 8, 8, secured at their forward extremities to the axle, a ring or link 9, uniting their opposite extremities, a chain 12, connected with said ring at its opposite extremity to the reach, at a point in the rear of ring 9, substantially as described.

No. 35,069. Brake Apparatus for Vehicles, such as Railway Waggons. (Appareil aux freins des wagons de chemin de fer.)

William Panter, Lambeth, County of Surrey, England, John Charles Taite, and Thomas William Carleton, London, England, 23rd September, 1890; 5 years.

Claim.—1st. In brake apparatus for vehicles such as railway waggons, the combination of a brake block or blocks, a hand lever adapted to actuate the same, and a holding device, said hand lever being arranged to extend transversely, or approximately so, of the vehicle, and capable of being actuated, and of being engaged with and disengaged from said holding device, from either side of said vehicle indifferently, substantially as herein described for the purposes set forth. 2nd. In brake apparatus for vehicles, such as railway waggons, the combination, with a brake block or blocks, of a hand lever arranged to extend transversely, or approximately so, of the vehicle, and capable of being operated from either side of said vehicle, a holding device, with which said hand lever can be engaged, or from which it can be disengaged, as set forth, two rods, connected at one end to the respective arms of said hand lever, a third rod to which the other end of each of the first-mentioned rods is directly jointed, and suitable connections between said third rod and the brake block or blocks, substantially as herein described for the purpose set forth. 3rd. In brake apparatus for vehicles, such as railway waggons, the combination, with a brake block or blocks, of a hand lever arranged to extend transversely, or approximately so, of the vehicle, and capable of being operated from either side of said vehicle, a holding device with which said hand lever can be engaged, or from which it can be disengaged, as set forth, two rods jointed at one of their ends to the respective arms of said hand lever, so as to follow the movement thereof in each direction, a third rod to which the other end of each of the first-mentioned rods is directly jointed, and suitable connections between said third rod and the brake block or blocks, substantially as herein described for the purpose set forth. 4th. In brake apparatus for vehicles, such as railway waggons, the combination with a brake block or blocks, of a hand-lever 9, arranged to extend transversely of the vehicle, or approximately so, and provided with a projection 13, a guide or stirrup 11, having recesses 12 adapted to receive and hold said projection, and suitable connections between said hand lever and brake block, substantially as herein described. 5th. In brake apparatus for vehicles, such as railway waggons, the combination with a brake block, or blocks, of a hand-lever 9, arranged to extend transversely of the vehicle, or approximately so, and provided with a projection 13, a guide or stirrup 11, having recesses 12 adapted to receive and hold said projection, a spring 16 that normally keeps the said hand lever in engagement with said guide or stirrup 11, and suitable connections between said hand lever and brake block or blocks, substantially as herein described for the purpose specified. 6th. In brake apparatus for vehicles, such as railway waggons, the combination, with a brake block or blocks, of a hand-lever 9 arranged to extend transversely of the vehicle, or approximately so, and provided with a projection 13, a guide or stirrup 11, having recesses 12 adapted to receive and hold said projection, a rod 8, rods 8a, 8c, each jointed at one end to said rod 8, and at its other end to one arm of said hand lever, and suitable connections between said rod 8, and brake block or blocks, substantially as herein described for the purposes specified. 7th. In brake apparatus for vehicles, such as railway waggons, the combination, with a brake block or blocks, a hand-lever, such as 9, arranged to extend transversely, or approximately so, of the vehicle, and capable of being actuated from either side thereof indifferently, a holding device adapted to hold said lever in the on or off position, a rod 8 arranged to be operated by said lever, means for directly actuating said brake block or blocks, and a spring, such as 14, arranged between said rod 8, and the means for actuating said brake block or blocks, substantially as herein described for the purpose specified. 8th. In brake apparatus for vehicles, such as railway waggons, the combination of a brake block, or blocks, two hand levers jointed together, and with the brake block or blocks, and a holding device for one of said levers, said levers being arranged to extend transversely, or approximately so, of the vehicle, substantially as herein described, with reference to Figs. 25 to 27 inclusive, and Figs. 28 to 30, inclusive of the drawings annexed for the purpose set forth.

No. 35,070. Heel Protector for Rubber Shoes. (Protecteur pour talons de souliers en caoutchouc.)

John Siegel, Montreal, Que., Canada, 23rd September, 1890; 5 years.

Claim.—1st. In a heel protector, the combination of a plate A, conforming to the size and shape of the heel to be covered, and having the curved instep edge *a*, and provided with indentations *a*¹, and perforations *a*², and a perforated and indented rim B, having crimps or creases, and the perforated rear extension *b*, substantially as set forth. 2nd. In a heel protector, the combination of a plate A, conforming to the size and shape of the heel to be covered, and having

the curved instep edge *a*, and provided with indentations *a*¹, and perforations *a*², and a perforated rim B, having crimps or creases, and the perforated rear extension *b*, substantially as set forth. 3rd. In a heel protector, or the combination of a plate A, conforming to the size and shape of the heel to be covered, and having the curved instep edge *a*, and provided with perforations *a*¹ and the rim B, having creases *b*¹¹, perforations *b*¹², and indentations *b*¹³, substantially as set forth. 4th. In a heel protector, the combination of a plate A, having a curved instep edge *a*, and perforations *a*¹, and the rim B, having the upper rear extension *b*, with perforation *b*¹, and the crimps or creases *b*¹¹, substantially as set forth. 5th. In a heel protector, the combination of a plate A, conforming to the size and shape of the heel to be covered, and having perforations *a*¹, and the rim B, having crimps or creases, and provided below said crimps or creases with indentations *b*¹, substantially as set forth. 6th. In a heel protector, the combination of a plate A, conforming in size and shape to the heel to be covered, and having a curved instep edge *a*, and a perforated rim B, having a perforated extension *b*, substantially as set forth. 8th. In a heel protector, the combination of a plate A, conforming to the size and shape of the heel to be covered, and having indentations *a*¹ and perforations *a*², and a perforated rim B surrounding said plate, except at the instep, and having crimps or creases, and a perforated extension *b*, substantially as set forth. 9th. A heel protector, consisting of a plate A, conforming to the size and shape of the heel to be covered, but slightly smaller and a little narrower near the instep, and a rim B, approximately at right angles to said plate, formed integrally therewith or otherwise, and engaging and holding the edge of the rubber heel plate, and the parts above the same by corresponding configurations.

No. 35,071. Combined Washer and Wringer.

(Machine à blanchir et essoreuse à linge combinées.)

Samuel Cole, New York, State of New York (assignee of Cassius Adelbert White, Jamaica, Vermont), U.S.A., 23rd September, 1890; 5 years.

Claim.—1st. The combination, of the operating crank-shaft, the pitmen, the roller, the rods in which the roller is journaled, the partially revolving shaft, through which the upper ends of the rods pass, the ratchet attached to one end of the roller, a spring-actuated dog, and a lever for throwing the dog into contact with the ratchet, substantially as specified. 2nd. The combination, of the rods W, the shaft Z, through which their upper ends pass, the roller X, the ratchet A¹, the dog, the rod connected to the dog and provided with a stop, the spring placed upon the rod, the plate through which the rod passes, the lever *d*¹ for operating the dog, substantially as shown.

No. 35,072. Nut Lock. (Arrête-écrou.)

Henry Ware, Newark, Ontario, Canada (assignee of Joseph George Ware, Morengo, Iowa, U.S.A.), 25th September, 1890; 5 years.

Claim.—In a nut lock, the washers B, and C, the split key F, and the blocks E, constructed and adapted to operate in combination, substantially as and for the purpose hereinbefore set forth.

No. 35,073. Horse Collar. (Collier de cheval.)

William Irvine, Muskoka Falls, Ont., Canada, and Joseph Harcourt Parkinson, Bracebridge, Ontario, Canada, 25th September, 1890; 5 years.

Claim.—1st. A horse collar, having its top made of flexible material, and its lower portion formed by a throat-piece, adjustably connected to the side of the collar, substantially as described. 2nd. A horse collar, having its top made of flexible material, and the lower portion of its sides of stiff material suitably padded, in combination with a bolt G, and hinged throat-piece H, arranged to adjustably connect the sides of the collar, substantially as and for the purpose specified. 3rd. A horse collar, having its top made of flexible material, and the lower portion of its sides of stiff material, suitably padded, the upper ends of the flexible sides being arranged to overlap each other, so that they may be secured together by means of the bolt C, in combination with the collar pad D and bolt C, the latter being provided with a suitable nut, substantially as and for the purpose specified.

No. 35,074. Hydrant. (Borne-fontaine.)

Joseph Redican and James Chamberlain, both of Toronto, Ontario, Canada, 25th September, 1890; 5 years.

Claim.—1st. In a hydrant, a valve, having its seat on the inside end of the plug of the hydrant, and connected to a cylindrical sleeve, which is operated by the hose coupling, as it is being screwed on, for the purpose specified. 2nd. The valve B, connected by the bars C to the cylindrical sleeve D, in combination with the extension ring I, formed at the inner end of the tail-piece J, of the hose-coupling J, substantially as and for the purpose specified. 3rd. The valve B, connected by the bars C to a cylindrical sleeve D, substantially as and for the purpose specified.

No. 35,075. Dust Arrester and Ventilator for Railway Cars. (Garde-poussière et ventilateur pour les chars de chemin de fer.)

Henry Chance, Fostoria, Ohio, U.S.A., and George N. Matherson Sarnia, Ontario, Canada, 25th September, 1890; 5 years.

Claim.—1st. A dust arrester and ventilator attachment for railway cars, having a conducting chamber C, a refrigerating chamber D, communicating therewith, said chamber D communicating with the

interior of the car, substantially as set forth. 2nd. A dust arrester and ventilator attachment for railway cars, having a conducting chamber C, provided with fans, and in combination therewith with a refrigerating chamber communicating therewith, the refrigerating chamber communicating with the interior of the car, substantially as herein set forth. 3rd. In a dust arrester and ventilator attachment for railway cars, a conducting chamber C, provided with a suitable number of fans, said chamber communicating with the interior of the car, substantially as set forth. 4th. In a dust arrester and ventilator for railway cars, a conducting chamber C, provided with a suitable number of fans, and fitted to contain water, said chamber communicating with the interior of the car, the construction being such, that air entering said chamber will be forced through water contained therein and thereby cleansed, substantially as set forth. 5th. A dust arrester and ventilator attachment for railway cars, having a conducting chamber provided with fans, a window sash provided with an opening therein, said chamber communicating with said opening, substantially as set forth. 6th. In a dust arrester and ventilator attachment for railway cars, a conducting chamber constructed to admit air at either ends, and provided with valves to control the admission of air at the respective ends, said chamber arranged to communicate with the interior of the car, substantially as set forth. 7th. In a dust arrester, and ventilator for railway cars, a conducting chamber adapted to contain a supply of water and open to the admission of air, said chamber having, in combination therewith, means to force the air through the water, and arranged to communicate with the interior of a car, substantially as set forth. 8th. In a dust arrester and ventilator for railway cars, the combination with a window sash A³, open at the base of a refrigerating chamber, communicating through said open base of the sash, and a conducting chamber communicating with said refrigerating chamber, substantially as set forth.

No. 35,076. Holdback for Vehicles.

(*Ragot de limonière.*)

John H. Ormsby, Bolton Landing, State of New York, U.S.A., 26th September, 1890; 5 years.

Claim.—1st. As an improved article of manufacture, a holdback for vehicle-thills, formed from a single piece of metal, the securing portion of which is elongated and extended laterally, and having the tongue portion bent upon the lateral portion, and then curved upwardly and inwardly over the lateral portion, substantially as specified. 2nd. The combination, with a vehicle-thill, of a holdback secured to the under side thereof, said holdback being formed from a single piece of metal, and having its securing portion elongated and extended laterally, and having the tongue portion bent upon the lateral portion, and then curved upwardly and inwardly around the outer and top portions of the thill, substantially as described.

No. 35,077. Differential Movement.

(*Mouvement différentiel.*)

Alexander Stephens, Tepic, Mexico, 26th September, 1890; 5 years.

Claim.—1st. A differential movement, comprising a driving gear wheel, a pinion in mesh with the said driving gear wheel, a second larger pinion rotating with the said first-named pinion, and a second gear wheel meshing in the said second pinion, and less in diameter than the first-named gear wheel, the second gear wheel being driven at a differential speed to the first gear wheel, substantially as shown and described. 2nd. A differential movement, comprising a driving gear wheel, a pinion in mesh with the said driving gear wheel, a second larger pinion rotating with the said first-named pinion, a second gear wheel meshing in the said second pinion, and less in diameter than the first-named gear wheel, the said second gear wheel being driven at a differential speed to the first gear wheel, a carrier mounted to turn, and a bolt held on the said carrier, and on which the said second pinion is mounted to rotate, substantially as shown and described. 3rd. A differential movement, comprising a driving gear wheel, a pinion in mesh with the said driving gear wheel, a second larger pinion rotating with the said first-named pinion, a second gear wheel meshing in the said second pinion, and less in diameter than the first-named gear wheel, the said second gear wheel being driven at a differential speed to the first gear wheel, a carrier mounted to turn, a bolt held on the said carrier, and on which the said second pinion is mounted to rotate, and pins fitted in the opposite faces of the said pinions to permit the first-named pinion to turn the second pinion, and also to press the two pinions apart on the said bolt to create a friction on the carrier, substantially as shown and described. 4th. A differential movement, comprising a driving gear wheel, a pinion in mesh with the said driving gear wheel, a second

larger pinion rotating with the said first-named pinion, a second gear wheel meshing in the said second pinion, and less in diameter than the first-named gear wheel, the said second gear wheel being driven at a differential speed to the first gear wheel, a carrier mounted to turn, a bolt held on the said carrier, and on which the said second pinion is mounted to rotate, pins fitted in the opposite faces of the said pinions, to permit the first-named pinion to turn the second pinion, and also to press the two pinions apart on the said bolt to create a friction on the carrier, and a casing containing the said gear wheels and pinions, and in which the said carrier is fitted to turn, substantially as shown and described. 5th. In a differential movement, the combination, with a spindle, of a tube held concentric on the said spindle and rotating with the latter, a gear wheel held on the said tube, a pinion in mesh with the said gear wheel, a second pinion concentric with the first-named pinion and revolved by the same, a second gear wheel less in diameter than the said first-named gear wheel and in mesh with the said second pinion, and a sleeve on which the said second gear wheel is formed, and which is mounted to rotate loosely around the said tube, substantially as shown and described. 6th. In a differential movement, the combination, with a spindle, of a tube held concentric on the said spindle and rotating with the latter, a gear wheel held on the said tube, a pinion in mesh with the said gear wheel, a second pinion concentric with the said first-named pinion, and revolved by the same, a second gear wheel less in diameter than the said first-named gear wheel and in mesh with the said second pinion, a sleeve on which the second gear wheel is formed, and which is mounted to rotate loosely around the said tube, and a bobbin held on the said sleeve and turning with the same, substantially as shown and described. 7th. In a differential movement, the combination, with a spindle, of a tube held concentric on the said spindle and rotating with the latter, a gear wheel held on the said tube, a pinion in mesh with the said gear wheel, a second pinion concentric with the said first-named pinion, and revolved by the same, a second gear wheel less in diameter than the said first-named gear wheel and in mesh with the said second pinion, a sleeve on which the second gear wheel is formed, and which is mounted to rotate loosely around the said tube, a carrier mounted to turn, and having its axis coincide with said sleeve, and a bolt held on the said carrier, and on which the said second pinion is mounted to turn, substantially as shown and described. 8th. In a differential movement, the combination, with a spindle, of a tube held concentric on the said spindle and rotating with the latter, a gear wheel held on the said tube, a pinion in mesh with the said gear wheel, a second pinion concentric with the said first-named pinion and revolved by the same, a second gear wheel less in diameter than the said first-named gear wheel, and in mesh with the said second pinion, a sleeve on which the said second gear wheel is formed, and which is mounted to rotate loosely around the said tube, a carrier mounted to turn, and having its axis coincide with said sleeve, and a bolt held on the said carrier and on which the said second pinion is mounted to turn, and pins held in recesses in and contacting in the opposite sides of the said pinions, so that the first-named pinion revolves the second pinion, when the said spindle is rotated, substantially as shown and described.

No. 35,078. Stove Pipe Fastener.

(*Accouplement de tuyaux de poêle.*)

Henry P. Kohlmyer, Norwalk, Ohio, U.S.A., 26th September, 1890; 5 years.

Claim.—The combination, with the stove-pipe section, the edges of which are pivoted at one end, and one of the meeting edges of which is inwardly bent upon itself to form a longitudinally disposed guard plate, and the opposite meeting edge inserted into said plate, of the opposite members D and E, each secured to one edge of the section, and at the opposite end to which is located the pivot, the member D, having its outer end secured to the pipe and longitudinally slotted toward its free end, the edges of the slot being bent at a right angle and toothed, and the opposite member secured at its outer end to the pipe section, and terminating at its opposite end in a T-head inserted through the slot and engaging the teeth of the flange, substantially as specified.

No. 35,079. Fire Kindler. (*Allumoir.*)

Thomas Malone, Three Rivers, Quebec, Canada, 26th September, 1890; 5 years.

Claim.—A composition of matter, of saw-dust, petroleum powdered resin, a solution of resin and tallow, the whole in blocks or cakes, each provided with a wick, and with or without a coat of dissolved resin and tallow, all in the proportions and for the purposes set forth.

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

1907. M. PALMER, 2nd five years of No. 22,341, from the 1st day of September, 1890. Improved Process or Method of Reclaiming Rubber from Waste Scraps, 1st September, 1890.
1908. L. HANSON and A. SMITH, 2nd five years of No. 22,479, from the 17th day of September, 1890. Improvement in Apparatus for Preserving Wood, 3rd September, 1890.
1909. G. BANCROFT, J. H. HORSFALL, and G. S. JONES, 2nd five years of No. 22,454, from the 15th day of September, 1890. Improvement in Apparatus for Cancelling Stamps, 3rd September, 1890.
1910. W. NORRIS, 2nd five years of No. 22,374, from the 3rd day of September, 1890. Improvement in Window Adjuster and Holder, 3rd September, 1890.
1911. J. I. THORNYCROFT, 2nd five years of No. 22,695, from the 29th day of October, 1890. Improvement on Navigable Vessels, 3rd September, 1890.
1912. M. L. JOHNSON, 2nd five years of No. 22,416, from the 7th day of September, 1890. Improvement in Locomotive Engines, 4th September, 1890.
1913. C. E. KNAPP, 2nd five years of No. 22,404, from the 5th day of September, 1890. Improvement in Binding for Carpets, 4th September, 1890.
1914. J. W. ROGERS, 2nd five years of No. 22,414, from the 7th day of September, 1890. Improvement on combined Drill Seeders and Grain Cultivators, 5th September, 1890.
1915. E. WINANS, 2nd five years of No. 22,439, from the 12th day of September, 1890. Improvement in Power Transmitting Machinery, 9th September, 1890.
1916. THE DOMINION FIRE ESCAPE COMPANY, (assignees), 2nd five years of No. 22,506, from the 21st day of September, 1890. Improvement in Fire Escapes, 9th September, 1890.
1917. G. MEALEY, 2nd five years of No. 22,423, from the 9th day of September, 1890. Improvement in Machine for Rounding Circular Saws, 9th September, 1890.
1918. C. AVERY, 2nd five years of No. 23,290, from the 13th day of January, 1891. Improved Fence Rail Fasteners, 9th September, 1890.
1919. J. M. ALLEN, 2nd five years of No. 22,458, from the 15th day of September, 1890. Improvement in the Manufacture of Paper and Paper Board, 10th September, 1890.
1920. THE DEVERALL MANUFACTURING COMPANY, (assignees), 2nd five years of No. 22,598, from the 7th day of October, 1890. Improvement in Bottle Stoppers, 10th September, 1890.
1921. THE COWLES ELECTRIC SMELTING AND ALUMINUM COMPANY, (assignees), 2nd five years of No. 22,444, from the 12th day of September, 1890. Improvement in Process of Smelting Ores by the Electric Current, and Furnaces Therefor, 11th September, 1890.
1922. J. J. LAPPIN, 2nd five years of No. 22,505, from the 21st day of September, 1890. Improvement in the connecting parts of Brake Heads and Brake Shoes, 11th September, 1890.
1923. S. TWITCHELL and O. TWITCHELL, 2nd five years of No. 22,451, from the 15th day of September, 1890. Improvement in Bottles, 13th September, 1890.
1924. H. J. HAIGHT, 2nd five years of No. 22,827, from the 17th day of November, 1890. Improvement in Electro-Magnetic Thermoscopes, 13th September, 1890.
1925. W. McKAY, 2nd five years of No. 22,486, from the 18th day of September, 1890. Improvements in Pickets for Woven Wire Fences, 17th September 1890.
1926. T. McAVITY, 2nd five years of No. 22,612, from the 8th day of October, 1890. Improvements in Straightway Swinging Check Valves, 18th September, 1890.
1927. T. MULLERY, 2nd five years of No. 22,526, from the 23rd day of September, 1890. Improvement in Locomotive and other Cars adapted for travelling on ice, 22nd September, 1890.
1928. S. FIRTH, 2nd five years of No. 22,532, from the 28th day of September, 1890. Improvement in Apparatus for Checking and Recording the Amount of Cash received or taken, 22nd September, 1890.
1929. THE COWLES ELECTRIC SMELTING AND ALUMINUM COMPANY, (assignees), 2nd five years of No. 22,518, from the 23rd day of September, 1890. Improvement on Method of Manufacturing Alloys and Bronzes, 23rd September, 1890.
1930. THE COWLES ELECTRIC SMELTING AND ALUMINUM COMPANY, (assignees), 2nd five years of No. 22,529, from the 24th day of September, 1890. Improvement on Process of Reducing Aluminium Ores, 23rd September, 1890.
1931. T. G. GILLESPIE, 2nd five years of No. 22,561, from the 1st day of October, 1890. Improvement in Horse Collars, 23rd September, 1890.
1932. S. MARROTT, 2nd five years of No. 22,577, from the 2nd day of October, 1890. Improved Portable Food Compound, 23rd September, 1890.
1933. F. B. HOWARD, 3rd five years of No. 11,813, from the 27th day of September, 1890. Improvements on Wash Boards, 26th September, 1890.
1934. E. F. GORDON and H. HOBBS, 2nd five years of No. 22,536, from the 24th day of September, 1890. Improvements on Summer Cooking Stoves, 27th September, 1890.
1935. THE EMPIRE WRINGER COMPANY, (assignees), 2nd and 3rd 5 years of No. 22,570, from the 2nd day of October, 1890. Improvements in Journals and Bushing for Clothes Wringing Machines, 27th September, 1890.
1936. CHARLES H. IRWIN, 2nd 5 years of No. 22,603, from the 7th day of October, 1890. Improvements in Auger Bits, 30th September, 1890.
1937. P. H. McINTOSH, 3rd 5 years of No. 11,939, from the 30th day of September, 1890. Improvements on Milk Creamers, 30th September, 1890.

SEPTEMBER LIST OF TRADE MARKS.

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

3806. ALEXANDER A. MACKENZIE & GEORGE C. MILLS, of Winnipeg, Man. A compound known as "Magic Cleanser," 1st September, 1890.
3807. S. DAVIS & SONS, of Montreal, Que. Cigars, 6th September, 1890.
3808. N. C. READING & CO., of 186 Warstone Lane, Birmingham, England. Imitations of Gold and Silver Chains and Jewellery, 6th September, 1890.
3809. G. P. SWINBORNE & CO., of 33 and 34 St. Andrews' Hill, Queen Victoria Street, London, England. Isinglass, Gelatine and all Gelatinous substances, 8th September, 1890.
3810. G. & G. STERN, of 62 Gray's Inn Road, London, England. Foods of all Kinds, 8th September, 1890.
3811. JOHN A. SHEPHARD, of New York, N.Y., U.S.A. Varnish, 8th September, 1890.
3812. J. B. ARMSTRONG, President of the J. B. ARMSTRONG MANUFACTURING COMPANY (Ld.), THE GUELPH CARRIAGE GOODS COMPANY, of Guelph, Ont., and Flint, Michigan, U.S.A. Springs and Parts of Carriages, Buggies, Carts, Cutters, Sleighs, etc., 8th September, 1890.
3813. HORACE PERCY WILKINS, M.D., of Toronto, Ont. A Medical Compound, 8th September, 1890.
3814. GEORGE ADAMS & SONS, of Mars Iron-Works, Wolverhampton, County of Stafford, England. General Trade Mark, 8th September, 1890.
3815. CHARLES A. BROWN, of Troy, New York, U.S.A. General Trade Mark, 8th September, 1890.
3816. } CHASE & SANBORN, of Boston Massachusetts, U.S.A.
Teas and Coffees.
3817. } Teas.
3818. } Teas.
9th September, 1890.
3819. W. J. GAGE & CO., of Toronto, Ont. Writing Tablets. 10th September, 1890.
3820. EDOUARD MAILHOT, de Trois Rivieres, Que. Cigares, 11 Septembre, 1890.
3821. THE WHITING PAPER CO., of Holyoke, Massachusetts, U.S.A. Writing Paper, Envelopes and Card Paper, 15th September, 1890.
3822. McRAE & CO., of Ottawa, Ont. Cement, 16th September, 1890.
3823. THE WORTMAN and WARD MANUFACTURING CO., of London, Ont. Harrows, 16th September, 1890.
3824. } THE CANOE PASS CANNING CO., LD., of Ladners Landing, B.C.,
3825. } D. DRYSDALE, Manager.
3826. } Canned Salmon, 18th September, 1890.
3827. } SHARPE & DOHME, of Baltimore, Maryland, U.S.A.
3828. } Medicine, 19th September, 1890.
3829. ALFRED SAVAGE & SON, of Montreal, Que. Soap, 22nd September, 1890.
3830. JOSEPH TETLEY & CO., of No. 31 Fenchurch Street, London, England. Tea, 22nd September, 1890.
3831. THOMAS HENRY YEOMAN, of Toronto Ont. Proprietary Medicine, 22nd September, 1890.
3832. PELTIER AND GUY, of Montreal, Que. Cigars, 29th September, 1890.
3833. J. RATTRAY & CO., of Montreal, Que. Cigars, 29th September, 1890.
3834. HENRY SCHOFIELD, of Toronto, Ont. Medicine, 30th September, 1890.
3835. JAMES COCKLE & CO., of London, England. Pills, 30th September, 1890.

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5520. DELEGATES OF THE CONFERENCE ON THE CONSOLIDATION OF THE CHURCH OF ENGLAND IN CANADA (photograph). J. M. Mitchell, Winnipeg, Man., 1st September, 1890.
5521. THE LADIES' AND GENTLEMEN'S SHOPPING GUIDE. MONTREAL EDITION. Karl George Christopher Huttemeyer, Montreal, Que., 1st September, 1890.
5522. IS MARRIAGE A FAILURE; WHAT SAY YOU? (Poem). By Wm. Thomas, Cobourg, Ont., 1st September, 1890.
5523. WHEN I'M BIG I'LL BE A SOLDIER. Words and Music by J. L. Molloy. Chappell & Co., London, England, 1st September, 1890.
5524. NEVERMORE. Words by Rita. Music by Milton Wellings. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 1st September, 1890.
5525. THE GOLDEN GATES. Words by Della Rogers. Music by C. L. Harris. P. Grossman's Sons, Hamilton, Ont., 1st September, 1890.
5526. BELL TELEPHONE COMPANY OF CANADA, LONDON AND ST. THOMAS EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, AUGUST, 1890. The Bell Telephone Company of Canada, Montreal, Que., 4th September, 1890.
5527. PRESBYTERIAN CHURCH IN CANADA SABBATH SCHOOL CLASS REGISTER. The Presbyterian News Company, Toronto, Ont., 4th September, 1890.
5528. TWO MASTERS. By B. M. Croker (book). Wm Bryce, Toronto, Ont., 5th September, 1890.
5529. HELPS TO THE STUDY OF THE BIBLE. Henry Frowde, London, England, 5th September 1890.
5530. SEE ME DANCE. Polka on George Grossmith's Popular Song, by Edward Solomon. J. Bath, London, England, 5th September, 1890.
5531. BRETON SLUMBER SONG. Words by Shapeott Wensley. Music by Joseph L. Roeckel.
5532. THE ADMIRAL'S BROOM. Words by Frederic E. Weatherly. Music by Frederic Bevan.
5533. GENEVIEVE. Words by George Cooper. Melody by Henry Tucker. Adapted and Arranged by S. Adams.
5534. MIRIAM WALTZ. By Gilbert Byers. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 8th September, 1890.
5535. WINIFREDE WALTZ. By Norfolk Megona. Chappell & Co., London, England, 8th September, 1890.
5536. WHEN THY BLUE EYES. Song. By E. Lassen. I. Suckling & Sons, Toronto, Ont., 9th September, 1890.
5537. AUNT HANNAH and MARTHA and JOHN. By "Pansy," and Mrs. C. M. Livingston. Wm. Briggs (Book-Steward of the Methodist Book and Publishing House), Toronto, Ont., 9th September, 1890.
5538. THE CHIEF JUSTICE. By Karl Emil Franzos (book). John Lovell & Son, Montreal, Que., 10th September, 1890.
5539. SEHNSUCHT. Valse pour Piano. Par Vincent Elgie Green, Perth, Ont., 11th September 1890.
5540. NO LIFE WITHOUT LOVE (Kien Leben Ohne Liebe). Waltz. By Chas. Bohner, Whaley, Royce & Co., Toronto, Ont., 12th September, 1890.
5541. FIORINE VALSE. By Caroline Lowthian. Chappell & Co., London, Eng., 13th September, 1890.
5542. HIGH SCHOOL BOOK-KEEPING BLANKS. Complete with Notes. W. J. Gage & Co., Toronto, Ont., 15th September, 1890.
5543. GEOFFREY HAMPSTEAD. By Thos. S. Jarvis. The National Publishing Co., Toronto, Ont., 15th September, 1890.
5544. RECETTES POUR FAIRE DU VIN NATIF. Par Alexandre Cousineau, Ottawa, Ont., 17 Septembre, 1890.
5545. REVERIE MUSICALE. Valse. By J. C. Swallow. Whaley, Royce & Co., Toronto, Ont., 18th September, 1890.
5546. LESSONS IN FRENCH. Part II. By F. H. Sykes, M.A. The Copp, Clark Co., Ltd., Toronto, Ont., 19th September, 1890.
5547. N. HAYES' DOMINION OF CANADA COMPUTING, GUESSING, CALCULATING, ESTIMATING, RECKONING AND ENUMERATING CHART ON THE OFFICIAL CENSUS OF 1891 AND 1901. Newlands Hayes, Windsor, Ont., 19th September, 1890.

5548. GOLDEN ROD WALTZ. By Mrs. Frank Mackelcan. I. Suckling & Sons, Toronto, Ont., 20th September, 1890.
5549. THE ONTARIO REPORTS. VOL. XVIII., containing Reports of Cases decided in the Queen's Bench, Chancery and Common Pleas Divisions of the High Court of Justice. Editor, James F. Smith, Q.C.; Reporters, Queen's Bench Division, E. B. Brown; Chancery Division, A. H. F. Lefroy, George A. Boomer; Common Pleas Division, George F. Harman, Barristers at Law. The Law Society of Upper Canada, Toronto, Ont., 20th September, 1890.
5550. PRINCIPIA; or A PHILOSOPHICAL EXPLANATION OF THE ORIGIN OF THE EARTH, or HOW THE WORLD WAS MADE. By Prof. J. W. Crouter, London, Ont., 20th September, 1890.
5551. INSURANCE PLANS of Aylmer, Beauharnois, Berthier, Buckingham, Coaticook, Cowansville, Granby, Huntingdon, Knowlton, Lachute, St. Hyacinthe, St. Jerome, St. Scholastique, St. Therese, Waterloo and West Farnham, in Quebec: Aurora, Bobcaygeon, Bradford, Brighton, Campbellford, Colborne, Fenelon Falls, Georgetown, Hastings, Lakefield, Midland, Millbrook, Newmarket, Norwood, Oakville, Penetanguishene, Port Perry, Stirling, Tottenham, Tweed, Uxbridge, Victoria Harbor, Warkworth and Waubashine, in Ontario. Charles Edward Goad, Montreal, Que., 20th September, 1890.
5552. ALL ABOUT NOTES AND CHEQUES. By Alexander Blanchard, Peterborough, Ont., 20th September, 1890.
5553. HONEY FROM THE ROCK OF AGES. By Rev. Albert Sims, Otterville, Ont., 22nd September, 1890.
5554. WENONAH. Valse Elegante, par Juliette d'Erviex Smith. A. & S. Nordheimer, Toronto, Ont., 22nd September, 1890.
5555. MAITLAND OF LAURIESTON. By Annie S. Swan. William Briggs (Book Steward of the Methodist Book and Publishing House), Toronto, Ont., 23rd September, 1890.
5556. THE BELL TELEPHONE COMPANY OF CANADA. QUEBEC, LEVIS, ETCHMIN, THREE RIVERS, BERTHIER AND JOLIETTE EXCHANGES, SUBSCRIBERS' DIRECTORY, SEPTEMBER, 1890. The Bell Telephone Company of Canada, Montreal, Que., 23rd September, 1890.
5557. CANADIAN NATIONAL AND PATRIOTIC SONGS, Edited by Theo. Martens. I. Suckling & Sons, Toronto, Ont., 23rd September, 1890.
5558. A HANDBOOK FOR MAGISTRATES IN RELATION TO SUMMARY CONVICTIONS AND ORDERS AND INDICTABLE OFFENCES. By Hon. Thomas H. McGuire. Carswell & Co., Toronto, Ont., 25th September, 1890.
5559. ONNALINDA (Fair Maiden). Waltz, by Angelo M. Read. The Anglo-Canadian Music Publishers' Association, Ltd., London, England, 27th September, 1890.
5560. PRESBYTERIAN CHURCH IN CANADA SABBATH SCHOOL QUARTERLY AND ANNUAL SUMMARY. The Presbyterian News Company, Toronto, Ont., 27th September, 1890.
5561. VIE DE MGR. DE LAVAL, Premier Evêque de Quebec et Apôtre du Canada (1622-1708), par l'Abbé Auguste H. Gosselin, de St. Féréol, Que., Que., 29 Septembre, 1890.
5562. LOVER OR FRIEND ? By Rosa Nouchette Carey. John Lovell & Son, Montreal, Que., 30th September, 1890.
5563. NORMAN'S PERPETUAL CALCULATING CALENDAR. Calendar for any month in 200 years. Addison Norman, Toronto, Ont., 30th September, 1890.

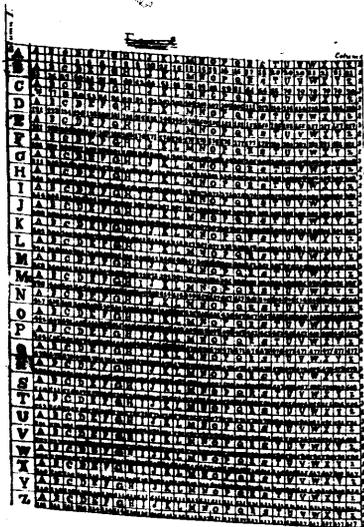
THE
CANADIAN PATENT OFFICE RECORD

ILLUSTRATIONS.

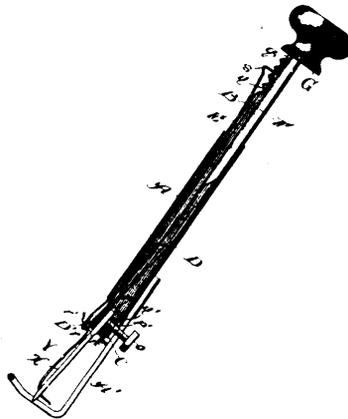
Vol. XVIII.

SEPTEMBER, 1890.

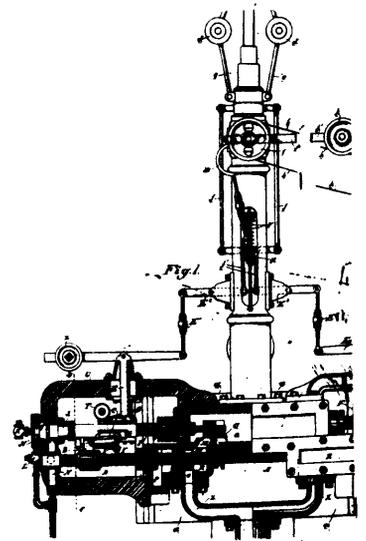
No. 9.



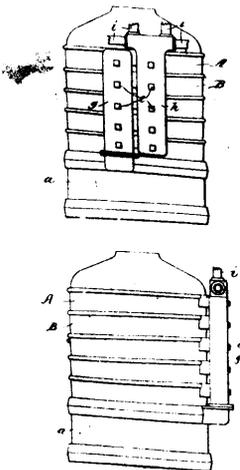
34928 Bollman's System of Printing.



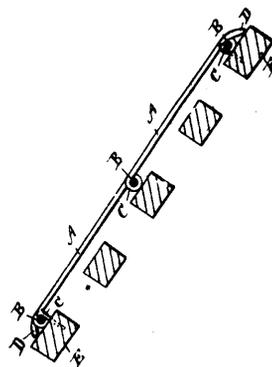
34930 Connett's Fabric Turfing Implement.



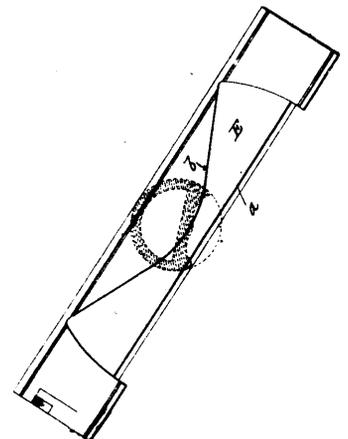
34931 Thompson's Cut-Off Engine.



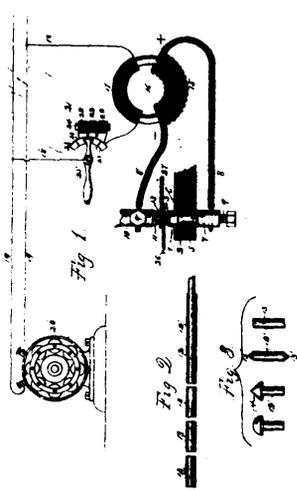
34932 Best's Water Heater.



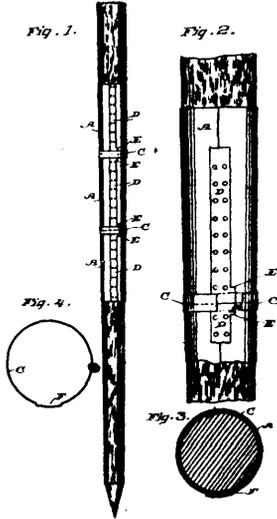
34933 Balch's Surface Cattle Guard.



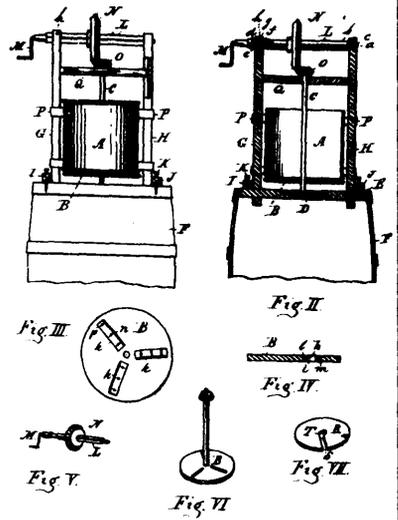
34934 Nordberg's Exhaust Valve.



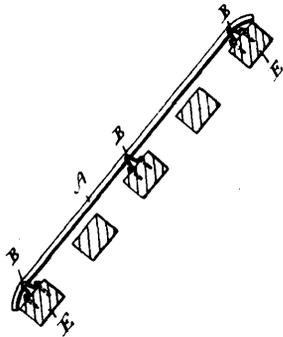
34935 Ries' Method of Electric Rivetting.



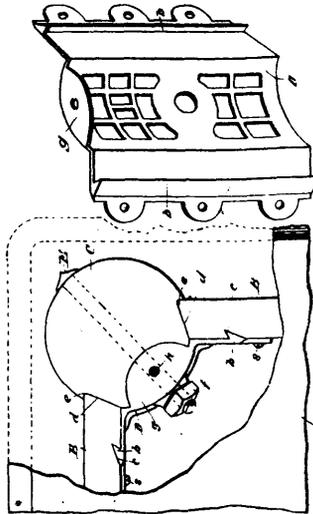
34936 Ames' Pile Covering.



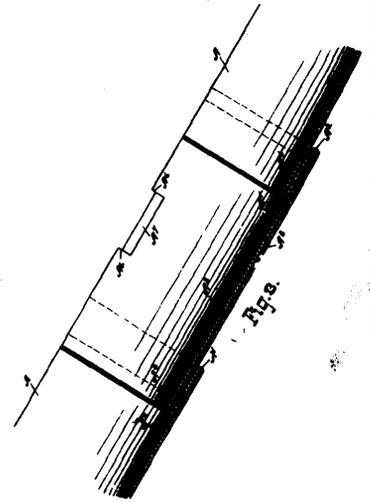
34937 Lallop's Vegetable Cutter.



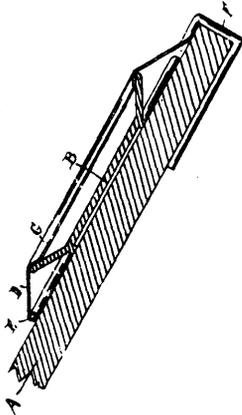
34938 Balch's Surface Cattle Guard.



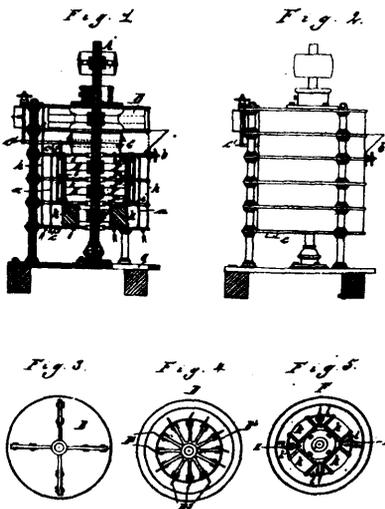
34939 Pellett's Table, etc.



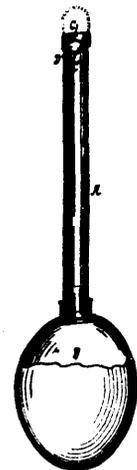
34940 White's Hove Trough.



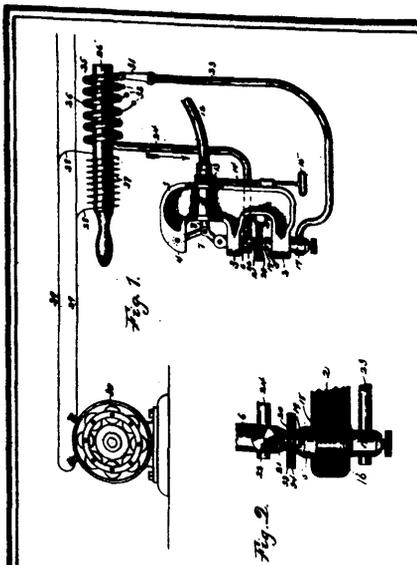
34941 Carpenter's Dish Holder.



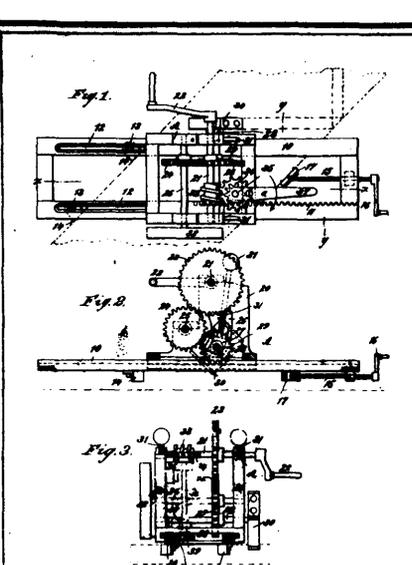
34942 Baumgartner's Winnowing Machine.



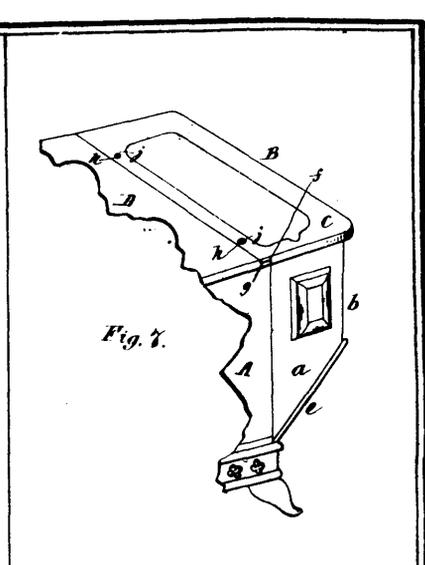
34944 Doty's Device for Administering Medicine to Animals.



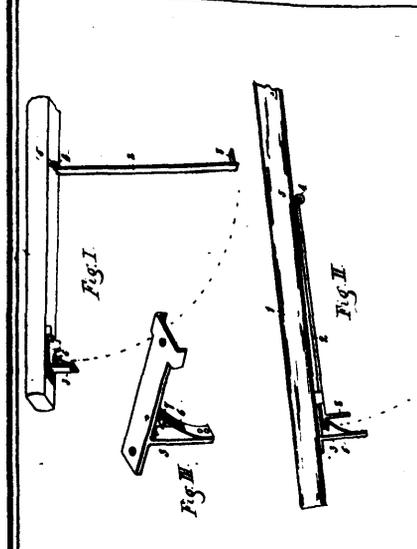
34945 Riee's Electric Rivetting Apparatus.



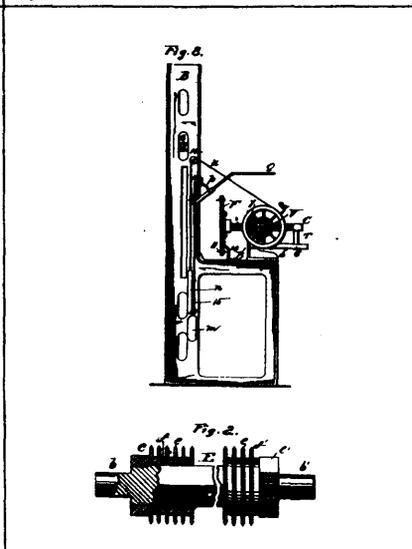
34946 Baker's Gaining Machine.



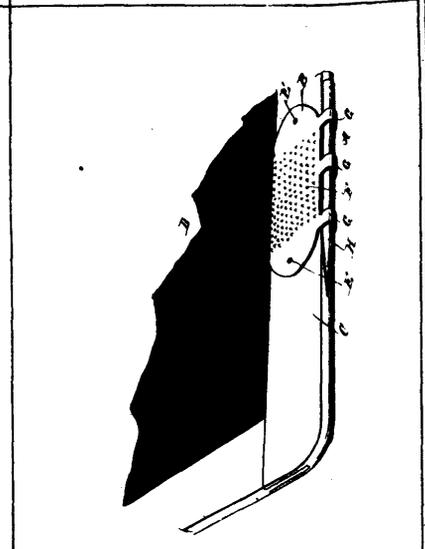
34947 Greene's Cooking Stove and Range.



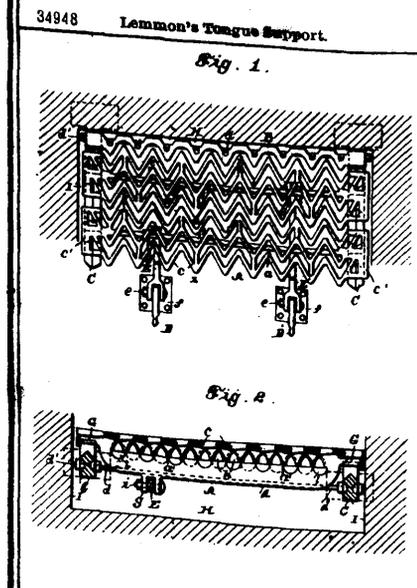
34948 Lemmon's Tongue Support.



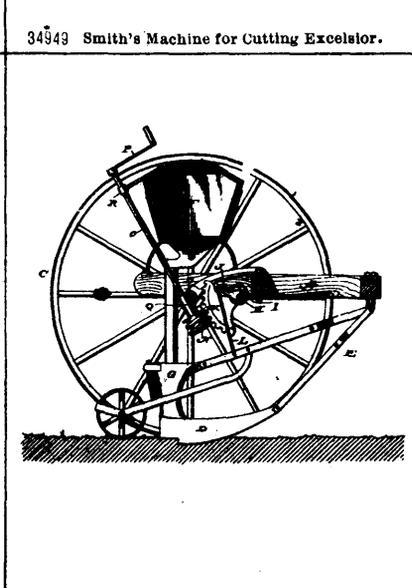
34949 Smith's Machine for Cutting Excelsior.



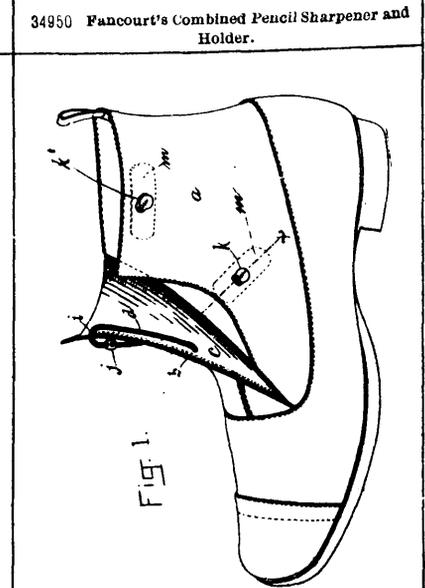
34950 Fancourt's Combined Pencil Sharpener and Holder.



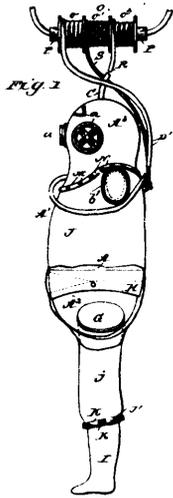
34951 Moskovit's Furnace Grate.



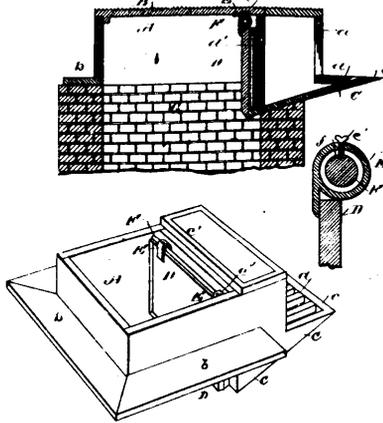
34952 Kirkpatrick's Grain Drill.



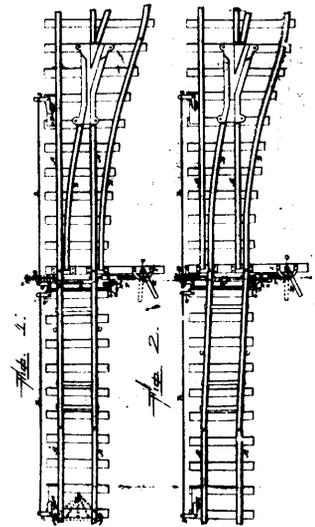
34953 Martino's Boot and Shoe.



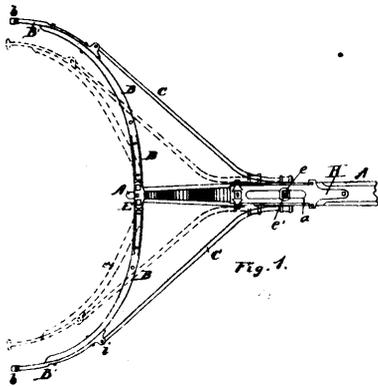
34954 Pelkey's Diving Apparatus.



34955 Smith's Combined Culvert Top and Trap.



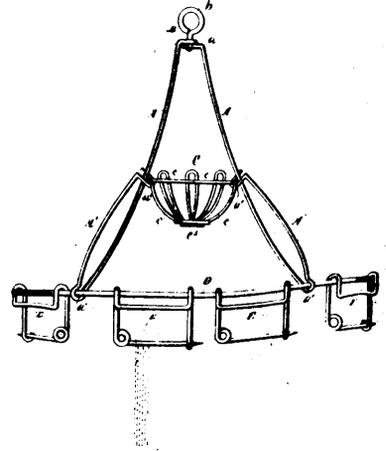
34956 Odell's Railway Switch.



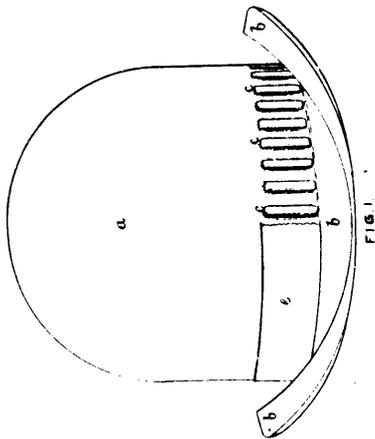
34957 Galbraith's Carriage Pole.



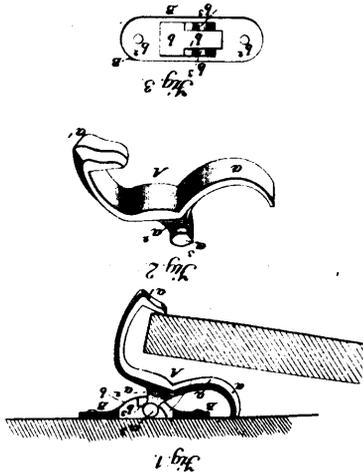
34958 Prentiss' Calendar Clock.



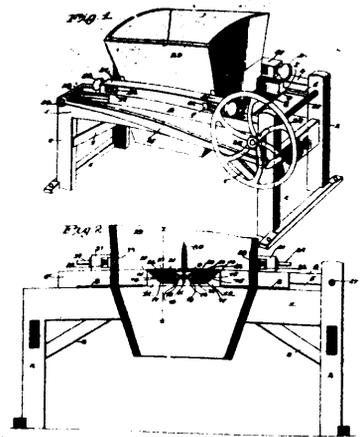
34959 Smith's Combined Bag, Twine and Sample Holder.



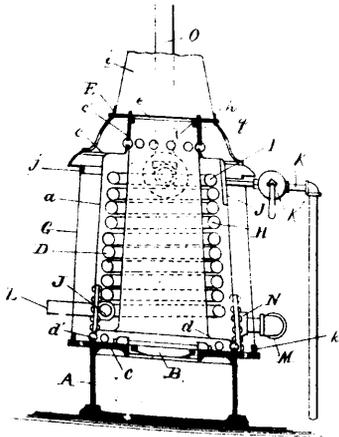
34960 Robinson's Apparatus for Manufacturing Coverings for the Head.



34961 Plank's Door Stay.



34962 Staples' Root-Cutting Machine.



34963 McEvoy's Railway Car Heating Apparatus.

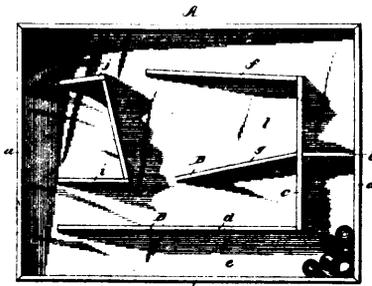


Fig. 1.

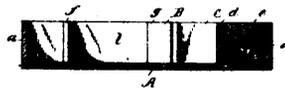
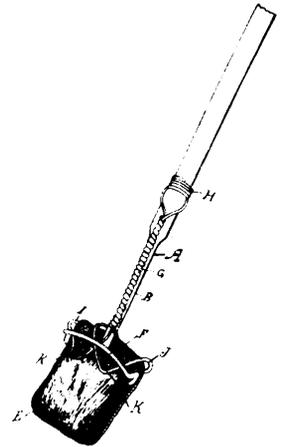
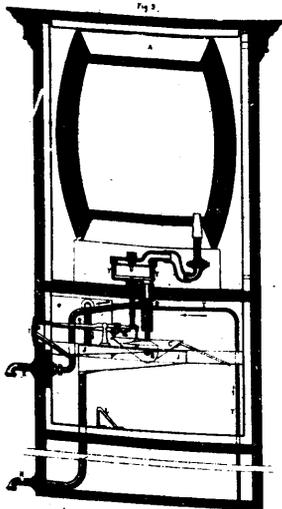


Fig. 2.

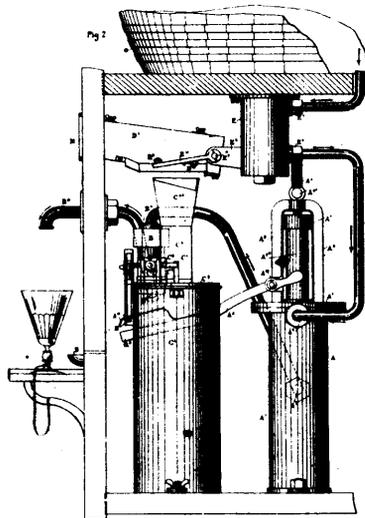
34964 Keifer's Puzzle.



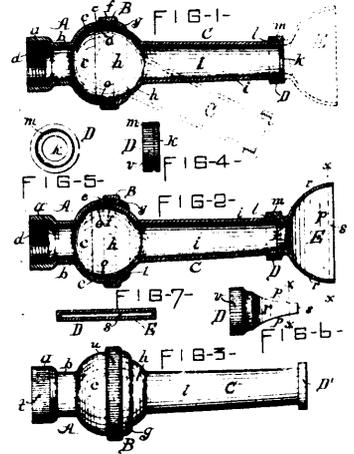
34965 Rose's Mop.



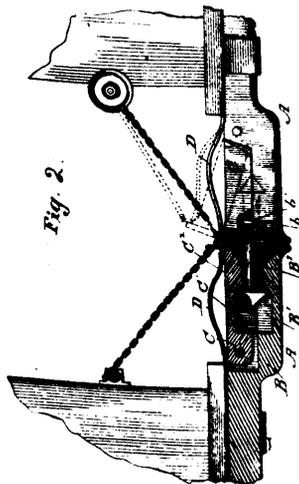
34966 Schoesing & Degremont's Coin Operated Liquid Vending Apparatus.



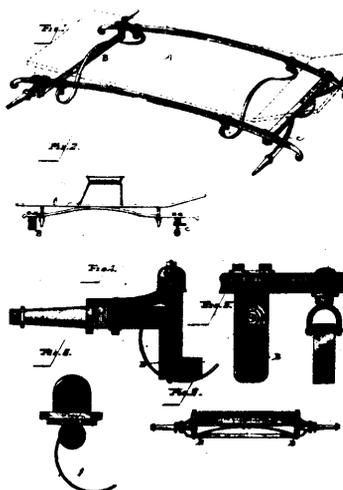
34967 Schoesing & Degremont's Coin Operated Liquid Vending Apparatus.



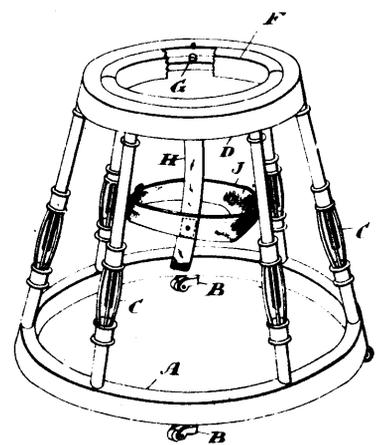
34968 Pearsall's Hose Nozzle.



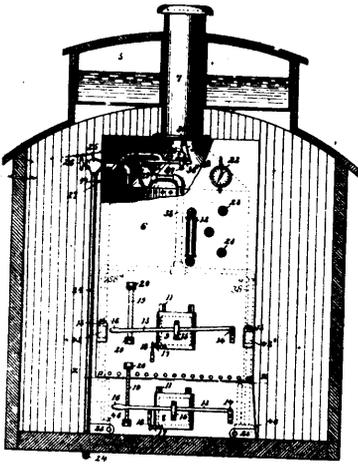
34969 Burden's Car Coupling.



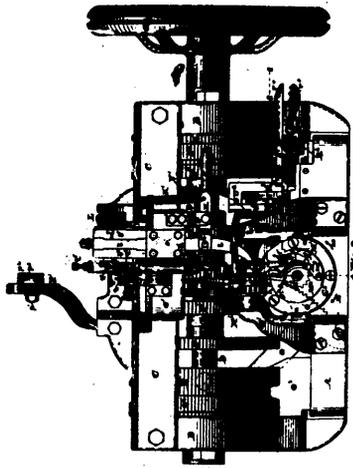
34970 Goodrich's Vehicle.



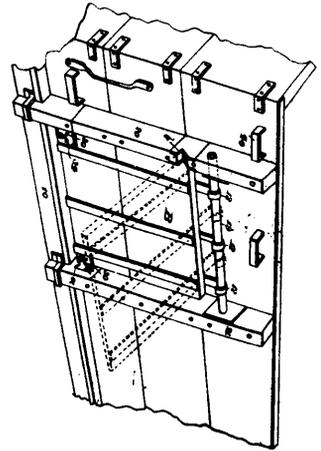
34971 Davidson's Baby Walker.



34973 Higgins' Apparatus for Heating Railway Cars.



34974 Bertrand's Sole Sewing Machine.



34975 Watkin's Gondola Car.

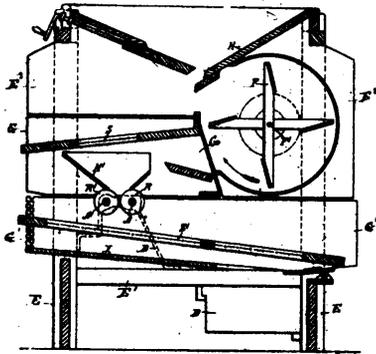
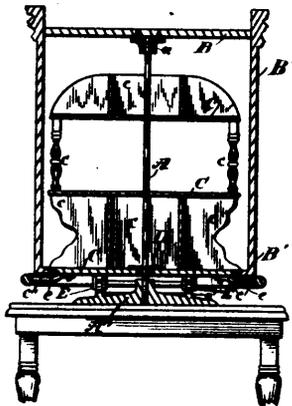
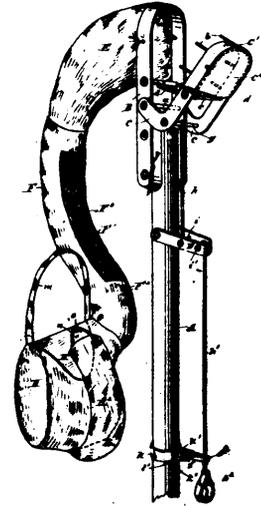


Fig. 1.

34976 Floeter's Attachment for Fanning Mills.



34977 Goddard's Revolving Book Case.



34978 Cain's Fruit Picker.

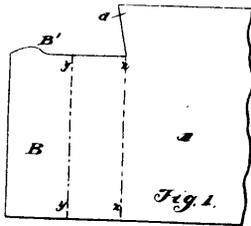


Fig. 1.

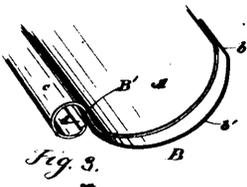


Fig. 3.

34979 Wock's Eave Trough.

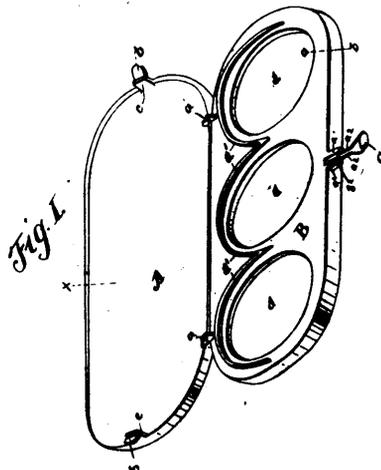
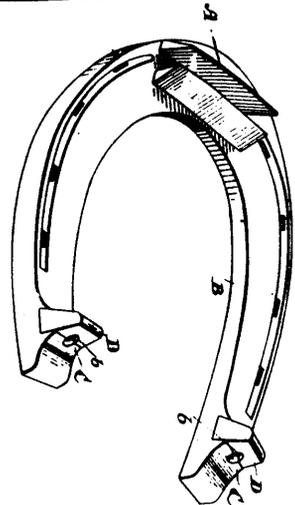
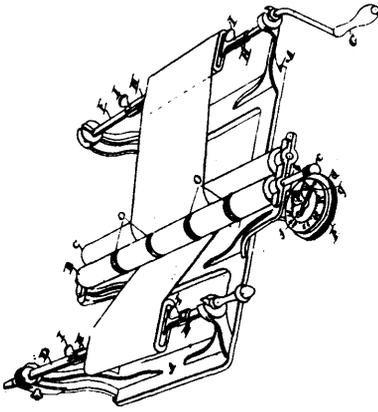


Fig. 1.

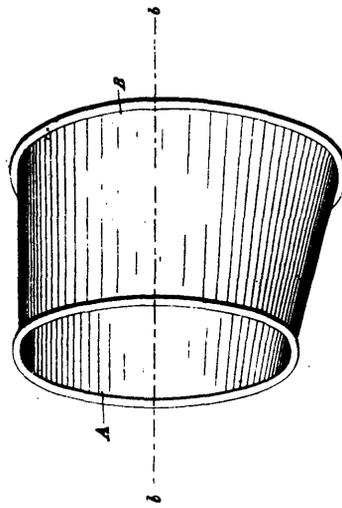
34980 Shaeffer's Cake Griddle.



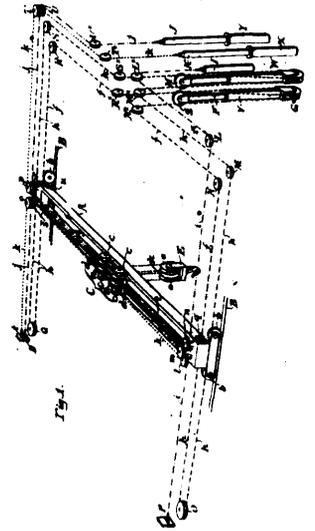
34981 Gaudaur's Horse Shoe.



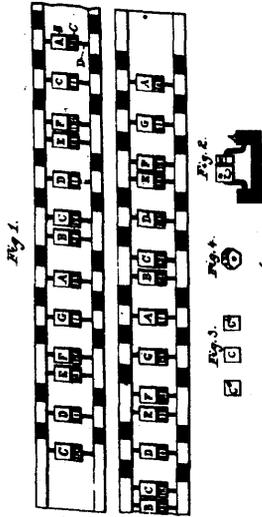
34982 O'Hara's Cloth Measuring Machine.



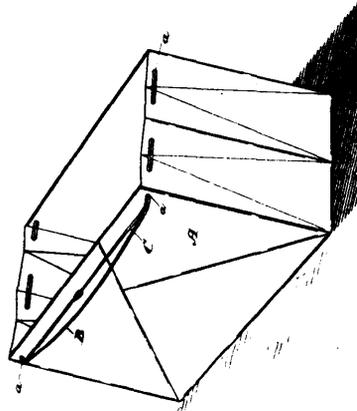
34983 Snyder's Metal Stovepipe Collar



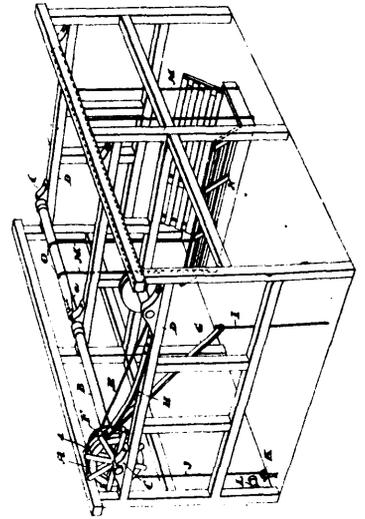
34984 Wood's Travelling Crane.



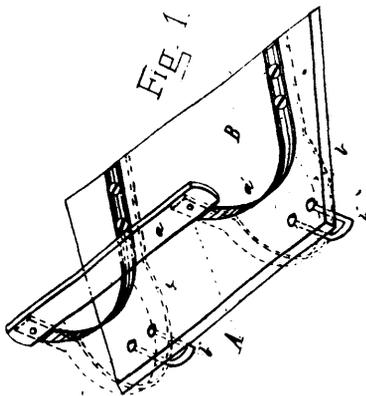
34985 Bliss' Musical Scale Register.



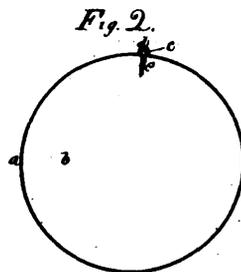
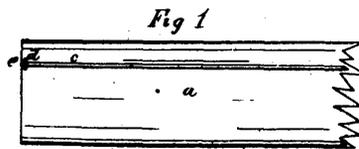
34986 Brayley's Bag or Package.



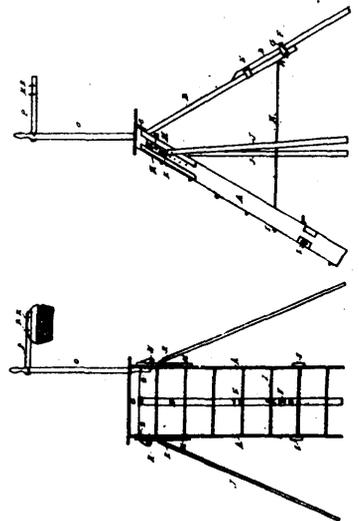
34987 Armstrong's Load Lifter.



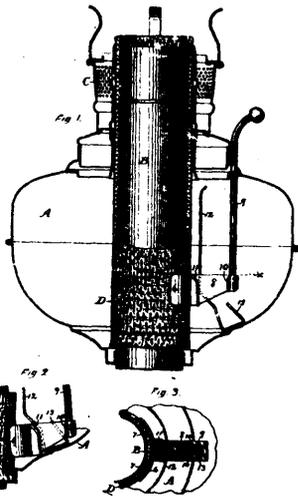
34988 Nason's Back for Vehicles.



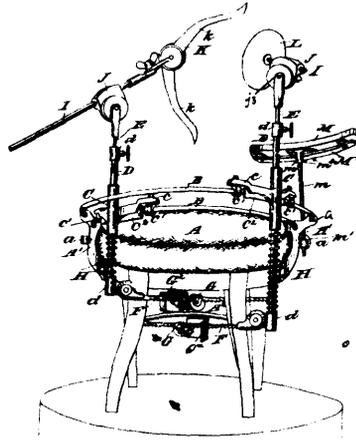
34989 Brown's Cover for Curtain or Cornice Poles.



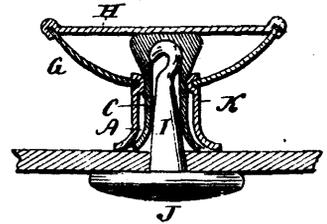
34990 Harris' Step Ladder.



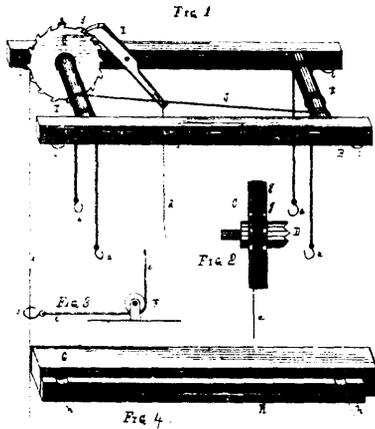
34991 Taplin's Lamp.



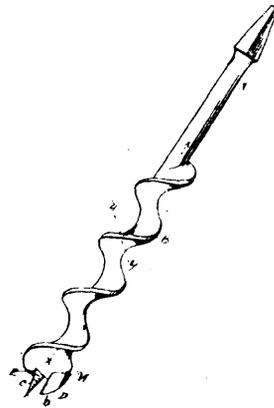
34992 Dow's Photographic Posing Chair.



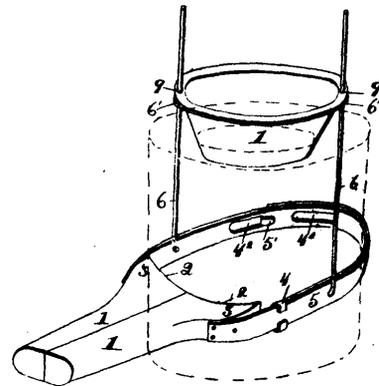
34993 Jackson & Platt's Button.



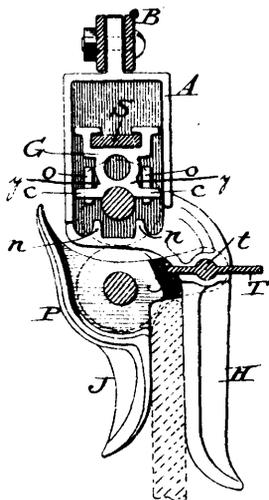
34994 Sargent's Load Lifter.



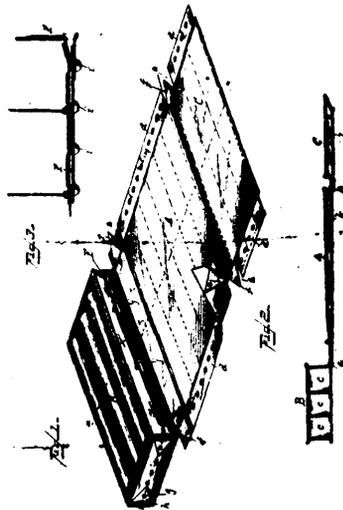
34996 Bailey's Auger.



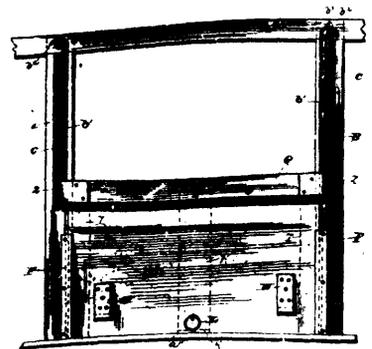
34997 Foster's Combined Can Holder and Filler.



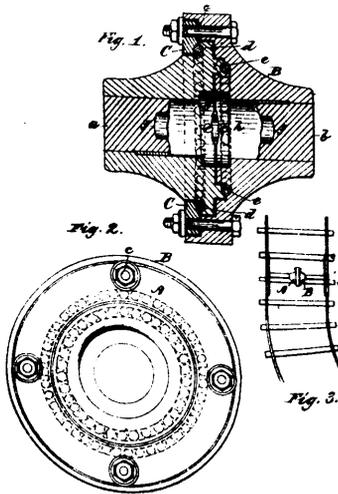
34999 Stoue's Clothes Wringer.



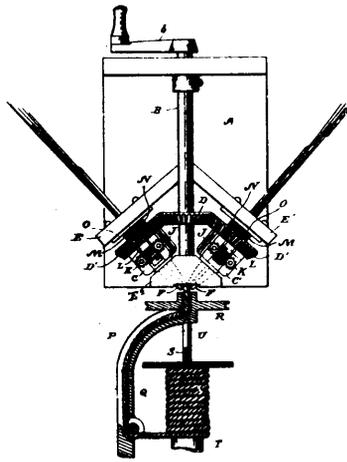
35000 Blocher's Mattress.



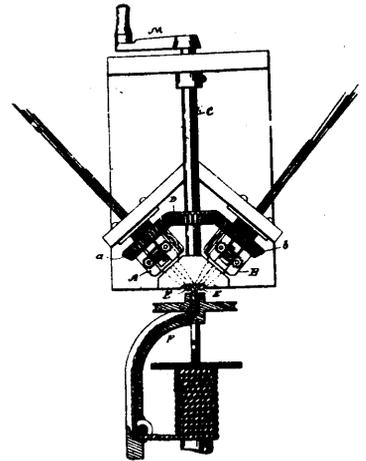
35001 Monck's Car Door.



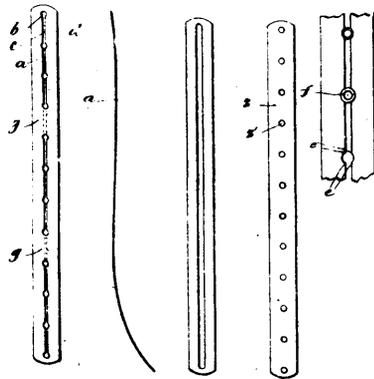
35002 Bates' Car Axle.



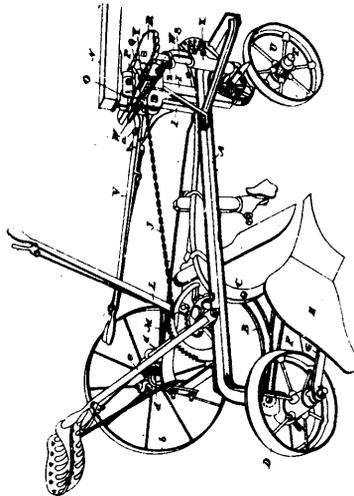
35003 Ellis and Keller's Machine for Making Twine from Straw, etc.



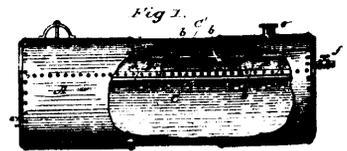
35004 Ellis and Keller's Art of Manufacturing Twine from Straw.



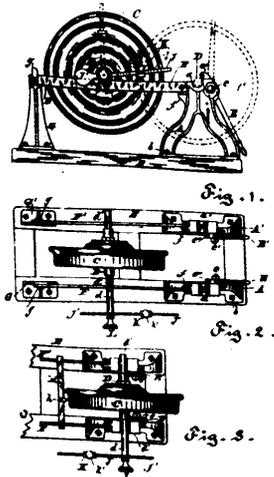
35005 Canniff's Corset Steel.



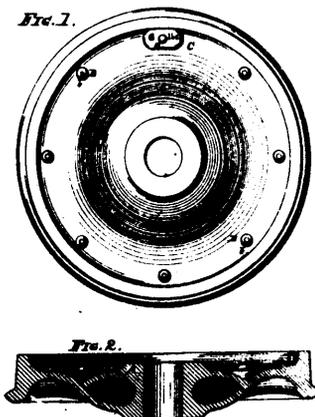
35006 Walkison's Sulky Plough.



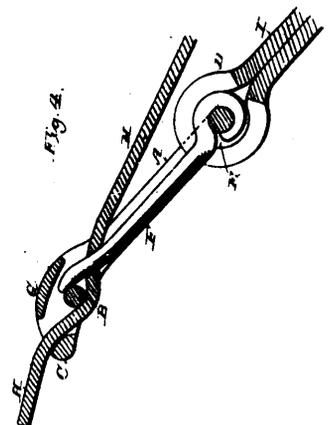
35007 Lawson's Boiler.



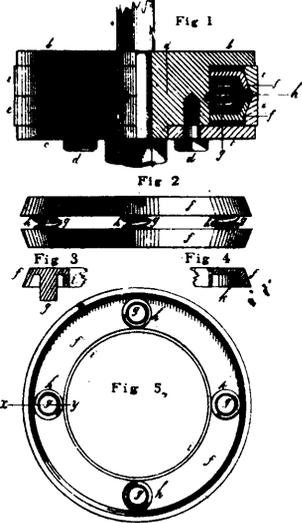
35008 Griffin's Device for Testing Car Wheels.



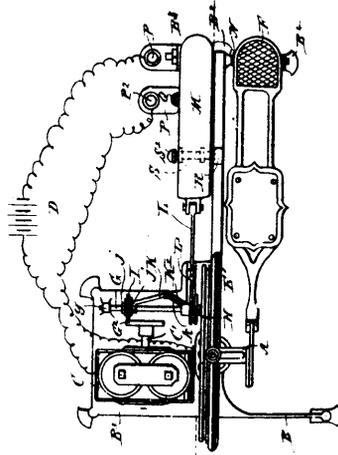
35009 Griffin's Balanced Car Wheel.



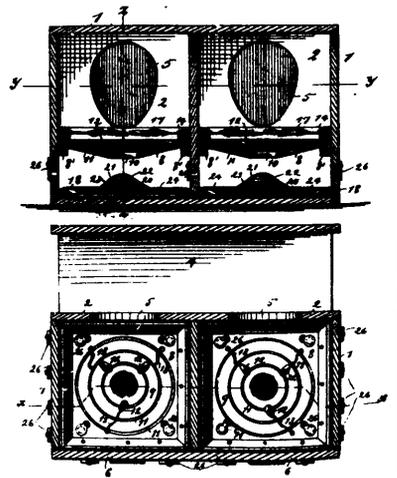
35010 Paddock's Harness Buckles.



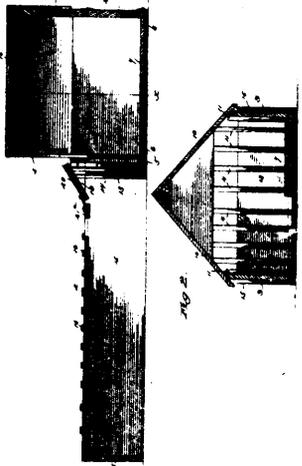
35011 Stafford's Piston.



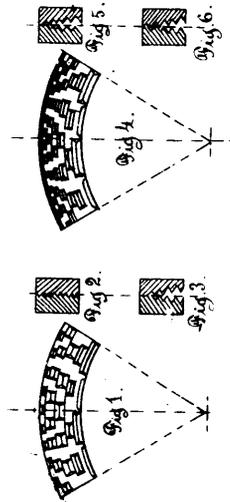
35012 Brown's Dental Engine Motive Gear.



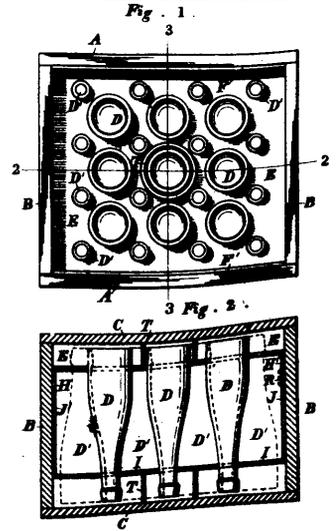
35013 Butterick's Non-Incubating Hen's Nest.



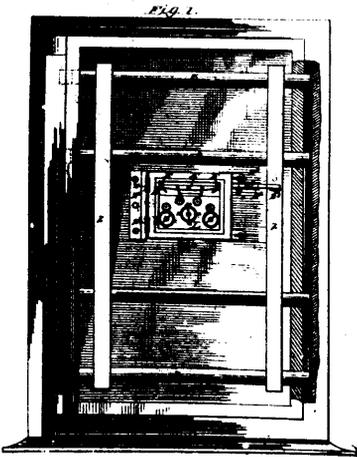
35014 Butterick's Hen Coop.



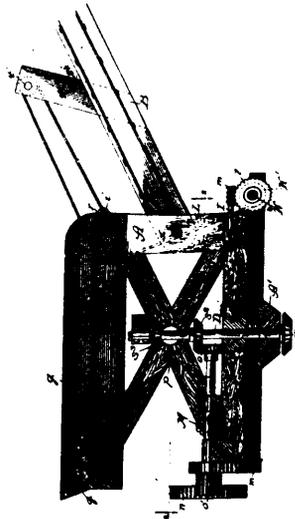
35015 Elliott's Disintegrating and Pulping Machine.



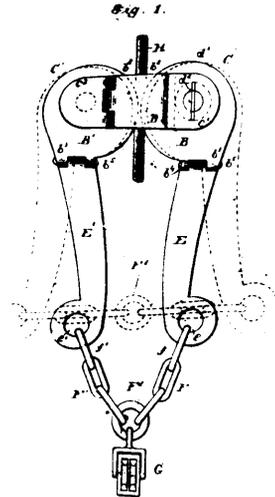
35016 Curtice's Packing Case.



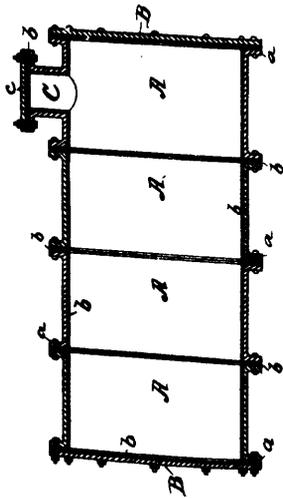
35017 Myers' Time Lock.



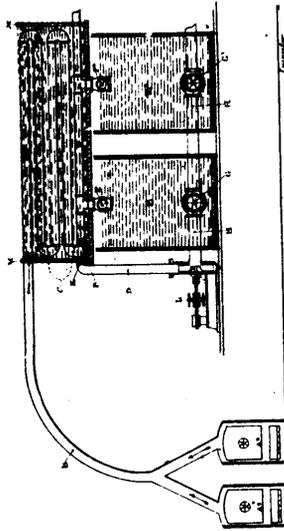
35018 Kruse's Straw Stacker.



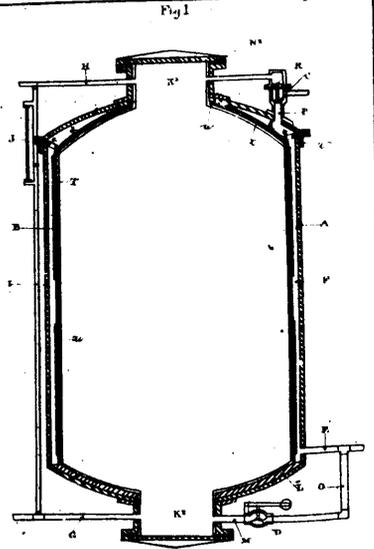
35019 Gibson's Guy Gripper.



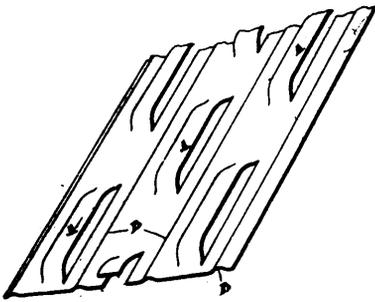
35020 Welleba and Uffenheimer's Vessel for Transporting and Preserving Liquids.



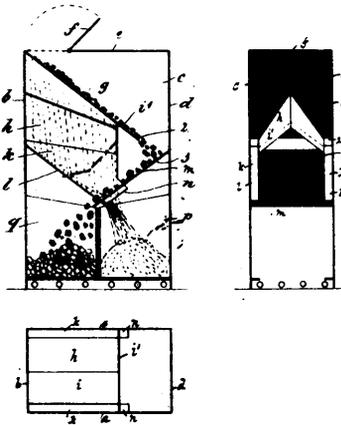
35021 Howell's Machine for the Manufacturing of bi-Sulphite of Lime.



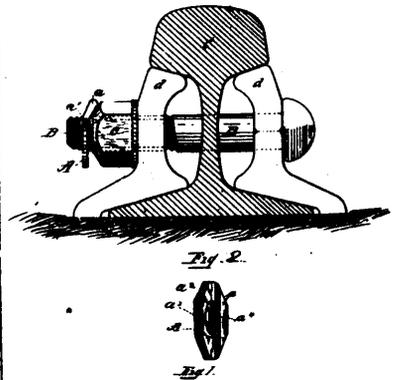
35022 Howell's Sulphite Digester for the Manufacture of Cellulose.



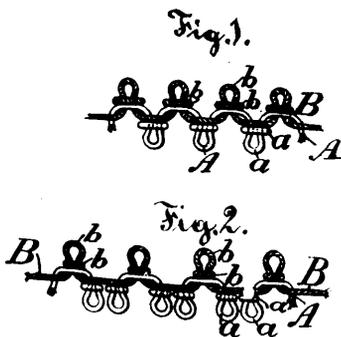
35024 Bostwick's Metal Lathing.



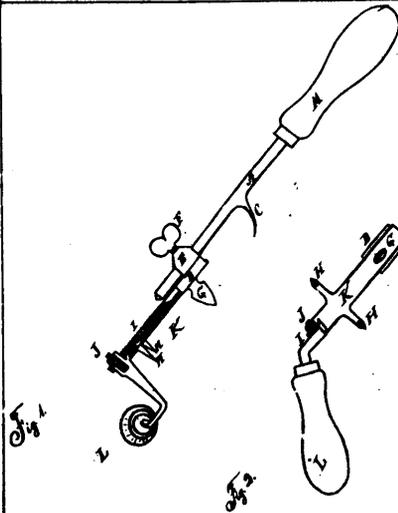
35025 Pearson & Mount's Sifter.



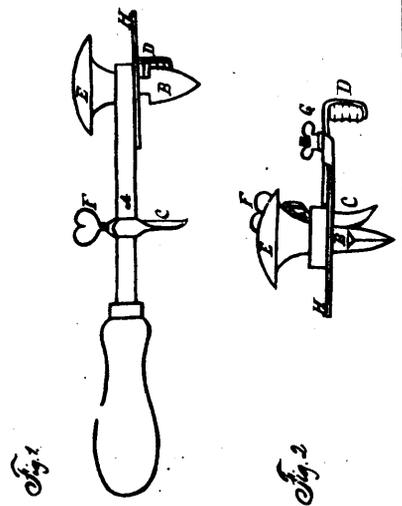
35026 Fraser's Nut Lock.



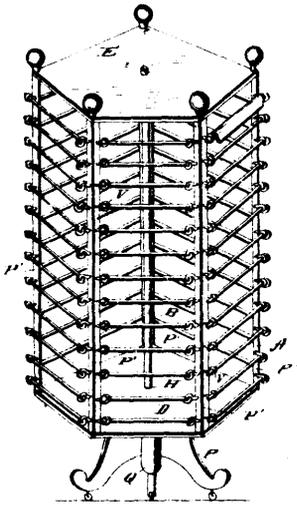
35027 Code's Double Knitted Fabric.



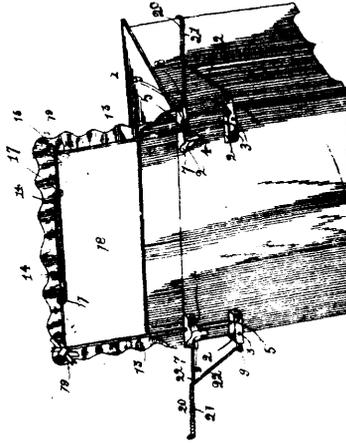
35029 Brownley's Metal Can Opener.



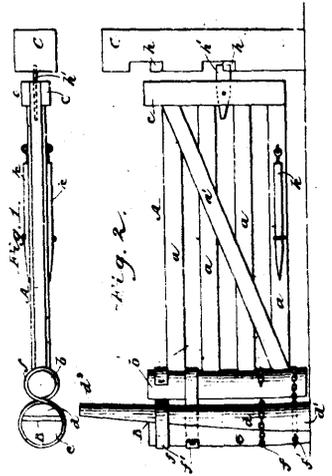
35030 Brownley's Metal Can Opener.



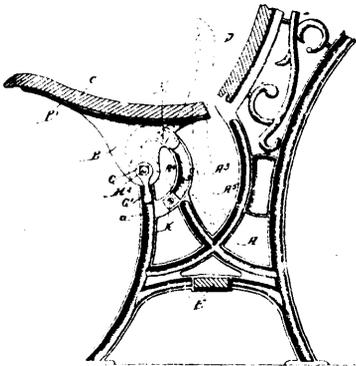
35031 Fritz's Wall Paper Exhibitor.



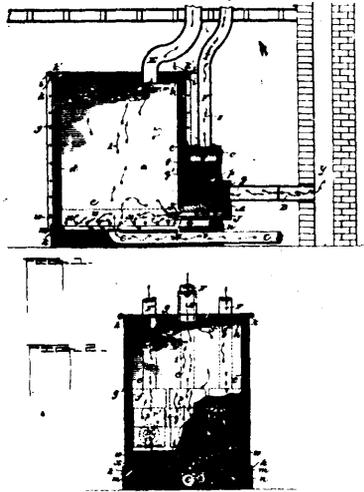
35033 Smith's Splasher Holder.



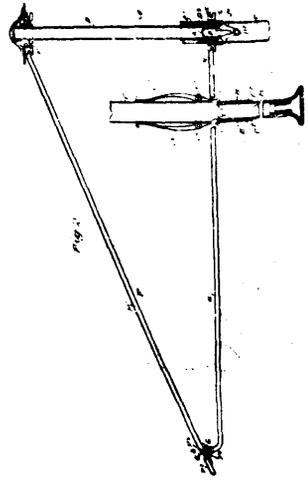
35034 Slater's Gate.



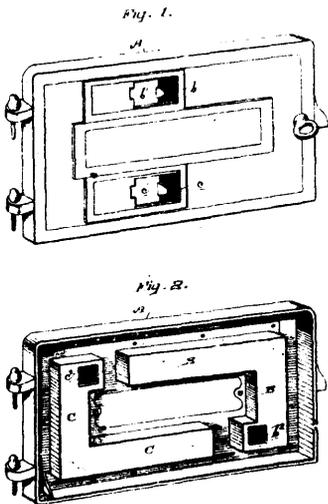
35035 Haley's School Desk.



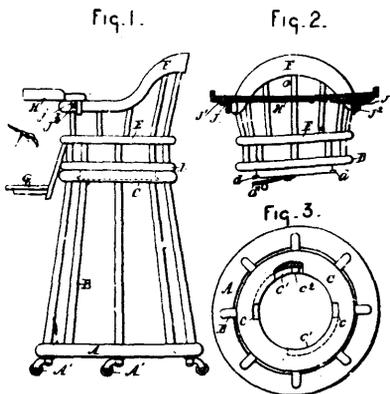
35037 Weil's Furnace Chamber.



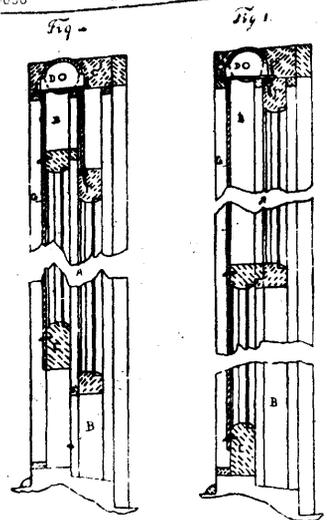
35038 Bergesen's Umbrella.



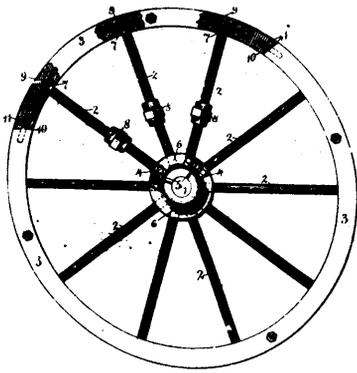
35039 Abrahamson's Oven and Fire Chamber Door.



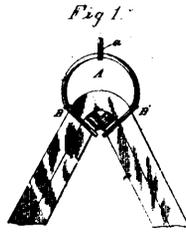
35040 Jacobs' Baby Chair, etc.



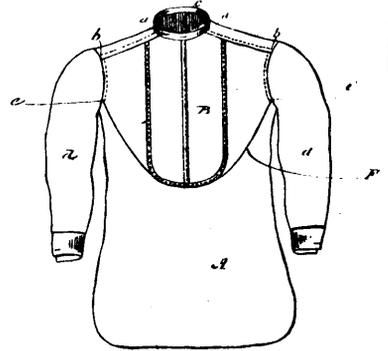
35041 Driscoll's Window Sash Adjuster.



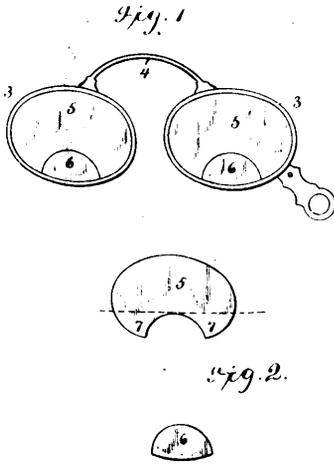
35042 Waderlow's Pulley.



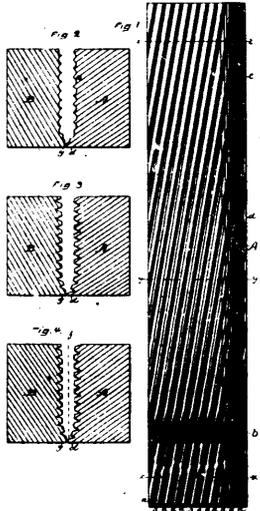
35043 Messimer's Suspender Strap.



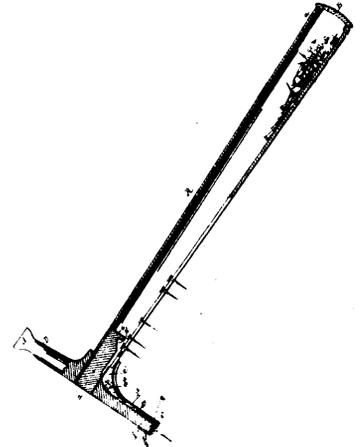
35044 Gregory's Shirt.



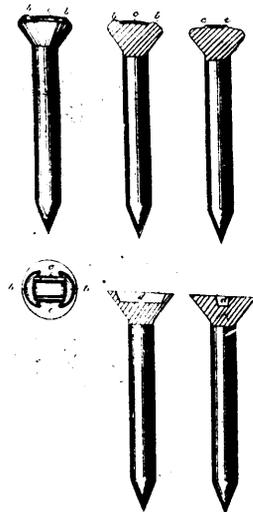
35046 Morek's Spectacle Lens.



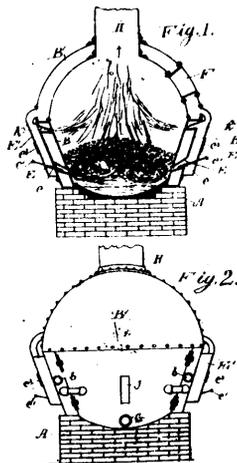
35047 Jones' Die.



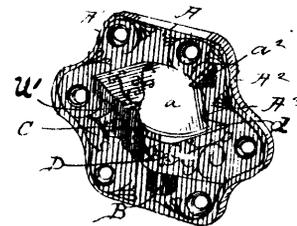
35048 DeVol's Hammer.



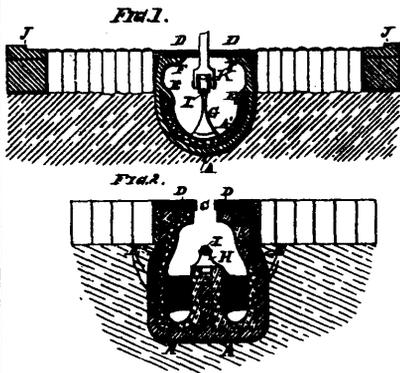
35049 Nettlefold and Sheldon's Screw Blank.



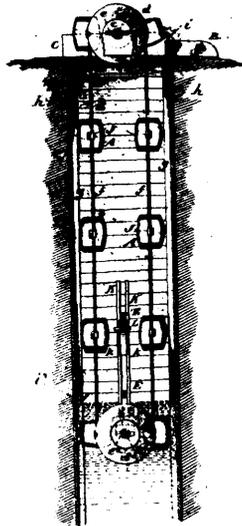
35050 Bartlett's Apparatus for Smelting Ores.



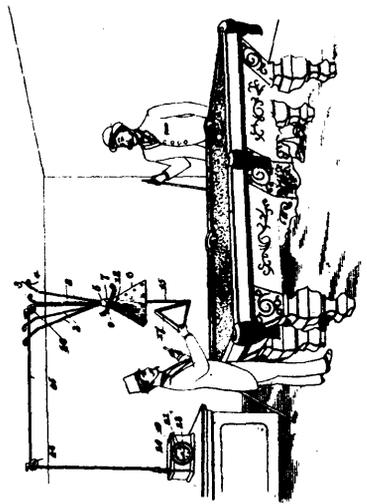
35051 Davis' Blind Hinge.



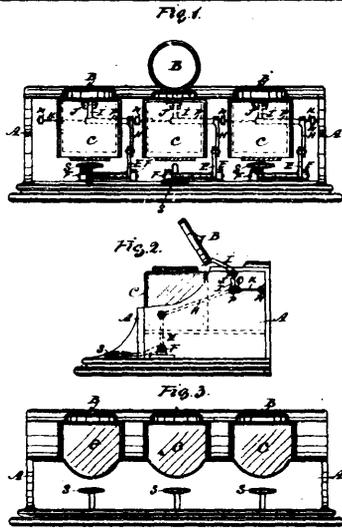
35052 Griffin's Conduit for Electric Railways.



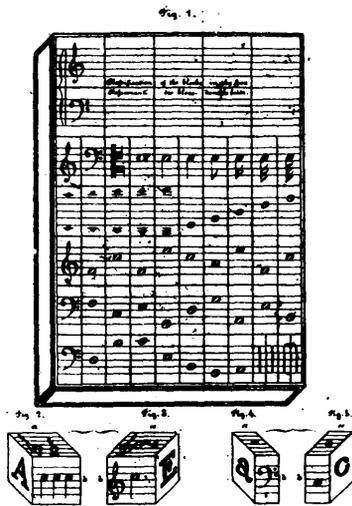
35053 Gale's Water Elevator.



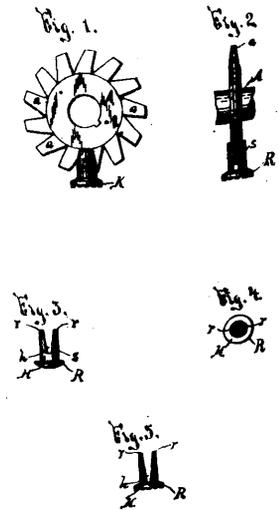
35054 Clark's Pool Register.



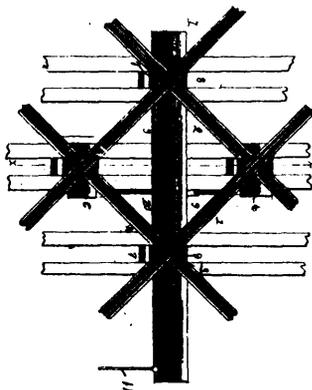
35055 Knott's Automatic Ink Stand.



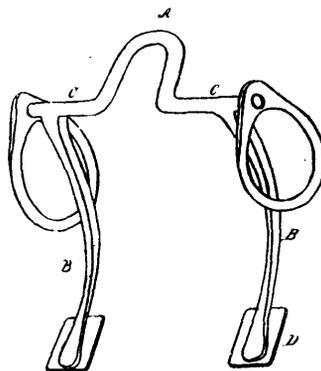
35056 Smith's Game, Composed of Music and Alphabet Blocks.



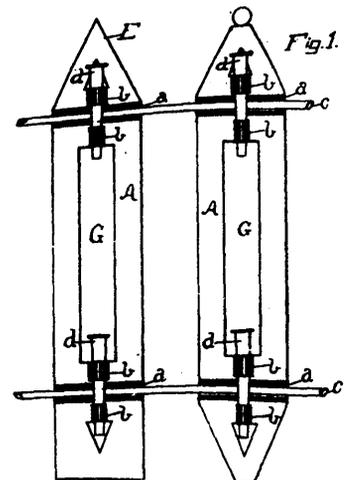
35057 Thomson's Rivet.



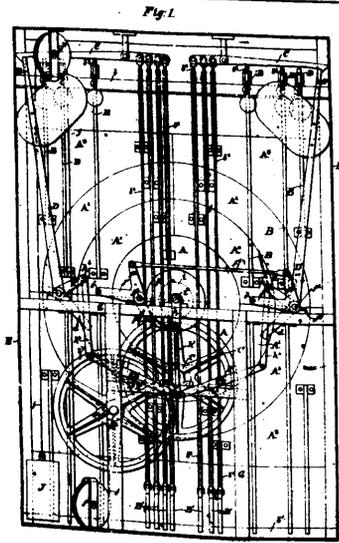
35058 Swegles' Railroad Crossing.



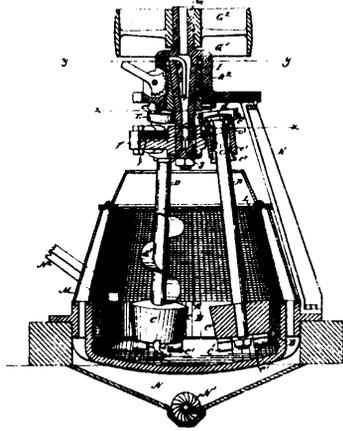
35059 Robinette and Shaw's Bridle Bit.



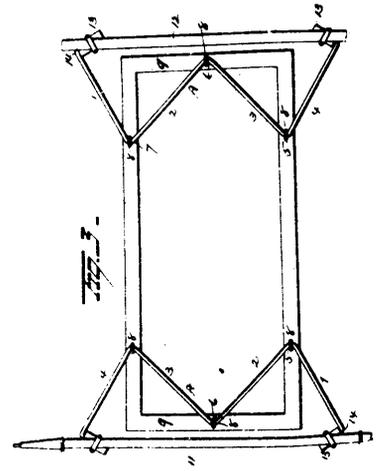
35060 Mayhew's Fence.



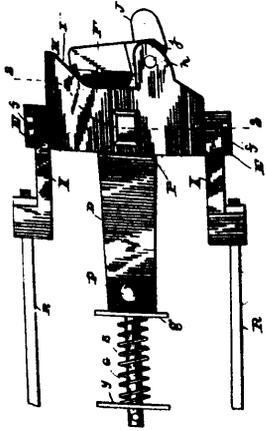
35061 Johnson's Target.



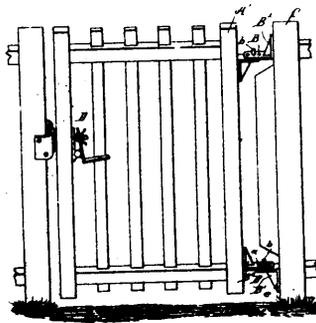
35062 Rice's Pulverizing Mill.



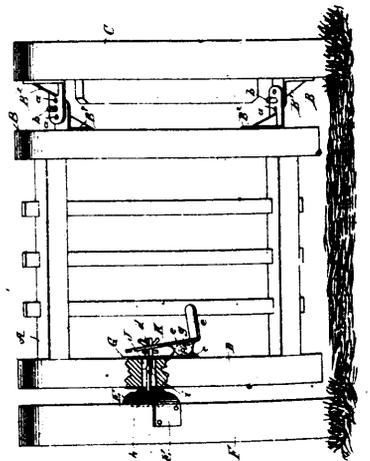
35063 Perry's Vehicle Spring.



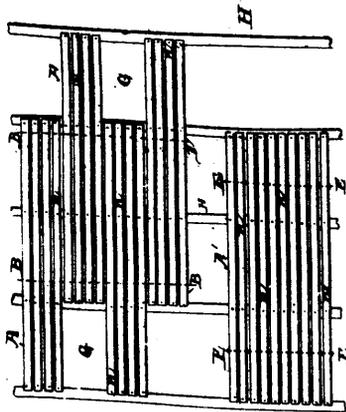
35064 Marshall's Car Coupling.



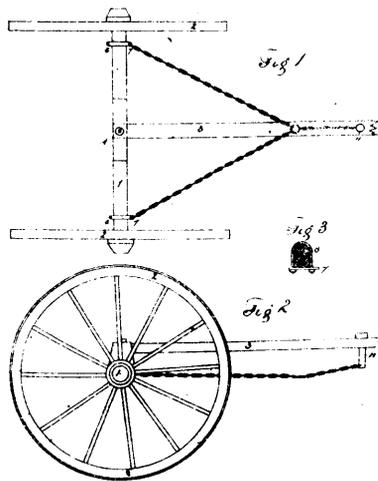
35065 Rohrbach's Hinge.



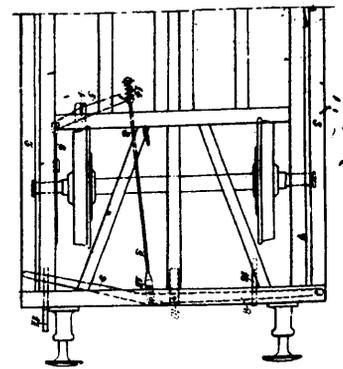
35066 Rohrbach's Latch.



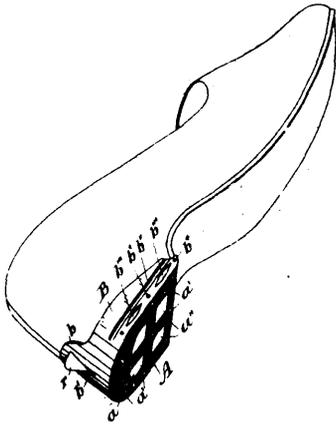
35087 Scott's Metal Lathing.



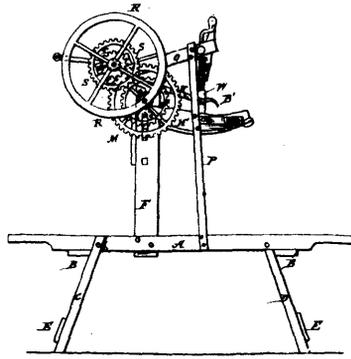
35068 Funchon's Check.



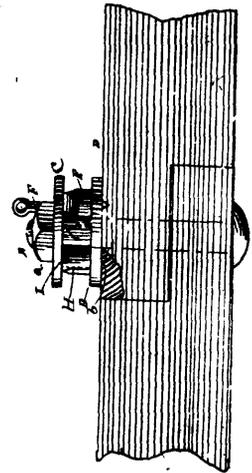
35069 Panter, Taite and Carlton's Vehicle Brake.



35070 Siegel's Heel Protector.



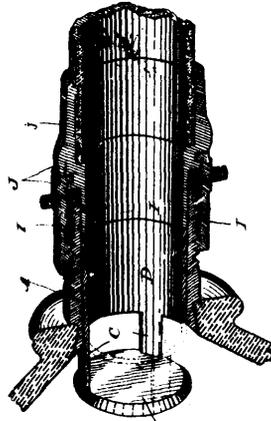
35071 White's Combined Washer and Wringer.



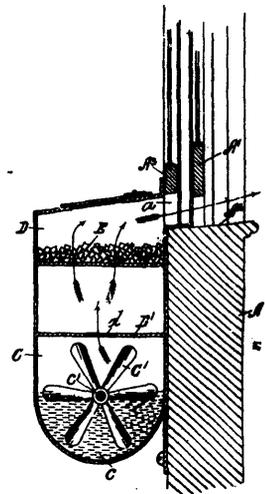
35072 Ware's Nut Lock.



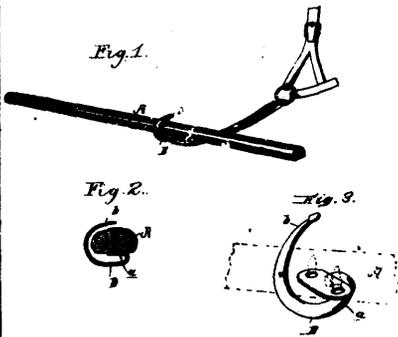
35073 Irvine's Horse Collar.



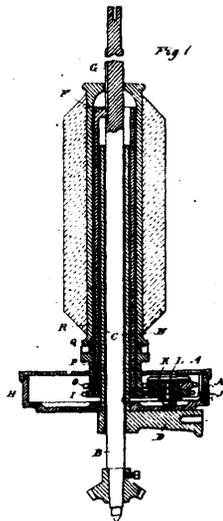
35074 Redican's Hydrant.



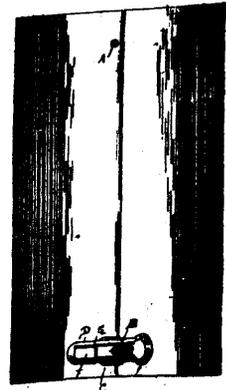
35075 Chance and Matheson's Dust Arrester and Ventilator for Railway Cars.



35076 Ormsby's Vehicle Holdback.



35077 Stephens' Differential Movement.



35078 Kohlmyer's Stove Pipe Fastener.