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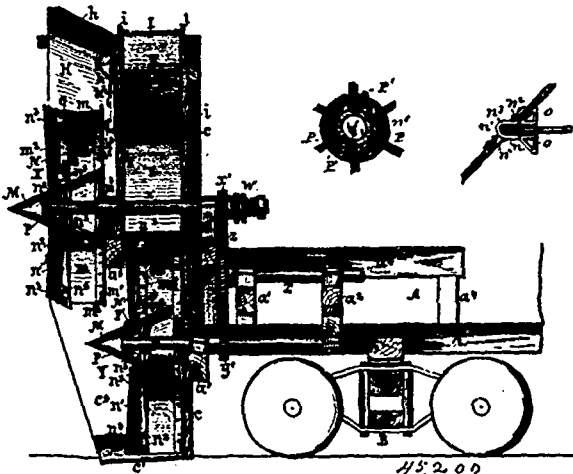
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NOTE.—Patents are granted for 15 years. The term of years for which the fee has been paid, is given after the date of the patent.

No. 45,200. Snow Plough. (Charrue à neige.)

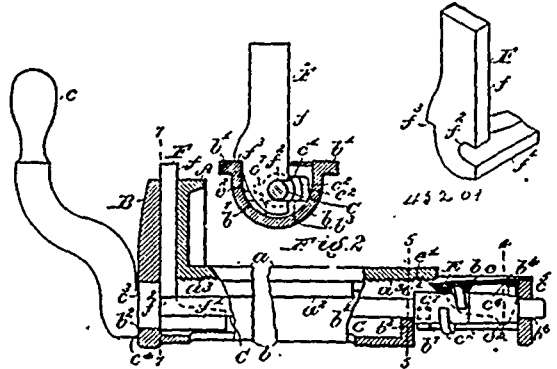


Daniel Jacobs, Dighton, Kansas, U.S.A., 1st February, 1894; 6 years.

Claim.—1st. The combination, substantially as hereinbefore set forth, of the front casing having a partition between its sides, a lower rear fan-wheel carrying knives and arranged below a chute in rear of the partition, an upper front fan-wheel carrying knives and arranged in advance of the partition and between the sides of the casing, and means for revolving both knife carrying fan-wheels. 2nd. The combination, substantially as hereinbefore set forth, of a casing closed at rear and at both sides and bottom and open at front and top, inclined guides F and G for the corners of the casing, a partition extending from one side piece to the other, a knife carrying fan-wheel arranged in front of the partition, and a knife carrying fan-wheel arranged in rear of and below the partition. 3rd. The combination, substantially as hereinbefore set forth, with the lower rear knife carrying fan-wheel, of the deflectors in a chute above the fan-wheel, each consisting of a blade pivoted at the sides of the chute bent at its pivot, extending in opposite directions therefrom and having a rod connecting their upper ends, whereby they may be simultaneously operated. 4th. The combination, substantially as hereinbefore set forth, with a fan-wheel, having radial blades of the

pivoted knives, the brackets on opposite sides of each blade against which the knives rest, and means for adjusting the knives. 5th. A fan-wheel having its blades strengthened with angle iron and tied together by rods as described, in combination with knives pivoted to the front edges of the blades, brackets against which the blades rest, and the shifter mounted on the shaft of the fan-wheel. 6th. The combination, substantially as hereinbefore set forth, of the fan-wheel, the knives, the pivot rods for the knives, means for attaching the knives to the blades, a hub carrying arms between which the lower bent ends of the pivot rods are arranged, and means for adjusting the hub on the shaft.

No. 45,201. Vise. (Etau.)

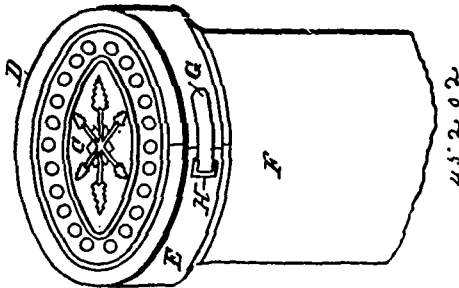


David C. Sabourin and Joseph Sabourin, both of Lowell, Massachusetts, U.S.A., 1st February, 1894; 6 years.

Claim.—1st. The combination of a fixed jaw, provided with a rack, a movable jaw, a screw, journaled in said movable jaw, a rocking dog, supported directly by said screw and engaged directly by said screw and normally in engagement with said rack, and a lifter, to rock said dog and disengage the same from said rack, as and for the purpose specified. 2nd. The combination of fixed jaw, provided with a rack, a movable jaw, a screw, journaled therein, a dog, engaged directly by said screw and adapted to be rocked in one direction on said screw, by its own weight, into engagement with said rack, and a lifter, to rock said dog in the other direction, out of engagement with said rack, as and for the purpose specified. 3rd. The combination of a fixed jaw, provided with a rack, a movable jaw, a screw, journaled therein, said movable jaw having a slide, provided with a concavity in its upper surface, a dog, arranged in said concavity, and having a notch, engaged by the thread of said screw, and having lateral down-hanging guides, to fill said concavity laterally and prevent the lateral tipping of said dog, said dog being adapted to be rocked in one direction into engagement with said rack, and a lifter, to rock said dog in the other direction, out of such engagement, as and for the purpose specified. 4th. The combination of the jaw, provided with a hole, the slide, secured to said jaw and having an abutment and a rear wall, provided with a hole, and a screw-rod, having its journals in the holes in said jaw and rear wall, and having a boss or enlargement, arranged between said abutment and said rear wall, and extending from said abutment to said rear wall to prevent a longitudinal movement of said screw-rod, as and for the purpose specified. 5th. The combination of a movable jaw, provided with a hole, the slide, having an abutment or upward projection, and a rear wall provided with a hole, a screw-rod, having a hub, arranged to turn in the hole in said jaw and

having a boss or enlargement of a sufficient length to fill the space between said abutment and rear wall, and having a screw, adapted to be passed through the hole in said front jaw, the rear end of said screw-rod extending beyond said enlargement, to form a journal for said rod and to enter the hole in said rear wall, as and for the purpose specified. 6th. The combination of a movable jaw, provided with a hole, the slide having an abutment or upward projection, and a rear wall provided with a hole, and a screw-rod, having a hub, arranged to turn in the hole in said jaw and having a boss or enlargement of a sufficient length to fill the space between said abutment and rear wall, and having a screw, adapted to be passed through the hole in said front jaw, the rear end of said screw-rod extending beyond said enlargement for a distance greater than the length of said hub, said screw-rod being adapted to be bent to enable said enlargement to be passed over said abutment and to straighten out, to throw said enlargement between said abutment and said rear wall, as and for the purpose specified. 7th. The hook, provided with a vertical part, adapted to rest against the inner face of the movable jaw of a vise and to project above the same, and having a horizontal part, adapted to extend under the screw rod of said vise, and said hook being adapted to be moved with said movable jaw towards the fixed jaw of said vise, as and for the purpose specified. 8th. The combination of the fixed jaw, the movable jaw, the screw-rod, journalled thereon, and a hook, provided with a vertical part, adapted to rest against the inner face of said movable jaw, and with a horizontal part, adapted to extend under said screw-rod, said hook being adapted to be moved with said movable jaw towards said fixed jaw, as and for the purpose specified.

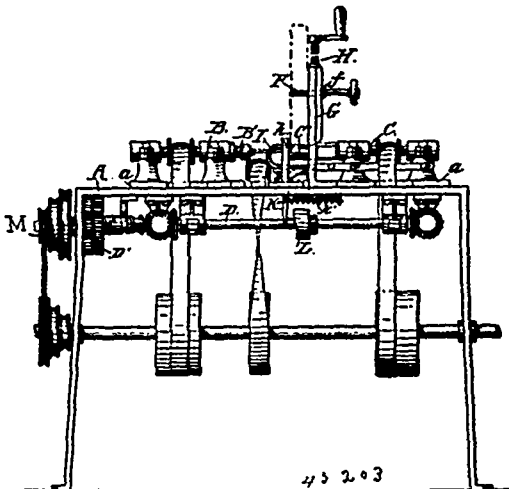
No. 45,202. Method of Sealing Vessels.
(Méthode de cacheter les jarres, etc.)



Alfred Louis Weissenthanner, Paris, France, 1st February, 1894; 6 years.

Claim.—In the process of hermetically closing jars or vessels by means of a top plate or cover, compressible washer and holding band having detachable ends, the described improvement consisting in attaching the ends of the holding band together, then slipping it over the neck of the vessel, the washer and top plate being interposed, forcibly compressing the washer by downward pressure, and while said pressure is maintained locking the closure in place by bending the lower edge of said band under a shoulder on the neck of the vessel, as set forth.

No. 45,203. Method of and Machine for Forming Spool blanks. (Méthode et machine pour la fabrication des fuseaux.)

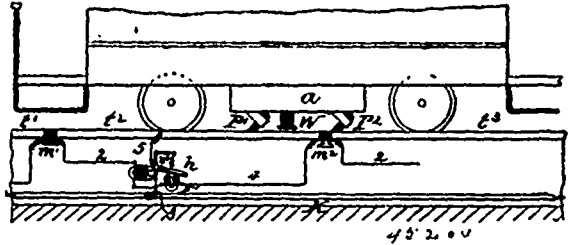


Charles A. Broughton, Conway, New Hampshire, U.S.A., 1st February, 1894; 6 years.

Claim.—1st. The combination of the sliding post *k*, the work-holder lever *k* fulcrumed thereon, the spring *k*¹, pin and slot con-

nection *k*², and cam *L*, for the purpose set forth. 2nd. In the art of forming spool blanks, the improved method of preparing the stock which consists in first truing its periphery, and afterward sawing out the blanks from the periphery so trued by a cut slightly intersecting the same, whereby is secured an additional kerf for the relief of saw-dust, as described. 3rd. The combination with suitable devices for feeding the stock circularly, of a cutter *E* located in the path of the stock when so fed, and adapted thereby to true the periphery of the same, and a hollow saw set opposite the said trued periphery and slightly intersecting the same, for the purpose set forth.

No. 45,204. Electric Conductor System for Railways.
(Système de conducteur électrique pour chemins de fer.)



George W. Von Siemens, Berlin, Prussia, 1st February, 1894; 6 years.

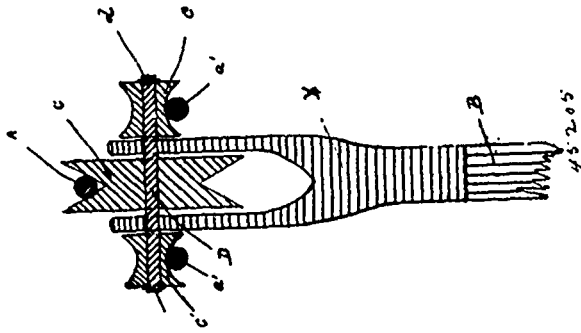
Claim.—1st. In an electric railway, the combination, with a contact conductor composed of a series of relatively insulated sections, a supply conductor, normally interrupted connections between the supply and contact conductors, an electro-magnetic device for each contact section, and armatures adapted to be successively operated by a magnetic device on the vehicle, to close the circuit through said magnetic devices, to complete the interrupted supply connection of the section into which the vehicle is moving, and interrupt the corresponding connection of the preceding section. 2nd. In an electric railway, the combination, with a contact conductor composed of a series of relatively insulated sections, a supply conductor, normally interrupted connections between the supply and contact conductors, an electro-magnetic device for each section, comprising electro-magnetic circuit completing and locking means, and a series of armatures adapted to be operated by an electro-magnetic device on the car to operate the circuit-closing device of one section, and release the lock of the preceding section. 3rd. In an electric railway, the combination, with a conductor composed of a series of relatively insulated sections, a main supply conductor, normally interrupted connections between the supply and contact conductors, a device for each section comprising magnets having spring retracted circuit closing and locking armatures, and a series of armatures *m*¹, &c., adapted to be actuated by an electro-magnetic device on the car to operate the circuit-closing magnet of one section, and the retracting magnet of the locking armature of the adjoining section, substantially as described. 4th. In a system of electrical distribution for railways, the combination of a continuous main insulated conductor, a contact making conductor composed of a series of sections insulated from one another, a series of electro-magnetically controlled contacts for electrically connecting and disconnecting the said main conductor with the respective sections of the sectional conductor, normally open shunt circuits including the magnets of said contacts, magnetically controlled contacts for making and breaking said shunt circuits, and a magnet travelling with the car adapted to operate said contacts of the shunt circuits in the manner and for the purpose described. 5th. In a system of electrical distribution for railways, the combination of a continuous main insulated conductor, a contact-making conductor composed of a series of sections insulated from one another, a series of electro-magnetically controlled contacts for electrically connecting and disconnecting the said main conductor with the respective sections of the sectional conductor, normally open shunt circuits, including the magnets of said contacts, magnetically controlled contacts for making and breaking said shunt circuits, lock armatures for retaining the contacts of said shunt circuits, electro-magnets for releasing said lock armatures, and second normally open shunt circuits including said releasing magnets controlled by the contacts of the first shunt circuits in the order described, whereby the closure of circuit through one of the sections of the sectional conductor is released simultaneously with the closure of circuit through a succeeding section.

No. 45,205. Apparatus for Maintaining Electric Current. (Appareil pour maintenir les courants électriques.)

John Stephen Monahan and Arthur Septimus Thompson, both of Toronto, Ontario, Canada, 1st February, 1894; 6 years.

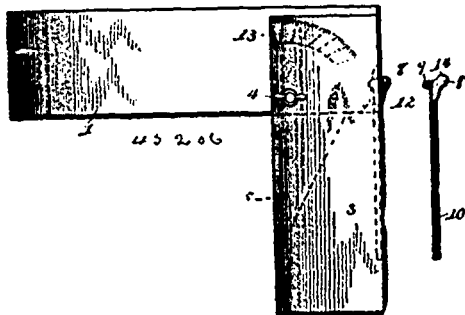
Claim.—1st. In combination with the trolley pole and overhead wire of the present trolley system, the use of one or more guard wires, strung and suspended parallel to and at the proper distances from and below, from and above, or from and on the same plane with the overhead wire, and charged or not with electricity, in the

manner and for the purposes specified. 2nd. In combination with the trolley pole and overhead wire of the present trolley system, the



use of one or more guard wires, strung and suspended parallel to and at the proper distances from and below, from and above, or from and on the same plane with the overhead wire, and charged or not with electricity, together with an extension of or addition to the head of the trolley pole, such extension or addition to be effected either so as to rest on and be in contact with said guard wires, or so to be at sufficiently small distances from such guard wires as to prevent entire disconnection of the trolley wheel from the overhead wire, in the manner and for the purposes specified. 3rd. In combination with the said trolley pole and overhead wire of the present trolley system, the use of one or more guard wires, strung and suspended parallel to and at the proper distances from and below, from and above, or from and on the same plane with the overhead wire, and charged or not with electricity, together with an extension of or addition to the head of the trolley pole, such extension or addition to be provided with an auxiliary wheel or wheels, which may be grooved or flanged, revolving on said extensions or additions, and either resting on and being in contact with such guard wires or being at sufficiently small distances from such guard wires as to prevent entire disconnection of the trolley wheel from the overhead wire, in the manner and for the purposes specified.

No. 45,206. Try Square. (Equerre simple.)



James Eugene Duncan, Centralia, Wisconsin, U.S.A., 1st February, 1894; 6 years.

Claim.—In a device of the character set forth, the combination of a stock or handle having a recess therein with a straight shoulder, a blade adjustably pivoted in advance of said shoulder, and the rear end thereof to provide a rear extension to bear on said shoulder a bolt or clamping nut for adjustably pivoting said blade, said blade having a scale thereon concentric with the pivotal bolt thereof, and also provided with a notch in the rear end of the same from which the lower inner corner of the blade is rounded, and a dog having a nose and carried by an elongated spring arm secured at one end to the stock or handle, said dog nose engaging the notch in the blade when the latter is brought to bear on the aforesaid shoulder, and moving over and guided by said lower inner rounded corner of the blade to said notch, substantially as described.

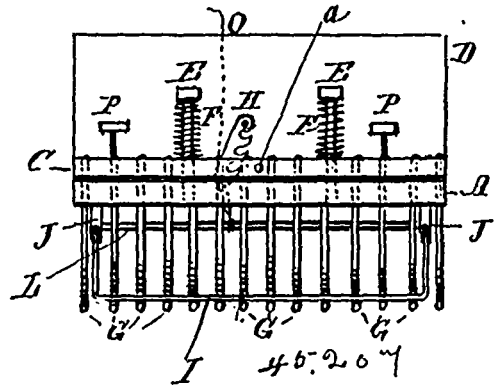
No. 45,207. Fender for Electric Street Cars.

(*Défense pour chars électriques.*)

Michael Joseph Wolfe and Joseph Hamilton Epson, both of Hamilton, Ontario, Canada, 1st February, 1894; 6 years.

Claim.—1st. In a safety device for electric and other railway cars, the combination of top and bottom plates, the upper one movable vertically on the lower one, and fastened thereto a series of spring teeth which also pass through the lower plate and curved outwards towards the front, the lower frame having vertical pins attached on which the top frame is made to move vertically, carrying up the teeth with it, and devices for holding up the said top frame and teeth, and spiral springs surrounding the said pins to assist in pressing down the top frame and teeth when released, and devices for releasing the top frame and teeth, substantially as and for the purpose specified. 2nd. In combination with the top and

bottom plates and teeth, of a movable frame carried on pivoted arms, swinging from lugs or projections attached to the lower frame,



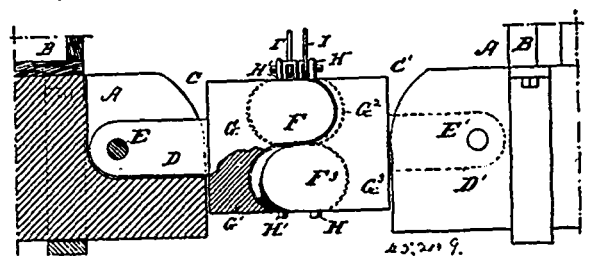
the front of said movable frame resting on the front curved ends of the teeth, and devices for raising said movable frame, substantially as and for the purpose specified. 3rd. The combination with an electric railway or other car, of the top and bottom plates A, C, a series of curved spring teeth G, attached to the top plate C, and made to pass down through the lower one, rods E, E, attached to the under frame A, for the top frame C, to slide vertically thereon, spiral springs F, F, surrounding the rods E, E, catch H, and pin a, to hold up the top plate, and devices for tripping or releasing it and the teeth, substantially as specified. 4th. The combination with an electric or other railway car, of the top plate C, lower plate A, with padding d, spring teeth G, slide-bars E, E, springs F, F, lower frame I, swinging arms J, with devices for holding and releasing the top plate C and teeth G, substantially as and for the purpose specified.

No. 45,208. Dynamite. (Dynamite.)

August Kranz, Cleveland, Ohio, U.S.A., 1st February, 1894; 6 years.

Claim.—1st. The herein described dynamite composition, consisting in nitro-glycerine, camphor and gun cotton, combined with linseed oil and oil of turpentine, treated with nitrate of ammonia and sulphuric acid, combined in the manner and proportions described. 2nd. The herein described dynamite composition, consisting in nitro-glycerine, camphor and gun cotton, dissolved in acetone and sulphuric ether, combined with a composition of linseed oil and oil of turpentine, treated with nitrate of ammonia and sulphuric acid, in the manner and proportions stated. 3rd. The herein described composition, consisting in nitro-glycerine (dried thoroughly in calcium chloride and carbonate of soda, and dissolved in acetone and sulphuric ether) with camphor, dry gun cotton and linseed oil and oil of turpentine treated with nitrate of ammonia and sulphuric acid combined, in the manner specified. 4th. The herein described sub-composition of turpentine, linseed oil and nitrate of ammonia, combined with sulphuric acid, as and in the manner specified.

No. 45,209. Car Coupler. (Attelage de chars.)

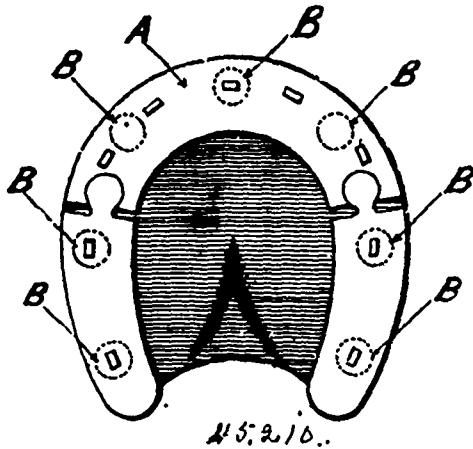


John Jacob Schairer, Clint, Texas, U.S.A., 1st February, 1894; 6 years.

Claim.—1st. A car coupling provided with a draw-head having two diagonally arranged projections, and correspondingly arranged pockets adapted to receive the projections of the other draw-head to be coupled, substantially as shown and described. 2nd. A car coupling comprising a draw-head, provided with two diagonally arranged projections, and correspondingly arranged pockets adapted to receive the projections of the other draw-head to be coupled, and pins extending diagonally through the said projections, so that the two pins of the draw-heads to be coupled cross each other, substantially as shown and described. 3rd. A car coupling provided with a draw-head, having a coupling pin fitted to slide diagonally in the said draw-head, substantially as shown and described. 4th. A car coupling comprising a draw-head, provided with two diagonally arranged projections, and correspondingly arranged pockets adapted to receive the projections of the other draw-head to be coupled, pins

extending diagonally through the said projections, so that the two pins of the draw-heads to be coupled cross each other, and means substantially as described, for manipulating the said coupling pins, as set forth.

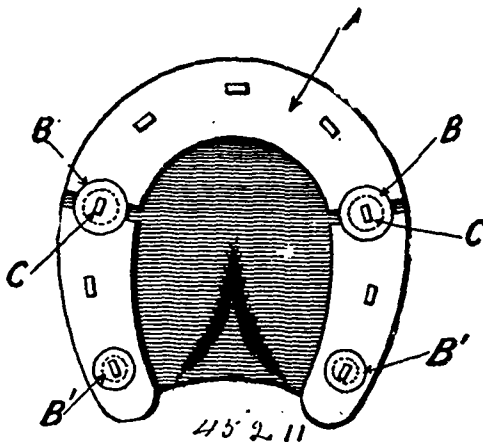
No. 45,210. Shoe for Hoofed Animals.
(*Fer pour chevaux, mulets, etc.*)



The Mail Horse-shoe Syndicate, assignee of Mary Emily Poupard, all of London, England, 1st February, 1894; 6 years.

Claim.—1st. In combination with a shoe of any description for horses or other hoofed animals, a projecting stud upon the inner tread of the shoe, consisting of a crater-like ridge surrounding an internal hollow affording easy entry into the hoof by slight pressure, a gentle blow or other means and embracing firmly a portion of the hoof within the said hollow or crater. 2nd. A circular crater-like projection, with an upper surrounding ridge or sharp edge, adapted upon or inserted into a shoe for a horse or other hoofed animal. 3rd. In a crater-like stud of circular form with upper surrounding ridge or sharp edge adapted to the inner tread of a shoe for horses or other hoofed animals, a coned body to said stud, and a nail or screw passing therethrough, substantially as described.

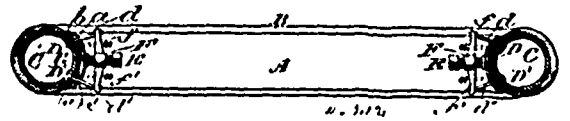
No. 45,211. Shoe for Hoofed Animals.
(*Fer pour chevaux, mulets, etc.*)



The Mail Horse-shoe Syndicate, assignee of Mary Emily Poupard, all of London, England, 1st February, 1894; 6 years.

Claim.—1st. The combination with a segmental shoe for horses or other hoofed animals, of plugs inserted in recesses between the adjoining ends of segments, a nail or screw passing therethrough or the end of the plug screwed and adapted by their conical or shouldered form to keep up the segments to the hoof, and by their circular form to admit of pivotal movement of segments about them. 2nd. In a segmental shoe, a coned or shouldered plug, fitting an equivalent recess in the shoe, a nail or screw through the axis thereof, or the end of the plug screwed and a crater-like recess with surrounding or sharp periphery at the end thereof, entering the substance of the hoof.

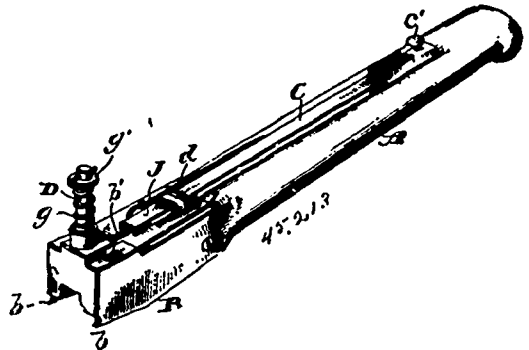
No. 45,212. Fastener for Tires.
(*Lien de bandes de roue.*)



The pneumatic Tire and Cycle Company, assignee of Alfred Coningsby, all of Brooklyn, New York, U.S.A., 2nd February, 1893; 6 years.

Claim.—1st. The combination with the wheel rim, of tire fastening wires extending along the exterior of the rim and provided with bent portions extending inwardly through the rim and a wire tightening device, comprising a movable piece engaged with the bent portions of the wires at the inner side of the rim, and means for moving the said movable piece away from the inner face of the rim to tighten the wires, substantially as set forth. 2nd. The combination with the rim of the wheel, of tire fastening wires extending along the outer face of the rim, and provided with bent portions extending through the rim, and a wire-tightening device, comprising a travelling nut, engaged with the bent portions of the wires at the inner side of the rim, and a screw engaged with the nut and having a bearing against the inner face of the rim, substantially as set forth.

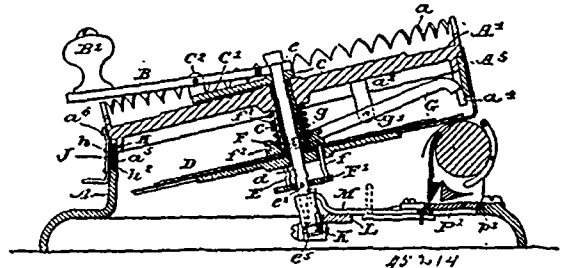
No. 45,213. Carpet Stretcher and Tacker.
(*Tendeur de tapis et chasse-broquette.*)



John H. Nicholls, Fletcher Barton, and Isaac L. Barton, all three of Davenport, assignees of George W. Ansley, Medical Lake, all of Washington, U.S.A., 2nd February, 1894; 6 years.

Claim.—1st. In combination with the part having the guide stay, a driver having a recess in its under side to receive a tack head, and guides carried by it leading from said guide-way, substantially as shown and described. 2nd. In combination with a driver, having a guide-way leading to it, and a reciprocable tube covering said guide-way and slotted on its under side. 3rd. In combination with the driver, the coiled spring encircling the same, and the hollow boss receiving one end of the spring, substantially as shown and described. 4th. In combination, the handle A, the open bottom part B, the guide-way in said parts, the feed parts, the feed device co-operating therewith, the driver, having guiding extensions on its lower end leading to the recess to receive the tack head, the lugs on the driver engaging grooves in the side of the part B, the notch in the outer end of said part, and the spurs on the lower front corners of said part, substantially as shown and described, and for the purpose specified.

No. 45,214. Type Writer. (*Clavigraphie.*)

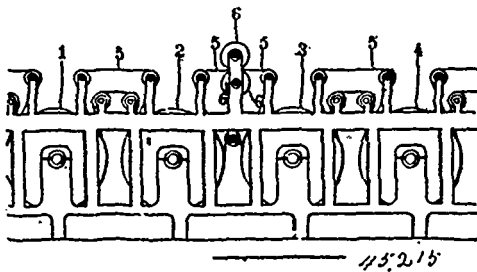


The Liberty Manufacturing Company, assignee of James E. Wilson, all of the City of New York, U.S.A., 2nd February, 1894; 6 years.

Claim.—1st. A type writer comprising a drum or frame having a dial mounted on its face, a printing roller arranged adjacent to the

drum, a revoluble shaft extending through the dial and provided with a printing lever, a plate carried by the shaft and provided with type fingers which extend above the printing roller, a lever mechanism for operating the type fingers, a shift lever for actuating the dial, and means for locking the shift lever, substantially as described. 2nd. In a type writer comprising a drum or frame having a dial mounted on its face, a type operating lever carried thereby, a printing lever and a type plate, and a shift lever whereby the relative position of the dial and type operating lever and of the type plate may be changed and means for locking the shift lever, substantially as described. 3rd. In a type writer comprising a drum or frame having a dial mounted on its face provided with a pin projecting therefrom, a three arm shift lever, the two lower arms serving as keys and the upper arm being provided with bifurcated extensions for operating the dial pin, and with a slot for engaging a locking pin, and a locking pin, substantially as described. 4th. A type writer comprising a drum or frame having a dial provided with a pin projecting therefrom mounted on its face, a printing roller arranged adjacent to the drum, a revoluble shaft extending through the dial and provided with a printing lever, a plate carried by the shaft and provided with the type fingers which extend above the printing roller, a lever mechanism for operating the type fingers, a three armed shift lever for actuating the dial the two lower arms serving as keys and the upper arm being provided with bifurcated extensions for operating the dial pin, and with a slot for engaging a locking pin, and a locking pin, substantially as described. 5th. In a type writer the combination with a sliding carriage having a rack thereon and a vertically movable shaft having a groove at its lower end, of an elbow lever pivoted horizontally and provided with a spring pressed pawl to engage the carriage rack and an elbow lever pivoted vertically, the latter lever having one arm connected with the horizontal elbow lever and the other arm extending to the groove of the shaft, and of a pin secured to the base for holding the pawl to the rack and thereby locking the carriage, substantially as described. 6th. In a type writer an elbow lever pivoted horizontally and provided with a spring pressed pawl to engage the carriage rack, and a pin secured to the base for holding the pawl to the rack thereby locking the carriage, substantially as described. 7th. A type writer comprising a drum or frame having a dial mounted on its top, a printing roller arranged adjacent to the drum, a revoluble shaft extending through the dial and provided with a printing lever, a plate carried by the shaft and provided with type fingers which extend above the type printing roller, a lever mechanism for operating the type fingers, and a slot or recess in the drum shell for guiding the said lever, substantially as described. 8th. In a type writer, the combination, with a sliding carriage having a roll and a rack thereon, and provided with a hinge consisting of a spring connection placed at each end of the roll, by which the said roll may be lifted, of a vertically movable shaft having a groove at its lower end, and of an elbow lever pivoted vertically the latter lever having one arm connected with the horizontal elbow lever, and the other arm extending to the groove of the shaft, substantially as described. 9th. In a type writer, a sliding carriage having a roll and rack thereon, and provided with a hinge consisting of a spring connection placed at each end of the roll and sustaining the roll in a movable relation as regards the carriage, substantially as described. 10th. In a type writer, the combination, with a sliding carriage having a roll and a rack thereon, and provided with a hinge consisting of a spring connection placed at each end of the roll by which the said roll may be lifted, of a vertically movable shaft having a groove at its lower end, of an elbow lever pivoted horizontally and provided with a spring pressed pawl to engage the carriage rack and an elbow lever pivoted vertically, the latter lever having one arm connected with the horizontal elbow lever and the other arm extending to the groove of the shaft, and a pin secured to the base for holding the pawl to the rack and thereby locking the carriage, substantially as described.

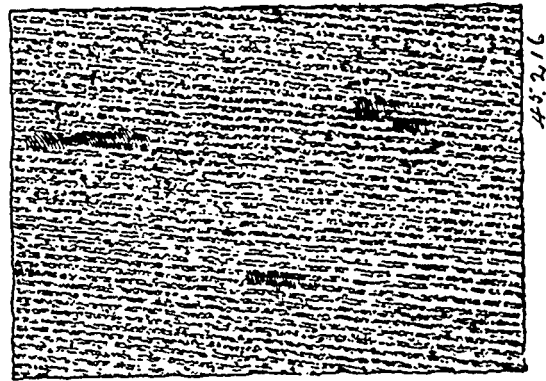
No. 45,215. Process of Ornamenting Paper.
(Procédé pour l'ornementation du papier.)



The E. B. Eddy Company, Hull, Quebec, Canada, assignee of Seth Wheeler, Albany, New York, U.S.A., 2nd February, 1894; 6 years.

Claim.—The process of ornamenting or wrinkling paper and fibrous or analogous material, consisting of operating on a damp or wet sheet, so as to first dry it in spots or lines, and second to substantially dry the remainder of the sheet, substantially as described.

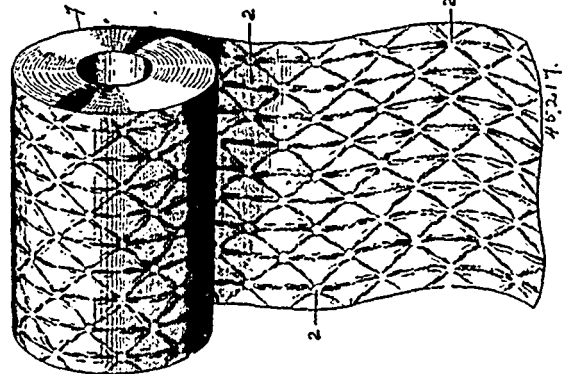
No. 45,216. Process of Ornamenting Paper.
(Procédé pour l'ornementation du papier.)



The E. B. Eddy Company, Hull, Quebec, Canada, assignee of Seth Wheeler, Albany, New York, U.S.A., 2nd February, 1894; 6 years.

Claim.—The process of ornamenting paper, consisting of first drying the pulp until it forms a sheet of wet paper, by pressing and holding it snugly against drying devices, and, second, removing such pressure that the paper may have freedom to contract, and passing the sheet over drying devices until it is dried, substantially as described.

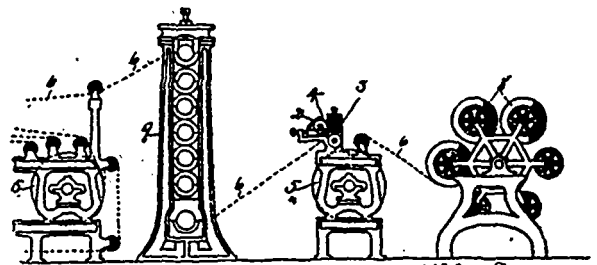
45,217. Process of Ornamenting Paper.
(Procédé pour l'ornementation du papier.)



The E. B. Eddy Company, Hull, Quebec, Canada, assignee of Seth Wheeler, Albany, New York, U.S.A., 2nd February, 1894; 6 years.

Claim.—The process of ornamenting paper and analogous material consisting of dampening the dry material in pre-determined patterns, lines or spots and then drying the material, thereby contracting the same at the dampened lines, spots or patterns, for the purposes described.

No. 45,218. Machine for Ornamenting Paper.
(Machine pour l'ornementation du papier.)

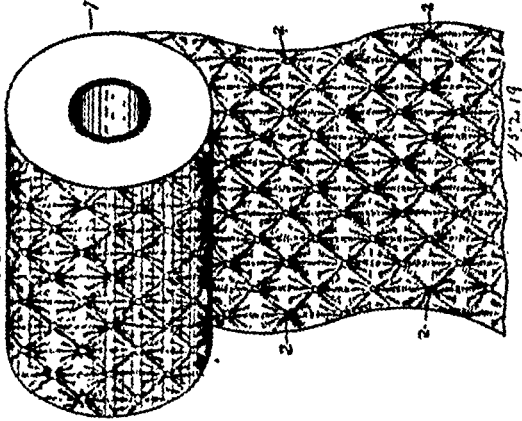


The E. B. Eddy Company, Hull, Quebec, Canada, assignee of Seth Wheeler, Albany, New York, U.S.A., 2nd February, 1894; 6 years.

Claim.—Mechanism for ornamenting paper, consisting of a heated surface or surfaces and a dampening device arranged to dampen the entire paper uniformly, and having means for conveying, said

uniformly dampened paper over the heated surfaces until it is dry, and arranged to allow freedom to the drying paper to unevenly contact as the drying progresses, substantially as described.

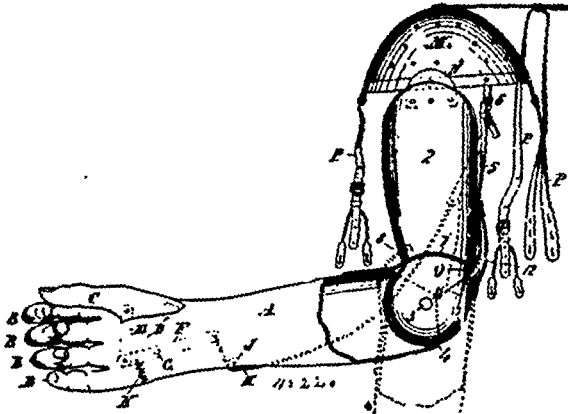
No. 45,219. Ornamented Paper. (*Papier ornementé.*)



The E. B. Eddy Company, Hull, Quebec, Canada, assignee of Seth Wheeler, Albany, New York, U.S.A., 2nd February, 1893; 6 years.

Claim.—As a new article of manufacture, paper or other fibrous or analogous material having a portion of its surface wrinkled along or in proximity to pre-determined patterns, lines or spots, substantially as herein described.

No. 45,220. Artificial Arm and Hand.
(*Bras et main artificiels.*)



Therence Sparham and James Hall, both of Brockville, Ontario, Canada, 2nd February, 1894; 6 years.

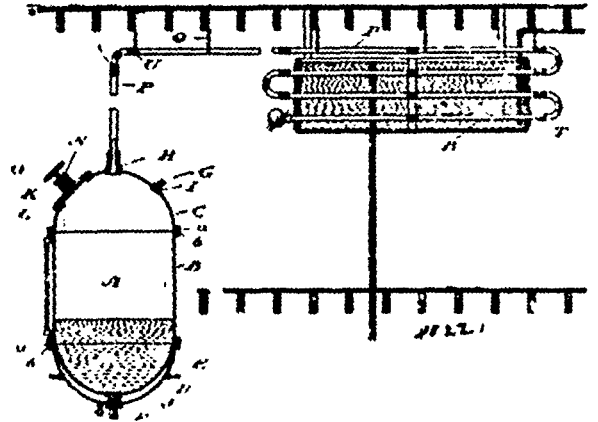
Claim.—1st. An artificial hand having a thumb pivoted at the wrist and having connection at the intersection or bifurcation with a spring lever to draw said thumb against the index finger, and a strap attached to the lever to react the thumb against the resistance of the spring, as set forth. 2nd. An artificial hand having a thumb pivoted thereto near the wrist and connected at the crotch of the hand and thumb to a spring lever, said lever provided with a strap to pull against the resistance of the spring, to thrust the thumb from the index finger, to release a gripped article held between the thumb and index finger or other fingers, as set forth. 3rd. An artificial arm having a spring latch and catch at the elbow, and a strap connecting with the catch for disengagement of the latch and catch, said strap connected to a shoulder cap, as set forth. 4th. An artificial arm having a spring latch and catch at the elbow joint, a strap extending from the catch to a shoulder cap M, and the arm hung flexibly to the shoulder cap by a flexible lug N, whereby the arm will swing naturally when the latch and catch are disconnected, as set forth.

No. 45,221. Apparatus for Refining Acetic Acid.
(*Appareil pour raffiner les acides acétiques.*)

Stanley Cooper Penchen and Peter Clark, both of Toronto, Ontario, Canada, 2nd February, 1894; 6 years.

Claim.—1st. The still A, composed of two or more sections bolted together by bolts passing through the outside flanges formed on the sections, in combination with the inside bottom E, having its rim clamped between the flanges of the sections, substantially as and

for the purpose specified. 2nd. In a still, an inlet or outlet pipe having a flange formed thereon inside the still, in combination with



a nut screwed on the pipe outside the still so as to clamp the metal of the still between the flange and nut, substantially as and for the purpose specified. 3rd. In a still, the pipe F, having a flange formed thereon, in combination with inside bottom E, thimble J, outside bottom D and clamp nut, substantially as and for the purpose specified. 4th. In a still, the inside flange L around the manhole having arms M, extending outwardly therefrom, in combination with the manhole cover K, a bar connecting the arms M, and a spindle screwed through the said bars clamping together the flange L, the metal of the still and the manhole cover K, substantially as and for the purpose specified. 5th. Conveying or cooling pipes formed of sections of glass tubes connected together by metal clamping sleeves packed with plumbago and rubber or other suitable material, substantially as and for the purpose specified. 6th. Conveying or cooling pipes formed of sections of glass tubing connected together by metal clamping sleeves packed with plumbago and rubber or other suitable material, and supported by flexible hangers or supports, substantially as and for the purpose specified. 7th. A cooling pipe of glass passing through a tank, in combination with a flexible water-tight connection between the pipe and the tank where the said pipe passes out through the wall of the tank, substantially as and for the purpose specified. 8th. A jointed glass cooling pipe passing through a tank in combination with means for rigidly connecting the joint to the tank, substantially as and for the purpose specified. 9th. A jointed glass cooling pipe passing through a tank in combination with means for rigidly connecting the joint to the tank, and a flexible water-tight connection between the pipe and the tank, where the said pipe passes out through the wall of the tank, substantially as and for the purpose specified. 10th. A series of glass cooling pipes passing through a tank and connected together by jointed glass U's outside the tank in combination with flexible water-tight connections between the pipes and the tank, where the said pipes pass out through the wall of the tank, substantially as and for the purpose specified. 11th. A series of glass cooling pipes passing through a tank and connected together by jointed glass U's in combination with means for rigidly connecting the joints at the middle of the pipes to the tank, substantially as and for the purpose specified. 12th. A series of jointed glass cooling pipes connected together by jointed glass U's, substantially as and for the purpose specified.

No. 45,222. Process of and Apparatus for Concentrating or Vaporizing Sulphuric and Acetic Acids. (*Procédé et appareil pour concentrer ou vaporiser les acides acétiques et sulfuriques.*)

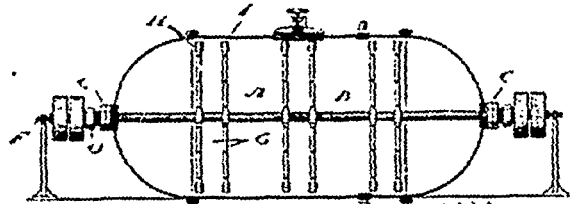


Fig. 2

Stanley Cooper Penchen and Peter Clark, both of Toronto, Ontario, Canada, 2nd February, 1894; 6 years.

Claim.—1st. An improved process for the concentration or vaporization of sulphuric and acetic acids which consists in subjecting the acid to the action of an electric current passing between acid proof electrodes of high resistance, substantially as and for the purpose specified. 2nd. A pair of acid proof electrodes of high resistance placed at a suitable distance apart, one of them being so shaped

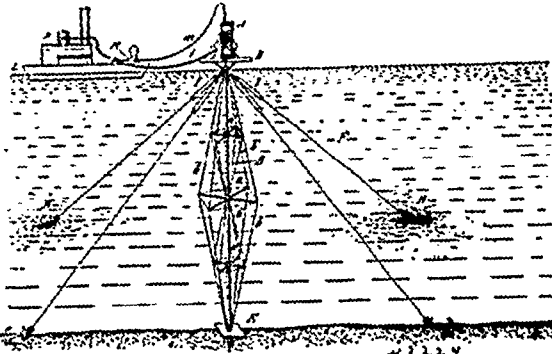
as to hold the acid which is caused to flow between them, substantially as and for the purpose specified. 3rd. An improved process for the concentration or vaporization of sulphuric and acetic acids which consists in placing the acids to be operated on in a retort and subjecting it to the action of an electric current passing between acid proof electrodes of high resistance carried on arms arranged on a shaft revolving in the acid, substantially as and for the purpose specified. 4th. A still, having a hollow shaft extending across it and a pair of arms projecting therefrom, in combination with insulated conducting wires arranged within said shaft and connected with electrodes of carbon or other suitable material, supported by and insulated from said arms, substantially as and for the purpose specified. 5th. A still, having a hollow shaft extending across it, suitably journalled in the ends of the still and adapted to be driven by any suitable means and having a pair of arms projecting therefrom, in combination with insulated conducting wires arranged within the said shaft and connected with electrodes of carbon or other suitable material supported by and insulated from said arms, substantially as and for the purpose specified. 6th. A still, having a hollow shaft extending into it and a pair of arms projecting therefrom, in combination with insulated conducting wires arranged within said shaft and connected with electrodes of carbon or other suitable material supported by and insulated from said arms, substantially as and for the purpose specified. 7th. A still, having a hollow shaft extending into it, suitably journalled in one end of it and adapted to be driven by any suitable means, and having a pair of arms projecting therefrom, in combination with insulated conducting wires arranged within the said shaft and connected with electrodes of carbon or other suitable material supported by and insulated from said arms, substantially as and for the purpose specified. 8th. A still, having a series of electrically heated plates of carbon or other suitable material supported therein by arms attached to a revoluble shaft journalled on the still, substantially as and for the purpose specified. 9th. The combination of the still A, shaft B, bearing box or tube J, nut K, and bushing N, substantially as and for the purpose specified. 10th. The combination of the still A, shaft B, bearing box or tube J, nut K, and bushing N, carbon or graphite washer Q, and stuffing nut O, substantially as and for the purpose specified. 11th. The combination of the still A, shaft B, insulated conducting wire E, insulated terminal D, and suitably supported contact piece F, substantially as and for the purpose specified.

No. 45,223. Explosive. (Explosif.)

William Adams, jr., assignee of Francis J. Spence, both of Broken Hill, New South Wales, Australia, 2nd February, 1894; 6 years.

Claim.—1st. The manufacture of a new explosive by mixing sulphide of antimony, mercuric oxide, tungstic acid, picric acid, sulphur, nitrate of potassa, and infusorial earth or a like absorbent, substantially as set forth. 2nd. The manufacture of a new explosive by mixing and preparing sulphide of antimony, mercuric oxide, picric acid, with water in the manner herein described, and adding thereto tungstic acid or camphor, sulphur, nitrate of potassa, and infusorial earth or other like absorbent, substantially as set forth. 3rd. The manufacture of a new high explosive, which will fire without a detonator, but will not ignite by ordinary concussion, by mixing the component parts named in the proportions stated. 4th. The production, by the mixture of the component parts stated, of a new high explosive having the quality that it will, if hermetically sealed or closely confined, explode with a lighted fuse without a detonator cap. 5th. The process of producing a new high explosive, as fully set forth and described in the foregoing specification.

No. 45,224. Method of and Apparatus for Boring Under Water. (Méthode et appareil pour creuser sous l'eau.)

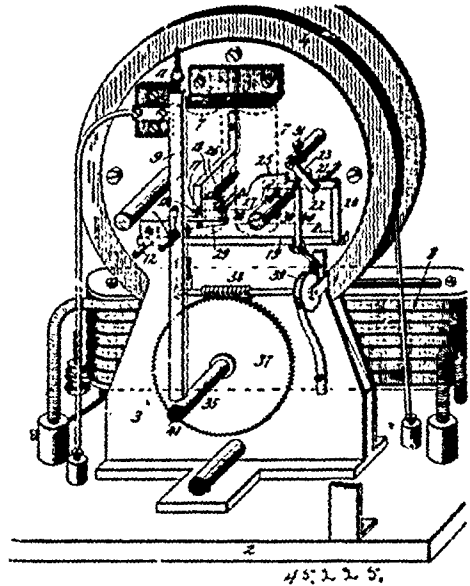


Charles H. Tompkins, assignee of Alfred William Palmer, both of New York, State of New York, U.S.A., 2nd February, 1894; 6 years.

Claim.—1st. The improvement in the art of boring stone or other substances under water, which consists in mounting a drill upon the

upper end of a tubular post or column, and operating the drill for cutting away the stone or other substances through the centre thereof, substantially as described. 2nd. The combination, with a power operated rock drill of a tubular post or column upon which it is mounted and through which the drill is operated, and means for supporting such post or column in an upright position, substantially as described. 3rd. The combination, with a tubular post or column and means whereby it is trussed and prevented from flexure, of a power operated drill mounted on its upper end, and means for holding the post or column in an upright position, substantially as described. 4th. The combination, with a tubular post or column provided with a platform at its upper end, a flange or plate at its lower end, and a set of trusses for preventing it from lateral flexure, of a rock drill mounted upon said platform, and a series of guys for maintaining such post or column in an upright position, substantially as described. 5th. The combination, with a tubular post or column provided with a platform at its upper end, and a flange or plate at its lower end, and trusses for preventing it from lateral flexure, of a rock drill mounted upon said platform, and a series of guys provided with blocks and tackle, substantially as described. 6th. The combination, with a tubular post or column provided with a flange or plate at its lower end, a rock drill mounted upon its upper end, with its drill working through the centre thereof, and means for holding such post or column in a vertical position, of a scow, a boiler and pump mounted thereon, and flexible tubular connections between such boiler and pump and drill, substantially as described. 7th. A post or column consisting of an external tube, an internal tube, and means for trussing said external tube and preventing it from lateral flexure, substantially as described. 8th. The combination, with a post or column composed of an exterior tube B¹, provided with a flange or plate E, and an exterior tube B², and trusses for said exterior tube whereby to prevent it from lateral flexure of means for maintaining said post or column in a vertical position, and a rock drill mounted upon said platform with its boring-rod extending through and working in the tube B², substantially as described.

No. 45,225. Electric Meter. (Galvanomètre.)



James A. Pentz, Philadelphia, Pennsylvania, assignee of Anthony Reckenmann, London, England, 2nd February, 1894; 6 years.

Claim.—1st. In an electric meter having a registering device and an automatic make-and-break device, an oscillatory bar or beam suspended centrally or substantially centrally, and operating to actuate said make-and-break device in its oscillations, a non-magnetically acting device for imparting an impulse to said bar or beam, and mechanism influenced by the current passing through the meter to operate said registering device, substantially as and for the purposes described. 2nd. In an electric meter having oscillating bars or beams, one of which is under the influence of the current passing through the meter and the other is not, and means for registering the difference in the oscillations of the said bar or beams, of a definite weight adapted to move a definite distance to impart an impulse to said bars or beams, substantially as and for the purposes described. 3rd. In an electric meter having a registering device and an automatic make-and-break device, an oscillatory bar or beam suspended centrally or substantially centrally, and operating to actuate said make and break device in its oscillations, a gravity device for imparting motion to said oscillatory beam or bar, and mechanism influenced by the current passing through the meter to operate said registering device, substantially as and for the purpose described. 4th. In an electric meter having a registering device and an automatic make-and-break device, an oscillatory bar or beam

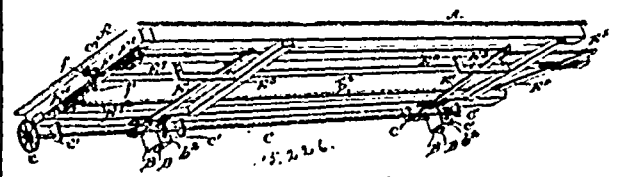
operating to actuate said make-and-break device in its oscillations, a gravity device for imparting motion to said oscillatory bar or beam, means for sustaining said gravity device in its normal position, mechanism for moving said sustaining means to permit the gravity device to transmit motion to said bar or beam, said mechanism being actuated by the current passing through the meter, and mechanism influenced by the current passing through the meter to operate said registering device, substantially as and for the purpose described. 5th. In an electric meter having a registering device and an automatic make-and-break device, an oscillatory bar or beam operating to actuate said make-and-break device in its oscillations, a gravity device for imparting motion to said oscillatory bar or beam, means for sustaining said gravity device in its normal position, mechanism for moving said sustaining means to permit the gravity device to transmit motion to said bar or beam when a current is passing through the meter and said make-and-break device has made circuit, said mechanism also serving to restore said gravity device to its normal position after the circuit is broken, and mechanism influenced by the current passing through the meter to operate said registering device, substantially as and for the purposes described. 6th. In an electric meter, having a registering device and an automatic make-and-break device, an oscillatory bar or beam, a gravity device for imparting motion to said bar or beam, means for sustaining said gravity device in its normal position, said gravity device being connected with said oscillatory bar or beam, so as to transmit motion thereto upon its sustaining means, being moved to permit it to act thereon, and mechanism for moving said sustaining means when a current is passing through the meter, and the circuit is established, substantially as and for the purposes described. 7th. In an electric meter, having, a registering device and an automatic make-and-break device, an oscillatory bar or beam operating to actuate said make-and-break device in its oscillations, an arm connected with said oscillatory bar or beam, and gravity device for transmitting motion to said bar or beam through said arm, and sustained independently of said arm, substantially as and for the purposes described. 8th. In an electric meter, the combination with an oscillatory bar or beam suspended centrally or substantially centrally, and under the influence of the electric current, to be measured to have its oscillations affected thereby, of a second oscillatory bar or beam uninfluenced by the current to be measured and suspended centrally, or substantially centrally, said beams operating synchronously when no current to be measured is passing through the main coil, while, when the current is passing through said coil, the rate of oscillation of the magnetic bar varies and the movement of the other bar remains constant, and means for registering the difference in the oscillations of the bars, substantially as and for the purposes described. 9th. In an electric meter, the combination of an oscillatory bar or beam suspended centrally, or substantially so, and under the influence of the current to be measured, a second oscillatory bar or beam uninfluenced by the current, to be measured and suspended centrally, or substantially centrally, and independent of the first mentioned bar or beam, said beams oscillating synchronously when no current to be measured is passing through the main coil, automatic make-and brake devices, actuated by said oscillatory beams, gravity devices for imparting motion to said oscillatory bars or beams, means for sustaining said gravity devices in their normal positions, mechanism for moving said sustaining means to permit motion to said beams or bars when a current is passing through the meter, and said make-and-brake devices have made circuit, and means for registering the difference in the oscillations of the bars or beams, substantially as and for the purposes described. 10th. In an electric meter, the combination of an oscillatory bar or beam suspended centrally or substantially centrally, and under the influence of the current to be measured, a second oscillatory bar or beam uninfluenced by the current to be measured, and suspended centrally or substantially centrally, and independently of the first mentioned bar or beam, said bars or beams oscillating synchronously when no current to be measured is passing through the main coil, automatic make-and-brake devices actuated by said oscillatory beams, gravity devices for imparting motion to said oscillatory bars or beams, means for sustaining said gravity devices in their normal positions, mechanism for moving said sustaining means to permit the gravity devices to transmit motion to said bars or beams when a current is passing through the meter and said make-and-brake devices have made circuit, means for registering the difference in the oscillations of the bars or beams, and a case enclosing said several devices and sealed to prevent tampering with the devices substantially as and for the purposes described.

No. 45,226. Car Stake. (*Epée de chars.*)

Peter Anderson and Samuel W. Pierson, both of Prentice, Wisconsin, U.S.A., 2nd February, 1894; 6 years.

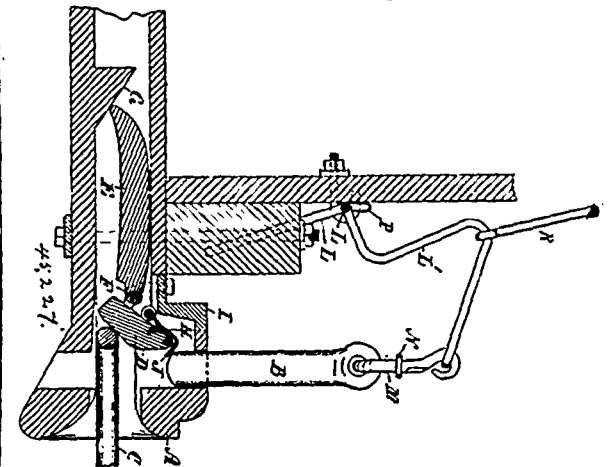
Claim.—1st. The combination, with a platform car, a stake-socket attached thereto, and a stake which is adjustable in the socket and provided with rack-teeth, of a pinion which engages the stake, and a shaft having a hand-wheel fixed thereon, as shown and described, to operate as specified. 2nd. The combination, with the stake-socket, and a stake slidable therein and having a transverse notch in its outer side, of the shiftable and notched locking bar E, arranged transversely in the socket, as shown and described. 3rd. The com-

bination, with the stake-socket, a sliding stake therein, and a rack and pinion mechanism for raising and lowering the stake, of a bolt



mechanism for locking the stake against sliding, substantially as set forth. 4th. The combination, with a pair of stake-sockets, and a vertically adjustable stake in each socket, of a shaft and gearing connecting said stakes, for simultaneous operation, substantially as set forth. 5th. The combination, with a pair of stake-sockets, and a vertically adjustable stake in each socket, of a shaft and gearing connecting said stakes, for simultaneous operation, and a bolt mechanism for each stake, and connection between said bolt mechanism, substantially as set forth. 6th. The combination, with a pair of stake-sockets, and a vertically adjustable stake in each socket, of a shaft and rack and pinion mechanism connecting said stakes, for simultaneous operation, bolts mounted in the stake-sockets to lock and release the stakes, connected levers pivotally connected with said bolts, a chain for operating the lever mechanism to throw and retract the bolts, and a locking device to lock the chain and prevent the lever mechanism from being actuated to release the bolts, substantially as set forth. 7th. The combination, with the car stakes and their locking bolts, of a lever mechanism for throwing and retracting the bolts, a chain for operating the said lever mechanism, and provided with a ring, and a pivoted gravity locking arm over which the ring may be passed and locked, substantially as set forth. 8th. The combination with stakes, the bolts, the operating mechanism therefor, and the operating chain for the lever mechanism provided with a ring, of a slotted post, and the gravity locking arm pivoted near its upper end in said slot and adapted to swing into the longitudinal plane of the post, to permit the passage of the ring, and then fall at right angles to the post and lock the ring thereon. 9th. The combination, with the platform of a car or other vehicle, of four sets of stake mechanism mounted on the four quarters of the car, each mechanism being adapted to be independently operated from the end of the car, and each set comprising a pair of stake-sockets, a pair of stakes, a rack and pinion mechanism for simultaneously raising and lowering each pair of stakes independently of the others, and a separate locking mechanism for each pair of stakes, substantially as set forth. 10th. A car stake-socket B, formed with a lateral flange b, dowels or studs b¹, slot b² and bolt apertures b³, substantially as set forth. 11th. A car stake D, provided with a toothed inner edge d, and a notched outer edge d¹ substantially as set forth. 12th. The combination with a pair of sockets B B, the vertically sliding stakes D D, having toothed inner edges and notched outer edges, the shaft provided with pinions engaging said teeth, and the notched bolts engaging said notched stake edges, of the two levers E¹, E², pivoted near their outer ends to the platform and pivoted at their outer extremities to the respective bolts, the inner ends of said levers being connected, a centrally pivoted lever E³, connected at its inner end with the inner end of the innermost lever E¹, guide pulleys E⁴, on the end of the platform a, chain E⁵, passing around said pulleys and connected with the outer end of lever E³, and the inner end of the outer lever E², a ring e¹, on said chain and a locking latch for the ring between the said two pulleys, substantially as set forth.

No. 45,227. Car Coupler. (*Attelage de chars.*)

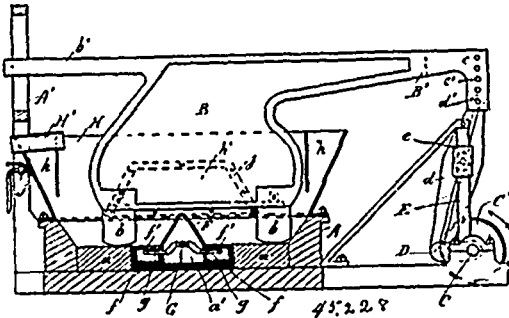


Daniel K. Slawson, Manitou, Manitoba, Canada, 3rd February, 1894; 6 years.

Claim.—1st. The combination, with the draw-head, of the latch D, push-bar E, and dog J, as set forth, for the purposes described.

2nd. The combination, with the draw-head, having an inclined plane G, within a cavity in the draw-head, of the gravitating latch D, within said cavity, and a gravitating push bar E, engaging said latch, as set forth and for the purpose described. 3rd. The combination, with the pin B, of the rock-bar L, having an arm L', and the tongue M, gripping and operating said pin to couple and uncouple, as described. 4th. The combination, with the draw-head A, having a cavity rearwardly of the mouth, and a vertical pin-hole, and an inclined plane G, within said cavity, of the push-bar E, having one end supported by said inclined plane and the other end pivotally connected to a latch or cam D, hung to swing within said cavity, a hook-shaped dog J, pivoted to the latch and adapted to support the pin B, while the latch is maintaining the coupling link C, horizontally for coupling with an annexing draw-head, and means, substantially as set forth, for lifting and dropping the coupling pin without going between the cars.

No. 45,228. Stamp Mill and Amalgamator.
(*Bocard et moulin à amalgamer.*)



Charles Carter and Alfred Henry Bell, both of Irapah, Utah, U.S.A., 3rd February, 1894; 6 years.

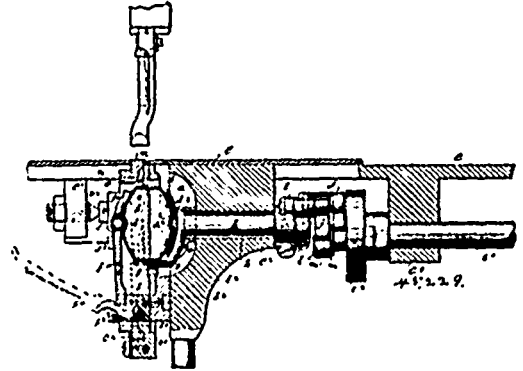
Claim.—1st. The combination, with a mortar box, having two dies and an amalgamator between the dies, of a stamp provided with two shoes and a substantially horizontal arm, and driving mechanism connected to the end of the said arm and operating to raise and lower one shoe and move the other shoe horizontally on its die towards the amalgamator, the said shoes being operated simultaneously and alternately, substantially as set forth. 2nd. The combination, with a mortar box having two dies, of a stamp provided with two shoes and two substantially horizontal arms, a vertical guide engaging with one of the said arms, and driving mechanism connected to the other said arm and operating to raise and lower one shoe and slide the other shoe across its die, substantially as set forth. 3rd. The combination, with the mortar box having two dies, and the stamp provided with two shoes, of a water tank secured to the top of the mortar box and having its end-inclined outwardly and upwardly, thereby forming chutes for conducting the ore on to the opposite ends of the dies, substantially as set forth. 4th. The combination, with the mortar box and the two dies, of the stamp provided with two shoes and a horizontally projecting arm having a series of holes in it, a driving shaft provided with a crank, a pitman connecting the said crank with the said arm, a guide shoe pivoted to the pitman and stationary guide for the guide shoe to slide on, whereby a longitudinally reciprocating and a rocking motion is imparted to the stamp, substantially as set forth. 5th. The combination, with the mortar box provided with two dies, and the stamp provided with two shoes, of the two mercury boxes and the central bent plate F, supported between the said dies, the perforated cover plates and pipes for admitting water between the mercury and the cover plates, substantially as set forth. 6th. The combination, with the mortar box provided with two dies, and the stamp provided with two shoes, of the two vertically adjustable mercury boxes and the central bent plate F, supported between the said dies, the perforated cover plates, the branch pipes admitting water between the mercury and the cover plates, the stationary supply pipe and the flexible pipes connecting the said supply pipes, substantially as and for the purpose set forth.

No. 45,229. Sewing Machine. (*Moulin à coudre.*)

Harry Moore, Wellingborough, Northampton, England, 3rd February, 1894; 6 years.

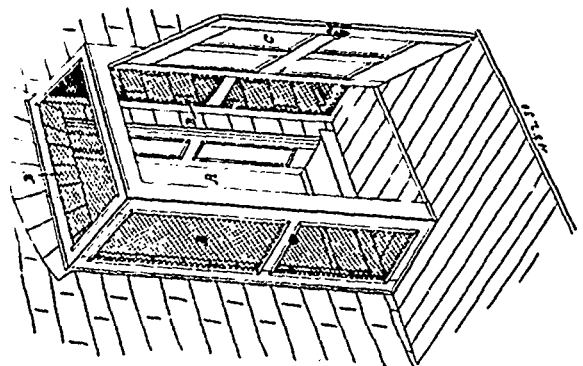
Claim.—1st. The combination, with a continuously rotated shuttle, of a central pin extending from the back of the shuttle, of a bobbin or thread case, and of a means for retaining the bobbin or thread case stationary on the central pin of the shuttle, substantially as set forth. 2nd. The combination, with a continuously rotated shuttle, of a central pin extending from the back of the shuttle, of a thread case made in two parts adapted to be secured together, of a cone-shaped hollow tube extending from the back part of the case and adapted to fit on the central pin, and of a means for retaining the case stationary on the pin, substantially as set forth. 3rd. The combination, with a continuously rotated shuttle, of a central pin extending from the back of the shuttle, of a thread case made in two parts adapted to be secured together, of a cone-

shaped hollow tube extending from the back part of the case and adapted to fit on the central pin, of a front central depression formed



with two holes, and of a means for retaining the case stationary on the pin, substantially as set forth. 4th. The combination, with a continuously rotated shuttle, of a central pin extending from the back of the shuttle, of a bobbin protection adapted to support and protect the front side of the bobbin, and to fit on the central pin and provided with a tension device, and of a means for retaining the bobbin protector stationary on the pin, substantially as set forth. 5th. The combination for driving the circular feed plate or ring consisting of a nipping-lever or grip working on the lip of the feed plate or ring, of links pivoted to the lever and connected to an arm on a counter-shaft, of a counter-shaft driven from the main shaft, and of a spring acting on the nipping-lever or grip, the whole substantially as set forth. 6th. The mechanism for varying the feed of the feed plate or ring consisting of a counter-shaft adapted to operate the feed mechanism, of a pivoted lever vibrated from the main shaft, of a link connected at one end to the counter-shaft and connected at the other end by a sliding joint to the vibrating lever and of a sleeve through which the link is free to slide, and which is adapted to be operated to move the sliding end of the link nearer to or further from the fulcrum of the lever, the whole substantially as set forth.

No. 45,230. Screen for Doorways. (*Store de portes.*)



Alexander Drummond, Evanston, Illinois, U.S.A., 3rd February, 1894; 6 years.

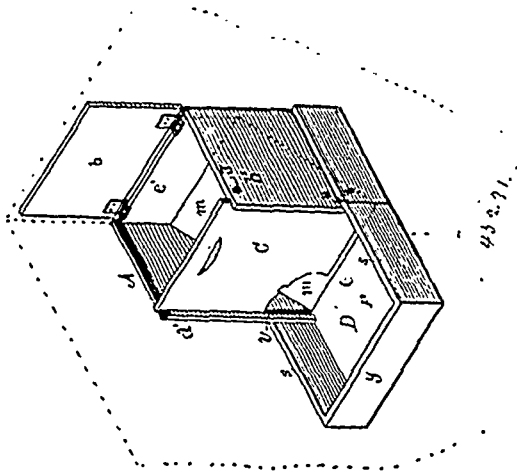
Claim.—1st. In combination with a doorway A, screen-sides B extending outward from the sides of the doorway and provided with an overhead covering, and a door C hinged to one of said sides and adapted to be swung on its hinges to open and close the passage between the sides, substantially as and for the purpose set forth. 2nd. In combination with a doorway A, screen sides B extending outward from the sides of the doorway, and provided with an overhead screen covering B', and a solid door C hinged to one of said sides and adapted to be swung on its hinges to open and close the passage between the sides, substantially as and for the purpose set forth.

No. 45,231. Feed Box. (*Crèche.*)

Thomas Lewis. Townsend, New York, U.S.A., 3rd February, 1894; 6 years.

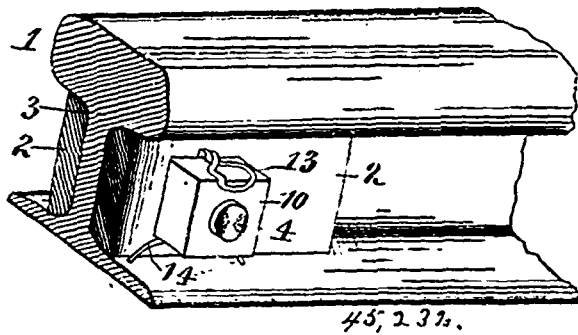
Claim.—1st. A feed bin having vertical side walls, one of which is vertically adjustable, a bolt arranged to pass through the walls of the bin, a nut on the bolt to impinge the walls and hold the vertical wall in an adjustable position, a feed box hinged to the vertical side walls at the bottom of the bin, and a hinged cover for the feed bin, as set forth. 2nd. The herein described feed bin, consisting of the vertical sides and back and an inclined bottom, a feed box secured

to the bottom by hinges, a retaining spring for the feed box, a button to hold the feed box in a horizontal position, an adjustable front to



the feed bin and means for holding it in adjustment, and a cover attached to the feed bin, substantially as set forth.

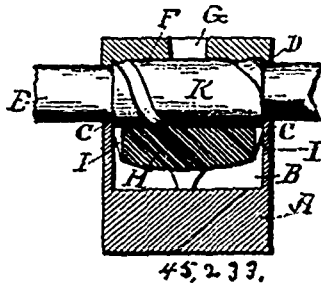
No. 45,232. Combined Washer and Nut Lock.
(*Rondelle et arrête-écrou combinés.*)



Charles H. Foote, Kansas City, Kansas, U.S.A., 5th February 1894; 6 years.

Claim.—1st. In a nut-lock, a locking plate formed of wire, and having a central opening and depending legs, and an upper extension adapted to be bent upon the edge of the nut, substantially as set forth. 2nd. The combination with the rail, the fish plate, the bolt and the nut, of a locking washer looped around the bolt, having a loop to be bent against the edge of the nut, and having its free ends bent to form divergent legs adapted to bear upon the foot portion of the rail, substantially as described.

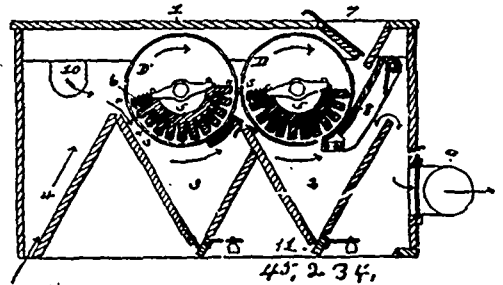
No. 45,233. Journal Box. (*Boîte à graisse.*)



William Sheldon, Houston, Texas, U.S.A., 5th February, 1894; 6 years.

Claim.—In a journal box, the hollow base A, and removable cap D provided with registering rim-bearings C, and a removable pillow block H disposed in the cavity of the base, with its upper concave surface below the plane of the lower sides of the bearings, in combination with a shaft journalled in the rim-bearings, and provided with a sleeve K, fitted at its end against the end walls of the base and bearing upon the surface of the pillow block, the surface of the sleeve being spirally grooved to convey the lubricant to all parts of the surface of the bearing, all substantially as specified.

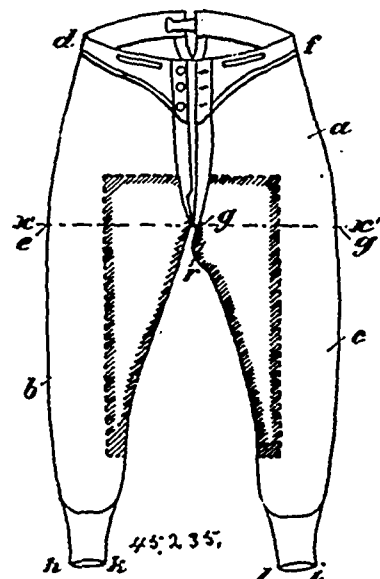
No. 45,234. Ore Separator. (*Séparateur de minerais.*)



Clinton M. Ball, Troy, New York, and Sheldon Norton, Hoken-dauqua, Pennsylvania, both in the U.S.A., 5th February, 1894; 6 years.

Claim.—1st. An ore separator comprising plurality of separating surfaces and a magnetic field or fields in operative relation thereto respectively, said field extending between adjacent separating surfaces and assisting magnetically in the transfer of partially separated ore from one surface to the other. 2nd. An ore separator comprising two or more magnetic surfaces for withdrawing the iron from the gangue, and means for effecting a transfer of the iron from one surface to the other, the magnetic polarities near the point of transfer being dissimilar. 3rd. An ore separator comprising two or more travelling surfaces upon which the ore is held magnetically, said surfaces approaching each other and provided with co-operating magnetic poles of unlike sign, whereby the transfer of ore from one surface to the other is facilitated, and a continuous operation with two or more separating devices may be conducted. 4th. An ore separator comprising two or more rotating surfaces arranged in series, magnetic fields for causing the adherence of ore to said surfaces whilst the gangue is expelled, the magnetic poles at adjoining points being of unlike sign to facilitate transfer of the ore. 5th. An ore separator comprising two or more magnetic fields, two or more non-magnetic screens moving in said fields, one screen adjoining another so as to transfer ore thereto, the poles of the fields at the point of transfer being of unlike sign. 6th. An ore separator comprising two or more magnetic fields, two or more non-magnetic screens moving in said fields, one screen adjoining another so as to transfer ore thereto, the poles of the fields at the point of transfer being of unlike sign, and the receiving pole being in advance of the delivery pole. 7th. An ore separator comprising two or more groups of magnets arranged in succession, means for forcibly conveying the ore past the magnets and permitting the gangue to fall away, and means for effecting the transfer of ore from one group of magnets to the next, the groups of magnets being co-operatively placed to assist magnetically in the transfer of the partially separated ore.

No. 45,235. Method of Making Knitted Garments.
(*Méthode de faire des vêtements tricotés*)

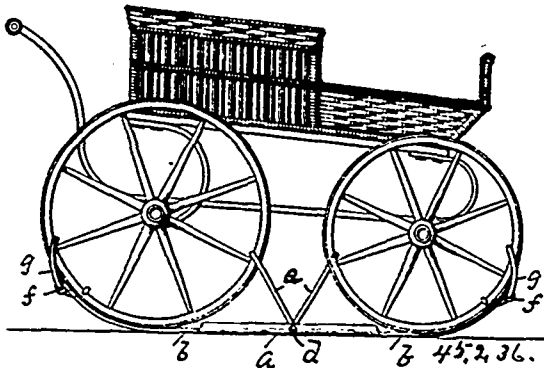


August Claus, Hohenstein, Ernstthal, Saxony, German Empire, 5th February, 1894; 6 years.

Claim.—1st. The improved manufacture of knitted riding breeches, hose and similar articles, substantially as herein described.

2nd. The improved method of manufacturing knitted riding breeches, hose and similar articles, substantially as herein described, the same consisting in making the pieces a^1 and a^2 , separately arranging them upon the needles of a knitting frame and knitting on the right and left leg-pieces, then stitching the edges of the parts so formed and thereby completing the article, the insides of the leg portions and the seat and back being suitably strengthened and having no seams. 3rd. In knitted riding breeches, hose and similar articles, forming an enlarged part or gusset such as r , substantially as herein described. 4th. In the manufacture of knitted riding breeches, hose and similar articles, the employment of narrowing or reducing apparatus, substantially as herein described, the same comprising a pair of needle-carriers furnished with tappets and capable of adjustment upon a longitudinal rail carrying levers for actuating the tappets. 5th. In apparatus for narrowing or reducing in the manufacture of hose or other knitted goods, the combination with the needle-carriers a^1 , of the rail b^1 , the shaft k^1 , the taper levers f^1 , and the tappets c^1 , substantially as and for the purposes herein set forth. 6th. In apparatus for narrowing or reducing in the manufacture of hose or other knitted goods, the combination with the needle-carriers a^1 , of springs such as h^1 , the projections i^1 , on the needle-carriers and the adjustable stops j^1 , substantially as herein set forth.

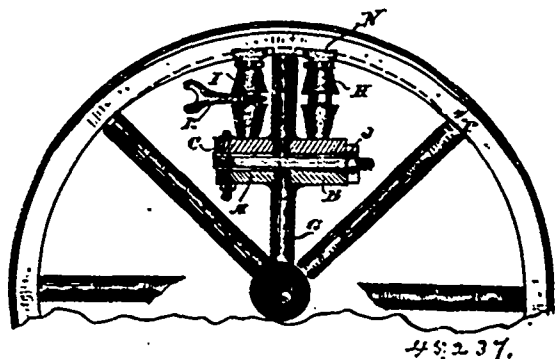
No. 45,236. Runner for Vehicles.
(*Patin de voitures.*)



Gideon Madeau, Marinette, Wisconsin, U.S.A., 5th February, 1894; 6 years.

Claim.—1st. A runner attachment for baby carriages, or other light vehicles, consisting of a piece of resilient material detachably connected to the wheels, and hooks for locking said wheels, substantially as and for the purposes described. 2nd. A runner attachment for baby carriages or other light vehicles, comprising a plate of resilient material broadened and rounded in the centre as at a , hooks connecting the central portion of the wheels, and slips securing the outer ends to the rims of the wheels, substantially as and for the purposes described. 3rd. A runner attachment for baby carriages or other light vehicles, comprising a plate of resilient material curved up in the centre as at a , and having narrow ends b , bent over as at f , a rivet d , across said curved central portion, hooks c , secured to said rivet and adapted to engage in the wheels, and spring clips g , adapted to engage the rims of the wheels, substantially as and for the purposes described.

No. 45,237. Tire Tightener. (*Lien de jante.*)

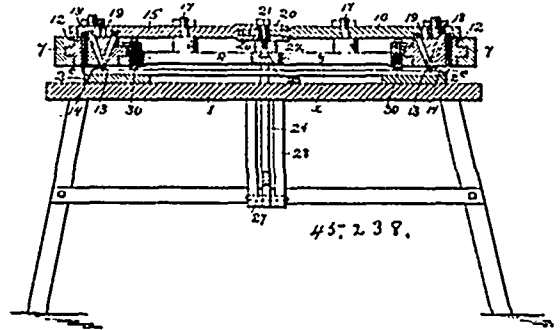


William Henry Kirby and John Plews, both of Vancouver, British Columbia, Canada, 5th February, 1894; 6 years.

Claim.—1st. The combination of clamps A and B , with turn-buckles H and I , right and left hand screws L and M , substantially

as and for the purposes hereinbefore set forth. 2nd. The combination of adjustable bolt C , and swing bolt J , with clamps A and B , substantially as and for the purposes hereinbefore set forth. 3rd. The combination of turnbuckles H and I , chair N with washer stamps O , substantially as and for the purpose hereinbefore set forth.

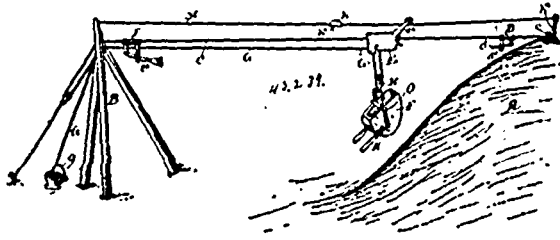
No. 45,238. Machine for Making Barrels and Casks.
(*Machine pour la fabrication de barils et tonneaux.*)



The Campbell Barrel Machine Company, assignee of Henry Campbell, all of Baltimore, Maryland, U.S.A., 5th February, 1894; 6 years.

Claim.—1st. In a crozing machine, the combination with the crozing devices, of a presser for flattening the staves, substantially as set forth. 2nd. The combination of a crozing tool, a guide for the same movable towards and from the stave, and a presser carried by the guide and adapted to flatten the stave, substantially as set forth. 3rd. The combination of a crozing tool, a guide for the same a presser carried by said guide, and means for permitting the motion of the guide towards the presser, substantially as set forth. 4th. The combination of a frame movable towards and from the stave, and having guides, a plurality of crozing tools mounted in said guides, and mechanism carried by the frame for simultaneously reciprocating said tools, substantially as set forth. 5th. The combination of the guides 7 , the connecting frame 8 , the crozing tools in said guide, the levers 15 , 16 , the slide 22 , the guide 23 , and the lever 24 , and means for depressing the guides 7 , substantially as set forth. 6th. In a crozing machine, the combination of a shaft, crozing cutters for each end of the stave actuated by said shaft, and clamps for the ends of the stave, substantially as set forth. 7th. In a crozing machine, the combination of the heads having rests or supports for the stave, radially movable clamp adapted to hold the stave against such rests, a shaft, and crozing cutters carried thereby, substantially as set forth. 8th. In a crozing machine the combination of plates or heads having rests for the convex ends of the stave, clamps radially movable to secure said ends, a shaft having crozing cutters, and means for operating said clamps and shaft, substantially as set forth. 9th. In a crozing machine the combination of heads or plates having rests to prevent the outward movement of the stave, stops for the rear edge of the stave, a shaft having crozing cutters operating parallel with said heads, and adjusting devices for said stops, substantially as set forth. 10th. The combination of the heads, a shaft carrying crozing cutters and mounted in said heads, radially movable slides, clamps pivotally mounted on the slides, and rests for preventing the outward movement of the stave, substantially as set forth. 11th. The combination of the shaft carrying crozing cutters, clamps for the staves, and an oscillating part concentric with said shaft and adapted to operate said clamps, substantially as set forth. 12th. The combination with the shaft 37 , of means for holding the stave, and the arms 50 of said shaft and carrying crozing cutters, substantially as set forth. 13th. The combination with the shaft 37 , of means for holding the stave, and the arms 50 on said shaft and carrying crozing cutters 54 , 55 , the howeling cutter 56 , the cutter 58 for the climb, and the cutter 59 for the chamber, substantially as set forth. 14th. The combination of the shaft carrying crozing cutters, clamps for the stave, and an oscillating part concentric with said shaft and adapted to operate said clamps and bearings for supporting said oscillatory part independently of the shaft, substantially as set forth. 15th. In a crozing machine the combination of heads or plate having rests to prevent the outward movement of the stave, stops of relatively soft material for the rear edge of the stave, and crozing cutters operating parallel with said heads, substantially as set forth. 16th. In the method of making barrels, performing the crozing operation upon the staves individually or before said staves are combined in the barrel, and making the crozes of variable depths according to the varying thickness of the staves, substantially as set forth. 17th. In the method of making barrels, performing the crozing operation upon the staves individually and before they are combined in the barrel by first flattening the staves and then forming the crozes in a straight line across the same of variable depth according to the varying thicknesses of the staves, substantially as set forth.

No. 45,239. Excavating and Conveying Machine.
(Machine à creuser et transporter.)

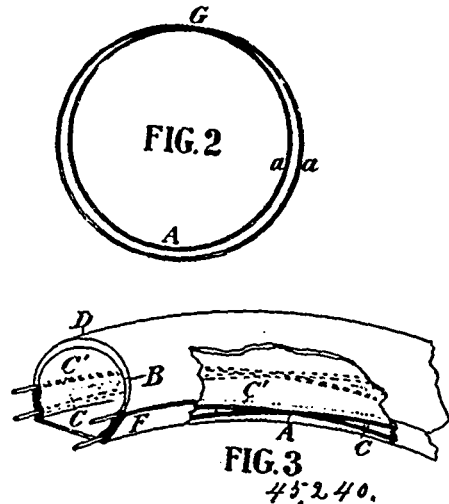


Daniel Irving Calhoun, Chicago, Illinois, U.S.A., 5th February, 1894; 6 years.

Claim.—1st. The combination with a scraper made up of two side pieces and a casing fastened to and connecting the lower and rear edges of the side pieces, of a transverse bar adapted to rest upon the upper edge of the scraper, two bars having their front ends fastened to the ends of said transverse bar and their rear ends pivoted to the side pieces of the scraper at points in rear of their centres of gravity and approximately midway between their upper and lower edges, latches pivoted to the side pieces and adapted to lock the transverse bar near the front end of the scraper, and means substantially as shown and described for operating the latch and releasing the bar. 2nd. The combination with a scraper made up of approximately triangular side pieces, and a casing having its front edge fastened to each of said triangular side pieces at its vertex and extending back along one side and about the base of each of said triangles, of a transverse bar adapted to rest upon and across the upper edges of said side pieces near their front ends, two bars fastened to the ends of said transverse bar and having their rear ends pivoted to the side pieces at points in rear of their centres of gravity and approximately symmetrical with reference to the upper and lower edges thereof, latches pivoted to the two side pieces, respectively, and adapted to lock the transverse bar near the front edge of the scraper, and a swinging lever pivoted to the scraper and adapted by a given movement to actuate the latches and release the bar. 3rd. The combination with a scraper made up of the approximately triangular side pieces *F, F*, having their rear ends curved substantially as shown, and the casing *F'*, extending along one side and about the rear end of each of the side pieces, of the transverse bar *O*, the bars *O O*, joined to the bar *O*, and pivoted at their rear ends to the side pieces at points in rear of their centres of gravity and approximately at the centres of their curved rear edges, the latches *P P*, pivoted to the side pieces and having hooks *P¹, P¹*, adapted to engage the bar *O*, springs tending to hold the latches in engagement with the bar *O*, and the pivoted lever *Q, Q¹, Q²*, engaging the latches and adapted when rocked through a given angle to disengage the latches from the bar *O*, substantially as shown and described. 4th. The combination with the scraper formed substantially as described, of the bars *O, O, O*, pivoted to the scraper, the latches *P, P, P¹, P¹*, the locking lever *Q*, adapted to actuate the latches, the cable *C*, a suitable carriage mounted on the cable and adapted to support and convey the scraper and the stop made up of a tube *T*, clamped upon the cable, depending arms *t¹, t²*, swinging upon the tube, a bar *t³*, supported by the arms and lying beneath the cable and a plate or plates *t⁴*, forming the broad front end of the bar and adapted to serve as a stop for the lever *Q*, and thereby to rock the lever and release the bar *O*. 5th. The combination with the scraper formed, substantially as described, and having the bars *O, O, O*, locking latches *P, P*, and swinging lever *Q*, of the cable *C*, and carriage *E*, and the stop made up of the tube *T*, locked to the cable, the swinging arms *t¹, t²*, the bar *t³*, pivoted to the arm *t²*, and vertically adjustable in the arm *t¹*, and the plates *t⁴*, fastened to the end of the arm and formed with slots *t⁵*, whereby their front ends may be vertically adjusted, the entire stop being adapted to arrest and swing the lever *Q*, and thus to release the bar *O*, substantially as shown and described. 6th. The combination in a hoisting and conveying mechanism, of a suitably supported cable stretched between the loading and unloading points, a carrier adapted to run upon said cable, a locking device at the loading point, means upon the carrier for automatically engaging with said locking device when the carrier reaches the loading point, a pulley upon the carrier, a cable running from the unloading point over said pulley and suspending beyond the same a frame adapted to support a scraper, mechanism upon the carrier in position to engage with said frame when the latter is drawn to the carrier by the cable, suitable devices for automatically locking said frame to the carrier, and, at the same time, unlocking the carrier from the locking device at the loading point when the frame is pulled into engagement with said mechanism, and a tripping device located at some intermediate point between the loading and unloading points and adapted to trip the mechanism upon the carrier upon the passage of the latter toward the loading point and thereby disengage the frame from said carrier before the latter reaches the locking device at the loading point and takes its position for loading, substantially as described. 7th. The combination in a device of the class described, and with the cable *C*, its locking stop at the

loading point, the carrier *E*, and its working devices, of the cable *H*, an intermediate stop carried thereby, a projecting arm fastened to the carrier *E*, and a roller upon said arm properly located to space the two cables apart, substantially as described.

No. 45,240. Tire for Vehicle Wheels.
(Bandage de roue de voiture.)



Robert Scott Anderson, Toronto, Canada, 5th February, 1894; 6 years.

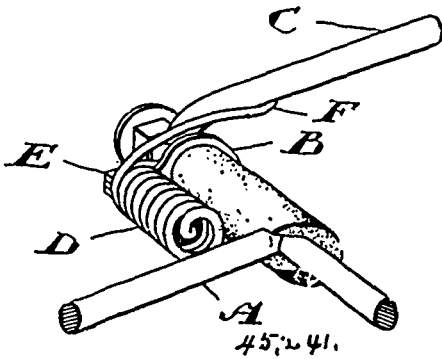
Claim.—1st. The combination, in a vehicle wheel of a tire having an inflatable core, with wires or metal bands having interchangeable or reciprocating parts, all substantially as set forth. 2nd. The combination, in a vehicle wheel of a tire having an inflatable core with an inner circumference or lining having pockets or recesses which intersect and are co-existent at one or more points, substantially as described. 3rd. In a vehicle wheel in combination with an inner inflatable core, a tire sheath having an inner circumference or lining with peripheral pockets or recesses intersecting and co-existing with each other at one or more points containing wires or bands coiled or so arranged that their parts will interchange or reciprocate and secure the tire on the rim by the enlarging radially, i.e., from the axis of the wheel of the tire from the expansion of the inner inflatable core, substantially as described. 4th. In a vehicle wheel a tire sheath its inner circumference having peripheral wires or metal bands which reciprocate or interchange their parts and tighten upon the wheel rim by the filling out and enlarging radially, i.e., from the axle of the wheel of the outer circumference of the tire sheath to which outer circumference the inner circumference is in a manner so connected that the peripheral wires or metal bands will interchange and reciprocate their parts and tighten the tire upon the filling out or enlarging radially of the outer circumference in combination with the inner inflatable core which fills out the tire sheath and radially enlarges its outer circumference, substantially as set forth. 5th. In a vehicle wheel a tire sheath having along and near its inner circumference wires or metal bands coiled or so arranged as to pass each other at one or more points in pockets or recesses which are intersecting and co-existing at one or more points such wires or metal bands extending around and near the entire inner edge of each side of the inner circumference of the tire sheath in combination with an inner inflatable core which fills out and radially enlarges the circumference of the tire sheath thereby causing the peripheral wires or metal bands to reciprocate or interchange their parts so as to tighten the wire upon the rim of the wheel, substantially as described. 6th. In a vehicle wheel in combination with the rim and the inflatable core a tire sheath with an inner and an outer circumference said inner circumference having interchangeable and reciprocating wires or metal bands in pockets or recesses which intersect and co-exist at some one point which will tighten and loose these reciprocating or interchangeable parts on the rim upon the inflation or deflation of the core, substantially as described.

No. 45,241. Spring for Carriage Tops.
(Resort pour soufflets de voiture.)

Daniel Conboy, Toronto, Ontario, Canada, 5th February, 1894; 6 years.

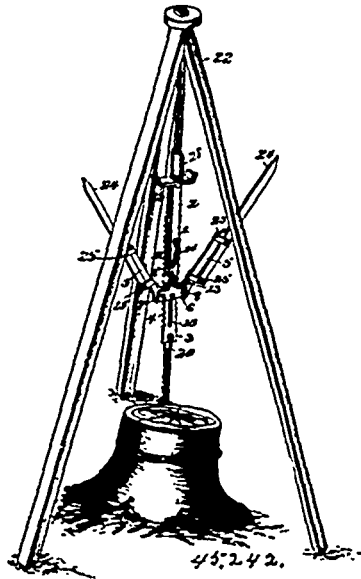
Claim.—1st. In a carriage top, a spring located in front of the pivot of the vertical brace and arranged to engage therewith, substantially as and for the purpose specified. 2nd. In a carriage top, a coiled spring arranged to engage with the vertical brace, which spring is suitably carried by a bracket connected with the rail and located in front of the pivot of the vertical brace, substantially as and for the purpose specified. 3rd. In a carriage top, a combined torsional and coiled spring arranged to engage with the vertical brace, which spring is suitably carried by a bracket connected with

the rail and located in front of the pivot of the vertical brace, substantially as and for the purpose specified. 4th. In a carriage top,



the sleeve G, in combination with the spring B, composed of a torsion *b* connected at one end to the sleeve G, and extending through the same, and of a coiled part arranged outside the said sleeve and terminating at or near the point of connection of the part *b*, substantially as and for the purpose specified. 5th. In a carriage top, the sleeve G, connected with the rail in combination with the spring B, composed of a torsion part *b* connected at one end to the sleeve G, and extending through the same, and of a coiled part arranged outside the said sleeve and terminating at or near the point of connection of the part *b*, in an arm engaging with the vertical brace C, substantially as and for the purpose specified.

No. 45,242. Hoisting Device. (Arrache-souche.)



Henry Hagelstein, San Angelo, Texas, U.S.A., 5th February, 1894; 6 years.

Claim. 1st. In a lifting device, the combination of a casing provided with lateral extensions having trefoil-shaped bearing openings consisting of triangularly arranged recesses, a longitudinally movable rack-bar provided at its sides with the teeth and slidingly mounted in the casing, and the operating levers journaled in the bearing openings and provided with segmental heads having teeth meshing with those of the rack-bar, substantially as described. 2nd. In a lifting device, the combination of a casing, a rack-bar slidingly mounted in the casing and provided with teeth, an operating lever journaled on the casing, and having a segmental head provided with teeth engaging the rack-bar; an inclined rectangular pawl pivoted to the casing and engaging the teeth of the rack-bar, a spring for holding the pawl in such engagement, and a cam lever fulcrumed on the casing, and arranged to engage the pawl to move the latter outward, substantially as described.

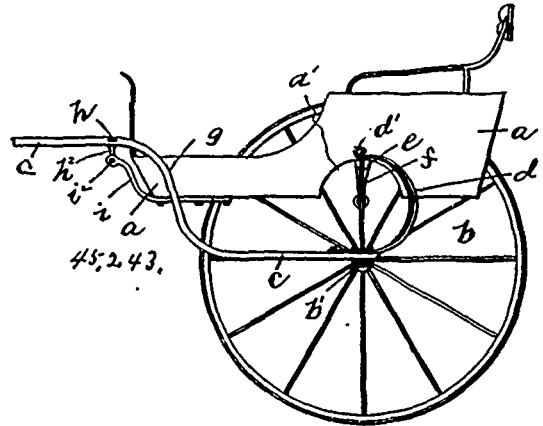
No. 45,243. Two-wheeled Vehicle.

(Voiture à deux roues.)

Fred Paul, Grasscup, Charleston, West Virginia, U.S.A., 5th February, 1894; 6 years.

Claim.—1st. In a two-wheeled vehicle the combination with the vehicle body, wheels and axle, of a transverse half elliptical spring *c*,

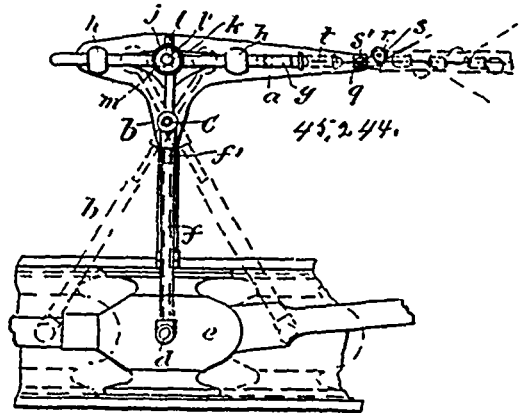
depending as described from said body C, springs *d* rising from the axle or shafts, a link or hook jointed connection between the ends of



said transverse and C springs and a jointed connection of the forward end of said body with the shaft cross-bar, substantially as and for the purpose specified. 2nd. In a two-wheeled vehicle the combination with the body, the wheels and axle, of the transverse half elliptical spring *c* depending from said body as described, C springs *d* rising from said axle, a jointed connection as described between the ends of said transverse and C springs, body arms *i* projecting in front of said body, shafts *e*, a cross-bar therefor, a bale depending from said cross-bar and a jointed connection between the ends of said bale and said body arms, substantially as and for the purpose specified.

No. 45,244. Engine Stroke Reducer.

(Régulateur de mouvement de va et vient de machine.)

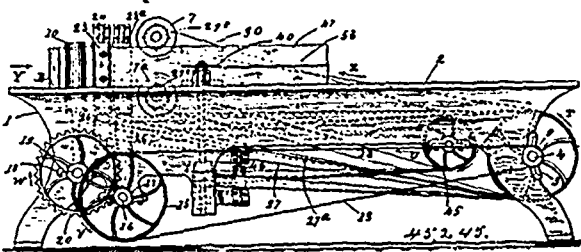


James Wright, Montreal, Quebec, Canada, 5th February, 1894; 6 years.

Claim.—1st. As an engine stroke reducer, an intermediary, between the moving part of the engine and the connections leading to the indicator in the form of a slide rod and lever for transmitting to such slide rod the motion of said moving part of the engine at the same velocity ratio of motion notwithstanding variations in the positions of the acting points on the lever. 2nd. In an engine stroke reducer, the combination with a suitable frame or standard, of a slide rod, connections leading from it to the indicator, and a lever pivoted to said frame or standard and having a sliding and rocking connection with the slide rod, the lever being connected with the moving part of the engine and variable in length to allow of its oscillation at different angles to the lines of motion of the moving part and slide rod, and the slide rod being arranged in such position relatively to the line of reciprocation of the moving part of the engine that the velocity ratio of motion of the acting points are constant and invariable. 3rd. In an engine stroke reducer the combination with a suitable frame or standard, of a slide rod, connections leading from it to the indicator, and a lever pivoted to said frame or standard and having a rocking sliding connection with the slide rod, the lever being connected with the moving part of the engine and variable in length to allow of its oscillation at different angles to the lines of motion of the moving part and slide rod and the slide rod being arranged in such position relatively to the line of reciprocation of the moving part of the engine that the velocity ratio of motion of the acting points are constant and invariable. 4th. In an engine stroke reducer, the combination with a suitable frame or standard as *a*, having guides *h h*, slide rod *g*,

carried and movable in said guides and having a perforated boss *j*, connections leading from such slide to the indicator, the rocking or pivotal shaft *l*, having perforations *m*, and provided with stem *l'*, fitting the perforated boss *j* of the slide rod, lever *b* fulcrumed upon said frame *a* at *c*, and having one of its ends working in the perforation *m* of the pivotal shaft *l*, while the opposite end is made variable in length by means of telescoping parts *f f'*, and a pivotal connection of the part *f* with the moving part of the engine as shown and for the purpose set forth. 5th. In an engine stroke reducer, the combination with frame *a*, and the parts for operating the line *t* leading to the indicator, of the standard *q*, guide sheave *r*, and carriers adjustably mounted in such standard with means for holding it in place.

No. 45,245. Machine for Making Clothes Pins.
(*Machine pour faire les épingles à linge.*)



Alexander Read, Buffalo, New York, U.S.A., 5th February, 1894; 6 years.

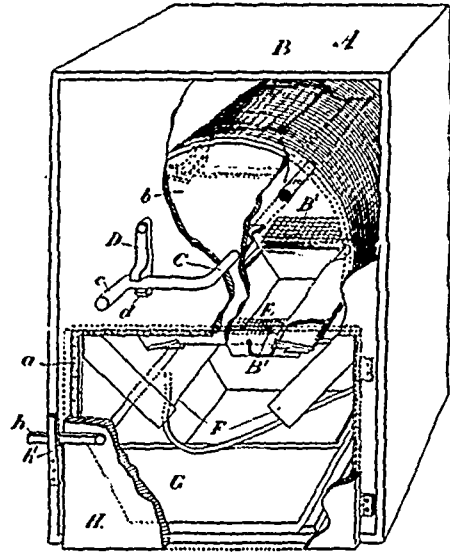
Claim.—1st. In a machine for making clothes pins, the combination with the supporting frame of an enclosing and guiding case to receive and hold the blank in position as it passes through the machine, feed rollers and means for giving them their proper rotating movements, for carrying the blank into said case, cutters and belts for giving them their necessary rotating movements, for planing both sides of the blank at substantially the same time to give the desired outside form to the clothes pins, two circular saws and means for driving them, one located so as to cut centrally down through the top edge of the blank, and the other adapted to cut centrally up through the lower edge of the blank, for the purpose of forming the slots in the pins, cutters connected with said saws for widening said slots at the opposite edges of the blank, a horizontal circular saw connected by belts with the driving pulley for driving it, for cutting the blank in two parts, and a horizontal table for keeping said parts away from the saw as they pass out of the machine, substantially as described. 2nd. In a machine for making clothes pin blanks, the combination with the feed rollers, cutters and saws and means for giving each their proper rotating movements, of an enclosing case having a plane rectangular opening adapted to receive the clothes pin blank before being planed, openings through each side to allow the feed rollers to reach and feed the blank forward and openings on each side to allow the cutters to act upon the blank as it is being fed in and planed to the proper form, the case opening being formed after passing the cutters, to conform to the shape of the planed clothes pin blank, openings to receive the upper and lower saws, ribs at the top and bottom of said opening adapted to fit into and hold the upper and lower edges of the blank as it is passing through, a central opening through the sides for the horizontal saw that divides the blank, and a table for separating the blanks, substantially as described. 3rd. In a machine for making clothes pins, the combination with the machine supporting frame, of two vertical feeding rollers, means substantially as above described for giving them their required feeding movements, two vertical rotary cutters for planing the sides of a clothes pin blank, belts connecting with the pulleys on the cutter shafts and with a driving pulley for rotating them, two vertical circular saws for cutting the slots in two opposite edges of the clothes pin blank, and belts for connecting their pulleys with the driving pulley for running them, means for chamfering the inner edges of the blank, a horizontal circular saw for dividing the blank in two parts, means for rotating said saw and an enclosing case having a guiding passage for securing and holding the blank in its proper position while passing through, substantially as described.

No. 45,246. Cinder Sifter. (*Crible à cendres.*)

Adoniram Henderson, Toronto, Ontario, Canada, 5th February, 1894; 6 years.

Claim.—1st. In a cinder sifter, the combination with the completely enclosed wire screen for the most part cylindrical in shape, and provided with segmental ends, and a flat side suitably journaled in the case, of an ash pan secured in the flat side, and means for reversing the screen and imparting a vibratory movement thereto, as and for the purpose specified. 2nd. The combination with the wire screen *B*, attached to the segmental ends *b*, and provided with a central spindle *C* journaled in the case *A*, and having a crank handle *c*, of the boards *B'*, ledges *b'*, and pan *E*, as and for the purpose specified. 3rd. The combination with the wire

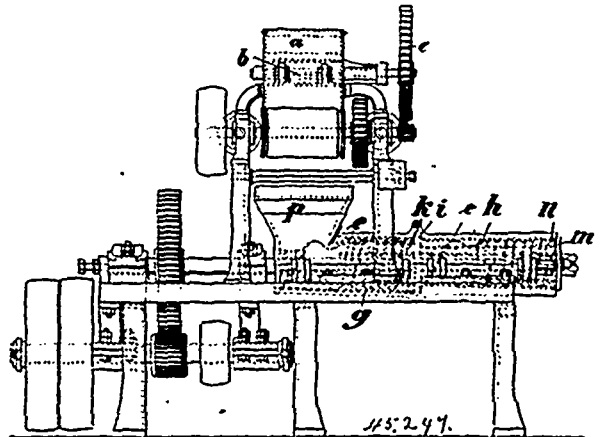
screen *H* attached to the segmental ends *b*, and provided with a central spindle *C*, journaled in the case *A*, and having a crank



45,246.

handle *c*, of an opening closed by a pan *E*, suitably supported on ledges *b'*, and the link *D*, provided with jaws *d*, designed to fit over the crank handle, as and for the purpose specified. 4th. The combination with the wire screen *B*, attached to the segmental ends *b*, and provided with a central spindle *C* journaled in the case *A*, and having a crank handle *c*, of an open wire screen ends to such opening forming part of the main wire screen, and a pan to close the opening, as and for the purpose specified. 5th. The combination with the wire screen *B*, attached to the segmental ends *b*, and provided with a central spindle *C*, journaled in the case *A*, and having a crank handle *c*, of an opening closed by a pan *E*, suitably journaled on ledges *b'*, and the hopper *F* and receptacle *G*, arranged as and for the purpose specified. 6th. The combination with the wire screen *B*, attached to the segmental ends *b*, and provided with a central spindle *C*, journaled in the case *A*, and having a crank handle *c*, of an opening closed by a pan *E*, suitably supported on ledges *b'*, and the door *H* hinged at the bottom portion of the casing, and having a felt strip *a* situated behind it on the edges of the opening closed by the door, as and for the purpose specified.

No. 45,247. Process of and Apparatus for the Production of Dough from Cereals. (*Procédé et appareil pour la production de la pâte des céréales.*)



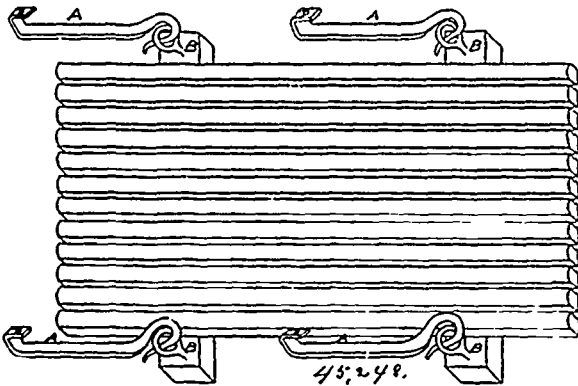
45,247.

Ferdinand I. Gelinck, Riga, 5th February, 1894; 6 years.

Claim.—1st. The process of producing dough directly from grain, consisting in crushing the grain, crushing up the coarser particles not crushed, screening the material, and again crushing the unscreened material, substantially as set forth. 2nd. The process of preparing dough directly from grain, consisting in preliminarily crushing the grain, after it has been properly washed and soaked, then again crushing or reducing the mass, and then separating the finer from the coarser particles, and moving the coarse or unscreened material backwards and forwards to subject it

to repeated crushings, until every part thereof is sufficiently reduced, substantially as set forth. 3rd. The herein described apparatus for preparing dough directly from grain, consisting of a pair of preliminary crushing rolls, a casing into which the crushed material passes, said casing having ribs on its inner surface, a screw or worm inside the casing, acting conjointly with the ribs to further reduce the material, and a screen attached to the casing and through which the fine material is forced, substantially as set forth. 4th. The herein described apparatus for preparing dough directly from grain, consisting of a casing adapted to receive material, and having beads or projections terminating in flat ribs, a screw or worm in the casing adapted to act conjointly with the ribs to reduce the material, said material being moved backward by the beads or projections and brought forward again by the screw and a screen attached to the casing and through which the fine material is forced, substantially as set forth. 5th. The herein described apparatus for preparing dough directly from grain, consisting of a casing adapted to receive material, and having ribs on its inner surface, two screws or worms in the casing adapted to act conjointly with the ribs to reduce the material, a screen located between the two screws or worms, and a screen at the end of the casing having finer perforations than the first screen, substantially as set forth. 6th. The herein described apparatus for preparing dough directly from grain, consisting of a casing adapted to receive material and having ribs on its inner surface, a screw or worm inside the casing, acting conjointly with the ribs, a screen attached to the casing, and a rotating cutter located between the screw and the screen, substantially as set forth.

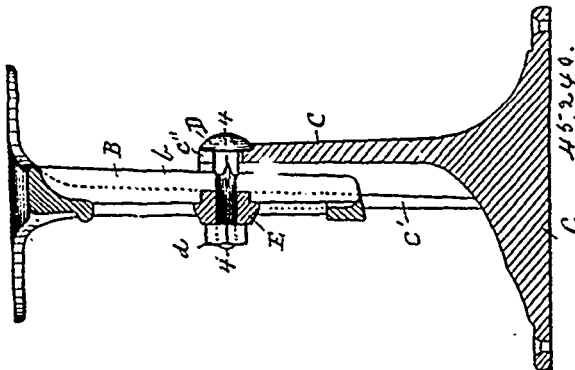
No. 45,248. Apparatus for Making Cheese.
(Appareil pour la fabrication du fromage.)



Robert T. Beckett, Kemptville, Ontario, Canada, 5th February, 1894; 6 years.

Claim.—1st. The combination of the curd rack and the hooks and pendants by which the curd rack is attached to the milk vat, substantially as and for the purposes hereinbefore set forth. 2nd. The combination of the curd rack and coarse linen cloth, and the attachments of same to the vat, substantially as and for the purposes hereinbefore set forth.

No. 45,249. Support for School Furniture.
(Support pour meubles d'écoles.)

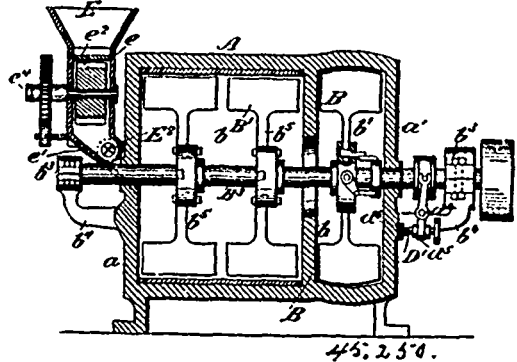


Thomas Russell Roulstone, Somerville, Massachusetts, U.S.A., 5th February, 1894; 6 years.

Claim.—1st. An adjustable support for school furniture consisting of a base portion C, having vertical guides C¹, and a notch C¹¹ at its upper end, a shank B having a vertical slot b, guide ribs B¹, and vertical lips or ledges B², a clamping bolt D, detachably fitting

within the notched upper end of the base portion and extending through the vertical slot in the shank, a washer E bearing against the vertical lips or ledges of the shank, and a nut d engaging the bolt and bearing against the washer, substantially as described. 2nd. An adjustable support for school furniture consisting of a base portion C, having vertically tapering guides C¹, and a notch C¹¹ at its upper end, a shank B, having a vertical slot b, and tapering guide ribs B¹ fitting the tapering guides of the base portion, a clamping bolt D engaging the notched upper end of the base portion and extending through the vertical slot in the shank, a washer E bearing against the shank, and a nut d engaging the bolt and bearing against the washer, substantially as described. 3rd. An adjustable support for school furniture consisting of a base portion C, having vertical tapering guides C¹, a shank B, having a vertical slot and tapering guide ribs B¹ fitting the tapering guides of the base portion, and a clamping bolt engaging the base portion and extending through the vertical slot in the shank, substantially as described.

No. 45,250. Pulverizing Machine. (Moulin à broyer.)



John James Bordman, Brooklyn, New York, U.S.A., 5th February, 1894; 6 years.

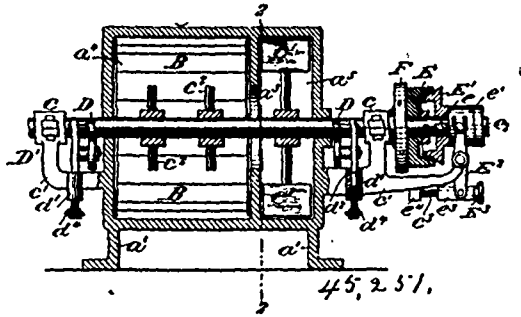
Claim.—1st. The combination, with a cylinder, the beaters and a fan, of a feed chute leading into said cylinder, a damper regulated air inlet formed directly in a portion of said chute, the rotary feeder in the chute, the ratchet-wheel on the shaft of the feeder, the lever having a pawl engagement with the ratchet-wheel, the crank-wheel and the link connecting said crank-wheel and lever. 2nd. The combination, with the cylinder, the driving shaft and the beaters, of the fan blades having their arms seated in sockets in a hub on the driving shaft, levers extended from said arms, a sleeve longitudinally movable on the shaft, links connecting said levers to said sleeve and means for moving the sleeve longitudinally of the shaft. 3rd. The combination, with the cylinder, having the chambers and beaters and a driving shaft, of the fan blades having their arms rotarily seated in sockets formed in a hub fixed to the shaft, levers extended from said arms, a sleeve on the shaft, links connecting said arms and sleeve, another sleeve on the shaft outside the cylinder, a connection between said two sleeves, a yoke lever engaging with the outer sleeve, and the hand screw for rocking the yoke lever to move the sleeves on the shaft to adjust the fan blades. 4th. In a pulverizer, the cylinder, consisting of a lower or fixed portion and an upper or cover portion hinged to the lower portion and a handle on the upper portion. 5th. The combination, with a cylinder, having a beater chamber and a fan chamber, of a feed chute and an air inlet communicating with said chute. 6th. The combination, with a cylinder having chambers, beaters in one of said chambers, a feed chute communicating with the beater chamber and a damper controlled air inlet communicating with said chamber through said chute. 7th. The combination, with the cylinder and the beaters, of a feed chute comprising two sections, one movable relatively to the other and a rotary feeder in a portion of said chute. 8th. The combination, with a rotary shaft, of the beater arms extended therefrom and having oppositely extended fingers at the outer end, the beater blades having the lugs and fastening bolts.

No. 45,251. Pulverizing Machine. (Moulin à broyer.)

John James Bordman, Brooklyn, New York, U.S.A., 5th February 1894; 6 years.

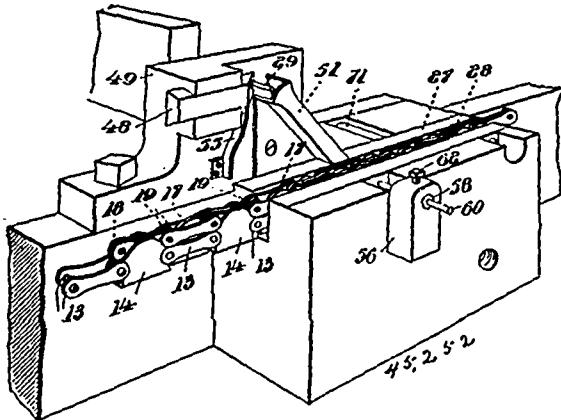
Claim.—1st. The combination with a pulverizing cylinder of a lining therefor consisting of strips of suitable material, and segmental plates adapted to be secured to end walls of the cylinder and hold the lining strips in place, substantially as and for the purpose hereinbefore set forth. 2nd. The combination with a pulverizing cylinder, of the lining strips having the notches, and the segmental securing plates having the lugs adapted to engage in said notches, substantially as and for the purpose hereinbefore set forth. 3rd. In a pulverizing machine, the combination with a beater shaft, of the lateral rollers, the lower bearing rollers, the vertically adjustable frames carrying said rollers and having a stem portion extended into fixed sockets and the adjusting screws in said sockets, substantially as and for the purpose hereinbefore set forth. 4th. In a pulverizing

machine, the combination with a driving shaft, of the clutch comprising two sections, a counterbalancing mechanism attached to one



section, and a screw operated lever for adjusting the other section relatively to the first named section, substantially as and for the purpose hereinbefore set forth.

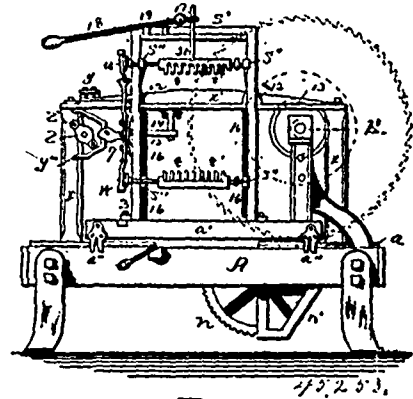
No. 45,252. Machine for Making Cable Chains.
(Machine pour la fabrication de câble-chaîne.)



Frederick Egge, Bridgeport, Connecticut, U.S.A., 5th February, 1894; 6 years.

Claim.—1st. In a machine for manufacturing cable chains, the combination with means for feeding the chain links assembled in proper relative position, of appliances for cutting off the rivets and delivering them into proper position relative to the links, the mechanism for inserting the rivets within said links, and means for forming heads on the ends of the rivets so inserted, substantially as set forth and described. 2nd. In a machine for making cable chains, the combination of automatically controlled mechanism for feeding the chain links properly assembled preparatory to riveting, for inserting the rivets within said links, for heading said rivets after such insertion, and for suspending the operation of the rivet inserting and heading mechanism during the feeding of the links, substantially as set forth. 3rd. The herein described means for carrying the chain links, comprising a chain like the article to be manufactured, said chain having two ears rising between the adjacent ends of the outer links, and single ears rising between the adjacent ends of the inner links, substantially as set forth. 4th. The combination of the carrier chain provided with ears, as described, whereby the chain links may be properly assembled on said carrier, the guide block having a channel within which the links thus assembled are carried, means for intermittently feeding said carrier chains, means for inserting the rivets within the links while the latter are stationary within the guide block, and means for simultaneously heading previously inserted rivets, substantially as shown and described. 5th. The combination of the guide block having therein a channel for the passage of the chain links, and provided with perforations leading into said channel from opposite sides thereof, the chute whose bottom is in alignment with said perforations, means for feeding the wire to a point immediately over the mouth of the chute, and devices for cutting off said wire into rivets which drop into said chute, substantially as set forth. 6th. The combination of the guide block having a channel for the passage of the carrier chain, and the links superimposed thereon and provided with perforations leading in alignment with each other into said channel from opposite sides of the block, the reciprocatory slide carrying pins in alignment with said perforations, means for delivering the rivets in front of one of said pins, and mechanism for actuating said slide whereby the pins will successively enter the pierced holes in the links to bring them into proper alignment and to insert the rivets, substantially as shown and described.

No. 45,253. Machine for Making Shingles.
(Machine à faire le bardeau.)

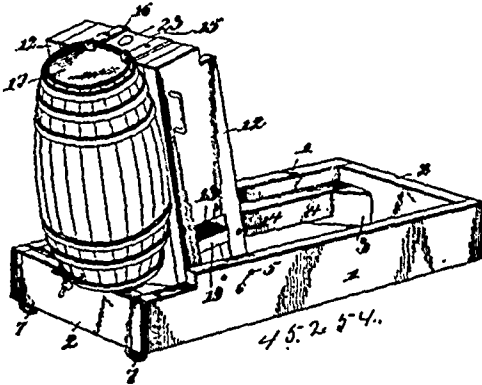


A Bertsell Ireland, Greene, New York, U.S.A., 6th February, 1894; 6 years.

Claim.—1st. The combination with the pulley, grooved interiorly in its rim, and the arbour upon which it is loosely mounted, of a sleeve and a pinion loose upon the arbour, sockets hinged to the sleeve, friction blocks adjustably mounted in the sockets and adapted to engage with the groove in the pulley rim, a yoke connected to said sleeve, and a lever mechanism connected to said yoke and operating to reciprocate said sleeve upon the arbour. 2nd. The combination with the pulley, grooved interiorly in its rim, the arbour upon which it is loosely mounted, and a ring secured upon the arbour and bevelled inwardly upon its inner end, of a sleeve and a pinion bevelled outwardly and connected together, sockets hinged to the sleeve, friction blocks adjustably mounted in them and adapted to engage with the groove in the rim of the pulley, a yoke connected to said sleeve and a lever mechanism connected to said yoke and operating to reciprocate said sleeve and pinion upon said arbour. 3rd. The combination with the traversing table, and the rotating feed-dogs mounted thereon, of the lever provided with pawls, the ring secured to the shaft carrying the feed-dogs, and with which said pawls intermittently engage, and means to operate the lever. 4th. The combination with the traversing table, and the rotating feed-dogs mounted thereon, the rings secured upon their shafts, the levers provided with pawls intermittently engaging to rotate said dogs, auxiliary levers adjustably connected to said levers, and provided with arms, and a wedging plate with which said arms engage. 5th. In a shingle machine, the combination with the bolt-dogs, a hanger connected to the frame, an arbour journaled therein, an eccentric upon said arbour, a wedging plate upon said eccentric, and means to rotate said eccentric to automatically raise and lower said plate, in combination with the bolt-dogs and the traversing bolt carrying table. 6th. In a shingle machine, a hanger connected to the frame, an arbour journaled therein, an eccentric upon said arbour and means to adjust it to vary its throw, a wedging plate upon said eccentric, and means to rotate said eccentric to raise and lower said plate, in combination. 7th. In a shingle machine, a hanger connected to the frame, an arbour journaled therein, an eccentric adjustably connected to said arbour, a wedging plate upon said eccentric, a spring engaging with said arbour, and means to rotate said eccentric to reciprocate said plate vertically, in combination. 8th. In a shingle machine, a hanger connected to the frame, an arbour journaled therein, an eccentric adjustably connected to said arbour, a wedging plate upon said eccentric, a spring engaging with said arbour, and an oscillating lever connected to said eccentric and means to oscillate the lever, in combination. 9th. In a shingle machine, a hanger connected to the frame, an arbour journaled therein, an eccentric adjustably connected to said arbour, a vertically reciprocating wedge plate upon said eccentric and an oscillating lever connected to said eccentric, in combination with auxiliary levers adapted to engage with said oscillating lever and levers upon the feed dog shafts connected to said oscillating levers. 10th. In a shingle machine, an oscillating eccentric, a wedge plate vertically reciprocated by it, a traversing table, an arm upon said table, feed-dogs, and auxiliary levers operatively connected to them and intermittently engaging with said plate to rotate said dogs. 11th. In a shingle machine, a traversing table, a continuously rotating gear, a roller upon said gear, a link receiving said roller and pivoted upon a hanger supported by the bed, in combination. 12th. In a shingle machine, a traversing table in combination with a continuously rotating gear, a roller adjustably mounted upon said gear, and a link adjustably pivoted at one end and receiving said roller. 13th. In a shingle machine, the combination with the traversing table, of a gear rotating in one direction only, a pinion engaging with said gear and a drive pulley provided with a friction clutch, a link pivoted adjustably at one end, and connected to said table, and

a roller adjustably mounted upon said gear and fitting into and adapted to traverse said link by the rotation of said gear.

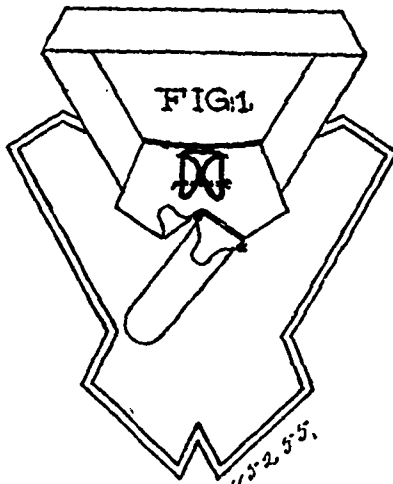
No. 45,254. Barrel Truck and Stand Combined.
(Chariot et support de barils combinés.)



Julius Fillman, Oakwood, Ohio, U.S.A., 6th February, 1894; 6 years.

Claim.—1st. In a barrel stand, the combination with opposite supporting side-bars provided at corresponding ends with ways, and at their opposite ends with a transverse stationary rest-bar, of a movable rest-bar mounted in the ways, chine-engaging plates extending from both bars, perforations formed in the rest-bars, a threaded shaft mounted in the perforations and provided with a head at one end, and a nut mounted on the opposite end of said shaft, substantially as specified. 2nd. The combination with the lower rectangular truck-frame provided at its opposite sides with horizontal cleats extending a portion of their length, and beyond the ends of said cleats with transverse perforations, of a superimposed rectangular barrel-supporting frame mounted upon the cleats and projecting beyond said cleats and provided with perforations aligning with those of the lower frame, and a transverse pivoted rod passed through the perforations of the two frames, substantially as specified. 3rd. The combination with the rectangular truck-frame, of a superimposed rectangular barrel-supporting frame, one end bar of which is adjustable, a rod passing through the adjustable end of the supporting frame, and means arranged in the truck-frame for supporting the supporting-frame, substantially as specified. 4th. The combination with the lower rectangular frame having the front cut away portion, and the internal horizontal cleats, of the superimposed stand-frame consisting of the opposite side bars slotted and pivoted to the lower frame, and at their rear ends overlapping the end bar thereof and resting on the cleats, the rear curved rest-bar having chine-embracing hooks, the movable rest-bar having chine-embracing cleats and reduced at its ends to engage the slots, and means for securing and adjusting said movable rest-bar, substantially as specified.

No. 45,255. Cravat Holder. (Porte-cravate.)

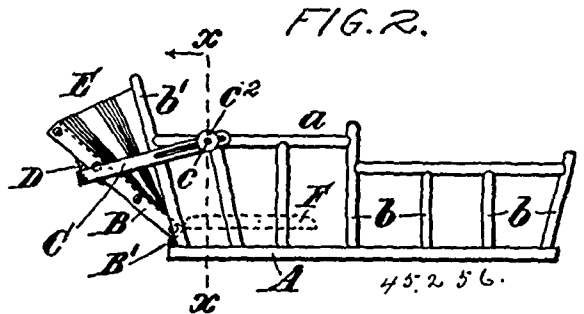


Johann Papiesz, 199 Linienstrasse, Berlin, Germany, 6th February, 1894; 6 years.

Claim.—1st. A tie-clip made from a single piece of spring wire or steel plate, which is fastened to the cravat without sewing by means

of side loops bent or stamped out, which are thrust through the material of the cravat and held fast by a bar or pin inserted through them at the back, substantially as described. 2nd. A tie-clip made from one piece of wire bent and secured to the tie or cravat, substantially as described with reference to Figs. 2 and 3, of the drawings. 3rd. A tie-clip suitable for turn-down collars formed from one piece of wire bent and secured, substantially as described with reference to figs 4 and 5 of the drawings. 4th. A tie-clip formed by stamping out of sheet metal, bent and secured, substantially as described, with reference to figs. 6, 7 and 8, of the drawings.

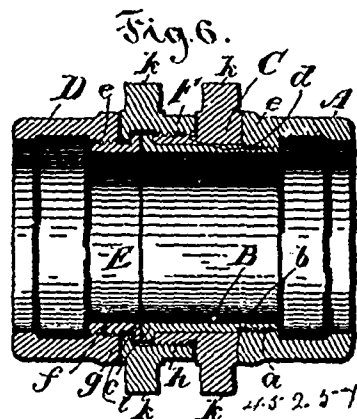
No. 45,256. Baby Carriage. (Voiture d'enfant.)



William Alfred Marqua, Cincinnati, Ohio, U.S.A., 6th February, 1894; 6 years.

Claim.—1st. In a baby carriage, the combination with the body, having vertical sides, of a tail-board or back hinged to said body, and a pair of flexible and collapsing side fillings or curtains E, interposed or stretched between said hinged-back and vertical sides, and connected at both ends thereto, substantially as and for the purpose specified. 2nd. In a baby carriage, the combination with the body, having upright side-pieces, of a back B, hinged at its lower edge or bottom, slotted sidestays or braces C, C', and thumb-screw fastening devices c, c', the latter engaging the slotted portions of said braces, and the said upright sides of the body, and the rear ends of said braces hinged or pivotally connected to ears D, on said back, substantially as herein set forth. 3rd. In a baby carriage, the combination with a body A, having vertical sides, of a hinged tail-board or back B, slotted stay-rods or braces C, C', thumb-screw for fastening-devices c, c', and flexible and collapsing fillings or side-curtains E, said stay-rods being hinged or pivotally connected at their rear ends to said back, and the curtains or fillings E, stretched between and connected at their opposite ends to the rear ends or posts of said sides of the body, and to said back B, respectively, substantially in the manner and for the purpose specified.

No. 45,257. Coupling for Fire Hose. (Joint de boyau.)



Orville Russell Sackett and John Pfetsch, both of Niagara Falls, New York, U.S.A., 6th February, 1894; 6 years.

Claim.—A coupling for fire hose, consisting of the sleeve B, and swivel section E, having exterior screw threads upon their outer ends and abutting flanges on their inner ends, collars A, D, connecting the screw threaded ends of the sleeve and swivel section, and the sections C, F, located between the collars and connected together by screw threads and abutting against the flanges upon the sleeve B, and section E, and held in place by the collars, and constructed to turn freely upon said sleeve and section, whereby a double swivel is provided, substantially as and for the purposes set forth.

No. 45,262. Pointer for Black-boards and Maps.

(Indicateur pour tableaux d'école et cartes.)



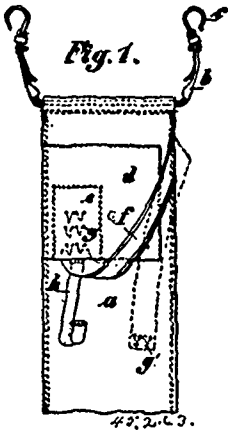
John George Walters and Benjamin S. Hallman, both of Berlin, Ontario, Canada, 6th February, 1894; 6 years.

Claim.—In a black-board and map-pointer, the combination of the rod A, formed with an annular rabbet b, at the end, a rubber tip B, formed conically and partially hollow, and cemented on the small end of the handle A, the whole constructed, substantially as and for the purpose specified.

No. 45,263. Lounge for Railway Carriages.

(Causèuse pour chars de chemin de fer.)

Leopold Glaser and Adalbert Kwiatkowski, both of Posen, Prussia, German Empire, 6th February, 1894; 6 years.



Claim.—1st. A portable lounge for use in railway carriages, consisting in a cloth a, having at its upper end hooks c, c, adjustable connection for said hooks, and means for supporting the head, substantially as described and shown. 2nd. The combination of the cloth a, having at its upper end adjustable hooks c, c, and having a band or strap f, for the support of the head, said band being adjustable in position by means of hooks g¹, g¹, and eyes g, g, on the cloth, a cushion d, on said cloth, and pocket e, underneath the same to conceal the eyes g, substantially as described and shown. 3rd. The combination of the cloth a, having at its upper end adjustable hooks c, c, and having a band or strap f, adjustable in its position by means of hooks g¹, and eyes g, on the cloth, a cushion d, on said cloth and pocket e, for the reception of the adjustable connection of the strap f, a second loop or band h, arranged below the cushion and straps k, k, at the back of said cloth for the purpose, substantially as described and shown.

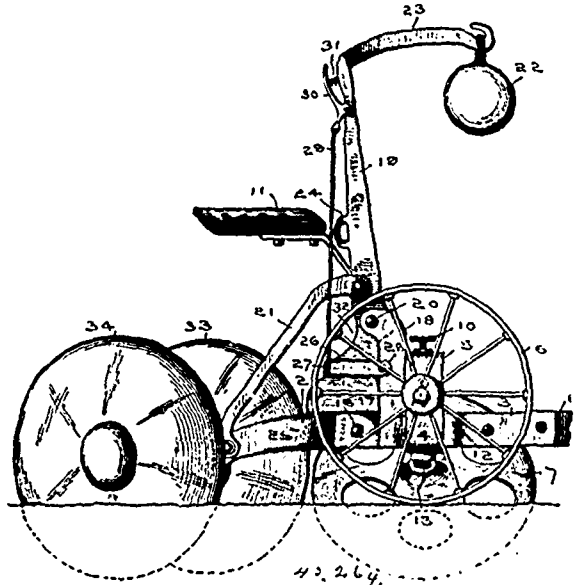
for the support of the head, said band being adjustable in position by means of hooks g¹, on the same, and eyes g, on the cloth, a cushion d, on the said cloth and pocket e, behind same for the reception of the adjustable attachment of the band f, and a second loop or band h, arranged below the cushion, for the purpose, substantially as described. 4th. The combination of a cloth a, having at its upper end adjustable hooks c, c, and having a band or strap f, adjustable in its position by means of hooks g¹, and eyes g, on the cloth, a cushion d, on said cloth and pocket e, for the reception of the adjustable connection of the strap f, a second loop or band h, arranged below the cushion and straps k, k, at the back of said cloth for the purpose, substantially as described and shown.

No. 45,264. Rotary Plough. (Charrue rotative.)

Lafayette D. Railsbach, Indianapolis, Indiana, U.S.A., 6th February, 1894; 6 years.

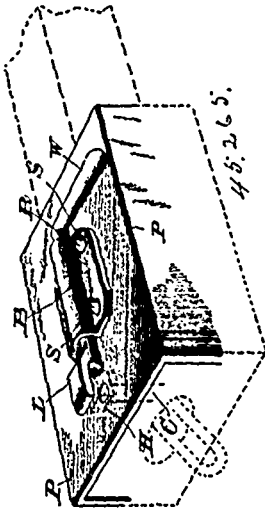
Claim.—1st. In a rotary disc plough, a beam on which the plough discs are pivoted to the plough frame, a hand lever pivoted to such frame and provided at its lower end with a bracing heel adapted to bear on and hold down the beam, and means for holding such bracing heel down on such beam, substantially as shown and described. 2nd. In a rotary disc plough, a beam on which the plough discs are carried pivoted to the plough frame, a hand lever pivoted to such frame and provided at its lower end with a bracing heel adapted to bear on and hold down the beam, and a stirrup pivoted to the frame and so embracing the heel of the hand lever as to hold it down, substantially as shown and described. 3rd. In a rotary disc plough, a beam on which the plough discs are carried pivoted to the plough frame, a hand lever pivoted to such frame and provided at its lower end with a bracing heel adapted to bear on and hold down the beam, a stirrup pivoted to the frame and so embracing the heel of the lever as to hold it down, and means of withdrawing the stirrup out of engagement with such bracing heel, substantially as shown and described. 4th. In a rotary disc plough, a beam on which the plough discs are carried pivoted to the plough frame, a hand lever pivoted to such frame and provided at its lower end with a bracing heel adapted to bear on and hold down the beam, a brace extending from such hand lever to the beam, and means for locking such hand lever in place so that it will hold down the beam, substantially as shown and described. 5th. A rotary disc plough, comprising a carriage, a plough frame connected therewith, a beam pivoted to such frame, dish-shaped discs mounted to such beam, a hand lever pivoted to the frame provided with a heel adapted to bear down on the beam, and means of holding the heel of such hand lever down on such beam, substantially as shown and described.

6th. A rotary disc plough, comprising a carriage, a plough frame connected therewith, a beam pivoted to such frame, dish-shaped discs mounted to such beam, a hand lever pivoted to the frame provided with a heel adapted to bear down on the beam, a brace extending from such lever to the beam, and means of holding such



lever in a fixed position when desired, substantially as shown and described. 7th. A rotary disc plough, comprising a carriage, a plough frame connected therewith, a beam pivoted to such frame, dish-shaped discs mounted to said beam, a hand lever pivoted to the frame provided with a heel adapted to bear down on the beam, a weight attached to the outer end of such hand lever, a pivoted brace extending from such lever to such beam, a stirrup pivoted to such frame and embracing the heel of such lever, and means of throwing such stirrup into or out of engagement with the heel of such lever, substantially as shown and described. 8th. In a rotary disc plough, an axle supported on wheels and provided with vertical jaws, a frame to which the plough beam is secured fitting between such jaws, and a screw king bolt coupling such frame to the axle, substantially as shown and described. 9th. In a rotary disc plough, an axle supported on wheels and provided with vertical jaws, a frame to which the plough beam is secured fitting between the jaws, and provided with bracing flanges on each side of such jaws, and a screw king bolt coupling such frame and axle together, substantially as shown and described. 10th. A rotary disc plough comprising an axle provided with vertical jaws, a land-wheel and a staggered furrow-wheel mounted on such axle, a beam, plough discs mounted on such beam, a frame to which the beam is secured fitting between the jaws on the axle and provided with bracing flanges on each side of such jaws, and a screw king bolt coupling such frame and axle, and provided with means of turning such screw bolt, substantially as shown and described. 11th. In a rotary disc plough, a beam provided with a recess and also transverse slots, a boxing for the disc axle adapted to fit in such recess, and bolts extending through such boxing, and slots whereby the box may be adjusted laterally, substantially as shown and described. 12th. In a rotary disc plough, a beam provided with a recess and also transverse slots, a boxing for the disc axle smaller than such recess, and bolts extending through such boxing, and slots whereby the boxing can be adjusted laterally or horizontally, substantially as shown and described. 13th. In a rotary disc plough, a beam so curved that the bearings of the plough discs will be in line with the draft, and provided at its outer end with transverse slots and recesses substantially as shown, boxings for the disc axle adapted to fit loosely in such seats, and bolts extending through such boxes whereby the boxings may be adjusted laterally and horizontally, substantially as shown and described. 14th. A rotary disc plough comprising a furrow and land-wheel, a longitudinally adjustable axle connecting them, a plough frame so coupling with such axle that it can be vertically adjusted, a beam pivoted to the plough frame, and so curved that the bearings of the plough discs will be in line with the draft, discs mounted in boxings in such beam, the boxings so secured to such beam that they may be vertically and horizontally adjustable, a hand lever pivoted to the plough frame, a brace extending from the lever to the beam and adapted to hold the beam down when the lever is vertical, means of locking the lever in a vertical position, and a weight attached to the outer end of the hand lever of such size as to counterbalance the weight of the plough discs when they are raised, substantially as shown and described.

No. 45,265. Pin Lock. (*Boulon d'attelage de chars.*)



John V. Smith, Hayes, Illinois, U.S.A., 6th February, 1894; 6 years.

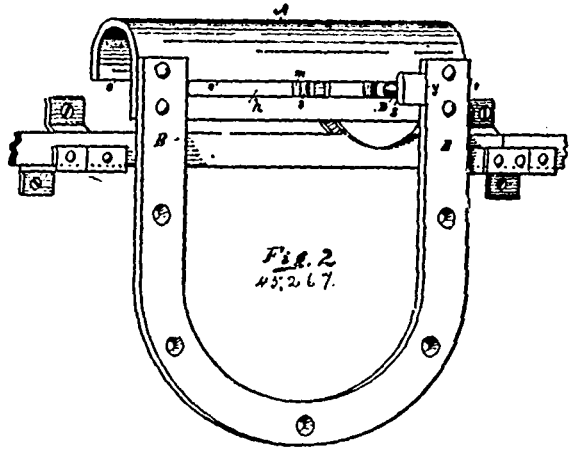
Claim.—1st. The herein described pin lock, consisting of a rock-shaft, having a handle at one end and a lip at the other end, said lip being deflected laterally from and radially to the longitudinal line of the shaft, as and for the purpose set forth. 2nd. The herein described pin lock, consisting of a box, a rock-shaft journaled therein, a handle on said shaft and radial thereto, and a lip at one end of the shaft deflected from the longitudinal line thereof, on a radial line different from that occupied by the handle, as and for the purpose set forth. 3rd. In a pin lock, the combination with a plate, and a headed coupling-pin passing down through the same, of a box secured on the plate, a rock-shaft journaled through the box, a handle at one end of the shaft standing radial thereto, and a laterally deflected lip at the other end of the shaft adapted to be turned over the head of said pin by the weight of the handle, the edge of the lip striking the plate before the handle reaches a vertical position, as and for the purpose set forth. 4th. In a pin lock, the combination with a plate, and a coupling-pin passing through the same, of a box secured to the plate, a rock-shaft journaled in said box, means for holding said shaft normally in one position, and a laterally deflected lip on the shaft standing over the end of the pin, when the shaft is in normal position, and for the purpose set forth.

No. 45,266. Method of Finishing the Surfaces of Wood and Like Material. (*Méthode de finir les surfaces en bois et autres.*)

Victor Victorson, Boston, Massachusetts, U.S.A., 8th February, 1894; 6 years.

Claim.—1st. The improvement in the art of finishing the surface of wood, which consists in applying thereto a coat of varnish rich in an oxidizable oil, subjecting it to a temperature gradually raised in a free circulation of air to substantially 120° Fah., and maintaining it at substantially this temperature for a period of from 18 to 40 hours, more or less in accordance with the consistency of the varnish, to thereby evaporate the solvent of the varnish and oxidize and harden evenly throughout the coat the superabundance of oil in the interstices thus formed, applying a second coat of the varnish and treating as before, the successive coats of varnish being separately heated and shrunk, one on the other until the desired texture and surface is obtained, whereby a continuous hard elastic finish is rapidly produced, substantially as described. 2nd. The improvement in the art of finishing the surface of wood, which consist in applying thereto a coat of varnish rich in oxidizable oil, subjecting such coat to a temperature gradually raised in the presence of circulating air to substantially 100° Fah., and maintained thereat for a time, and thereafter gradually raised to substantially 120° Fah., to thereby evaporate the solvent of the varnish and oxidize and harden the superabundance of oil in the interstices thus formed, applying a second coat of the varnish and treating as before, successive coats of varnish being superposed and separately heated until the desired texture and surface are obtained, and rubbing and polishing the final or flow coat, whereby a continuous hard and highly polished durable finish is produced, substantially as described.

No. 45,267. Door Hanger. (*Coulisse de porte.*)

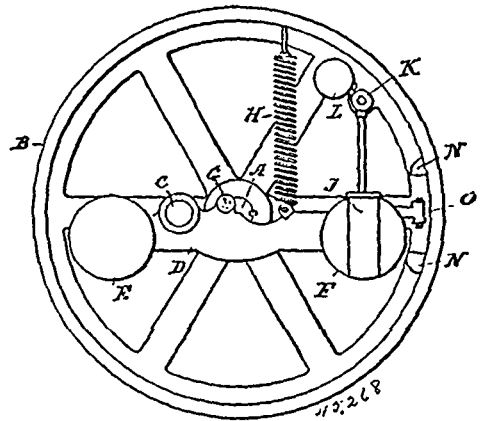


The Cronk Hanger Company, assignee of William Cronk, all of Havana, New York, U.S.A., 8th February, 1894; 6 years.

Claim.—In a door hanger, in combination, the wheel, the axle having its end or ends provided with one or more flattened surfaces, and a stop at the track end of the rider-bar for meeting the flattened part of said axle, substantially as described.

No. 45,268. Governor for Steam Engines.

(*Gouverneur pour machines à vapeur.*)



Julius Begtrup and James Henry McEwen, both of Ridgeway, Pennsylvania, U.S.A., 8th February, 1894; 6 years.

Claim.—1st. In an engine governor, the combination, substantially as set forth, of a wheel or carrier, a valve moving part, as an eccentric, and an inertia weight and centrifugal weight integrally formed and connected with said valve moving part. 2nd. In an engine governor, the combination, substantially as set forth, of a carrier, a valve moving part, as an eccentric, and a rigidly formed structure forming a combined inertia weight and centrifugal weight. 3rd. In an engine governor, the combination, substantially as set forth, with a carrier, a pivot carried thereby, and an inertia weight and centrifugal weight mounted for oscillating in common upon said pivot. 4th. In an engine governor, the combination, substantially as set forth, of a carrier and a rigidly formed structure pivoted thereto and comprising a centrifugal weight an inertia weight and an eccentric. 5th. In an engine governor, the combination, substantially as set forth, of a carrier, a pivot carried thereby, an inertia weight, centrifugal weight and eccentric mounted for oscillation in common upon said pivot. 6th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the axis of rotation of the carrier, an inertia weight mounted for oscillation on said pivot and having its centre of gravity located at one side of a line cutting said pivot and the centre of rotation of the carrier, and an adjustable valve-gear part, as a shifting eccentric, connected with said inertia weight. 7th. In an engine governor, the combination, substantially as set forth, of a carrier, a pivot carried thereby eccentric to the axis of rotation of the carrier, and a rigidly united inertia weight and eccentric mounted for oscillation on said pivot, the centre of gravity of said combined inertia weight and eccentric being located to one side of a line cutting its supporting pivot and the centre of rotation of the

carrier, so as to cause the centre of gravity of said inertia weight to move away from the centre of the rotation of the carrier under the action of unbalanced centrifugal force. 8th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the centre of rotation of the carrier, an inertia weight mounted upon said pivot and having its mass distributed on both sides of said pivot, and having its centre of gravity located to one side of a line cutting said pivot, and the centre of gravity shall not within its proper limits or movement cross to the other side of said line, and an adjustable valve-gear part, as a shifting eccentric, connected with said inertia weight. 9th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the centre of rotation of the carrier, an inertia weight mounted for oscillation at said pivot, anti-friction rolls at the engagement of said inertia weight with said pivot and an adjustable valve-gear part, as a shifting eccentric, connected with said inertia weight. 10th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the centre of rotation of the governor, an inertia weight and eccentric rigidly united and mounted for oscillation on said pivot, the mass of said combined inertia weight and eccentric being disposed on both sides of said pivot and the centre of gravity thereof being located to one side of a line cutting said pivot and the centre of rotation of the carrier, so that said centre of gravity shall not within its proper limits of movement pass to the other side of said line. 11th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the centre of rotation of the carrier, an inertia weight mounted for oscillation on said pivot and having its mass distributed on both sides of said pivot and having its centre of gravity located to one side of a line cutting said pivot and the centre of rotation of the carrier at such distance that it shall not, within its proper limits of motion, pass to the other side of said line, and an adjustable valve-gear part, as a shifting eccentric, connected with said inertia weight. 12th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the centre of rotation of the carrier, and an integrally formed inertia weight and centrifugal weight mounted for oscillation on said pivot and having its mass distributed on both sides of said pivot. 13th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the centre of rotation of the carrier, and a rigidly united inertia weight and centrifugal weight mounted for oscillation on said pivot and having its mass distributed on both sides of said pivot. 14th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a pivot carried thereby eccentric to the centre of rotation of the carrier, and an inertia weight and centrifugal weight pivoted in common to said pivot, said inertia weight having its mass distributed on both sides of said pivot. 15th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, an adjustable valve-gear part, as a shifting eccentric mounted thereon to move and serve in effecting regulation, a dash pot formed of the piston portion and the cylinder portion arranged to steady the movement of said valve gear part, said dash pot being carried by said carriage and disposed with its axis as the chord of an arc struck from the centre of rotation of the carrier, a pivot carried by said carrier near said dash pot, and a lever mounted upon said last mentioned pivot and having one of its arms connected with one of said dash pot portions and having its other arm provided with a counterbalancing weight, whereby centrifugal force acting upon the dash pot portion connected with said lever is counterbalanced by its action upon said weight. 16th. In an engine governor, the combination, substantially as set forth, of a rotary carrier, a movable valve gear part, as a shifting eccentric part carried thereby and carrying a dash pot cylinder disposed as the chord of an arc struck from the centre of rotation of the carrier, a pivot carried by said carrier near said cylinder, and a lever mounted upon said pivot and having one end attached rigidly to the piston rod of said dash pot and having its opposite end provided with a weight to counterbalance the action of centrifugal force upon the piston of the dash pot.

No. 45,269. Soap. (Savon.)

Annie G. Crawford, New Glasgow, Nova Scotia, Canada, 8th February, 1894; 6 years.

Claim.—A compound composed of any of the potashes used in the manufacture of hard soap with rosin and grease dissolved in hot water, and after boiling a short time in sufficient sand to make a stiff paste, these substantially in the proportions and for the purposes set forth.

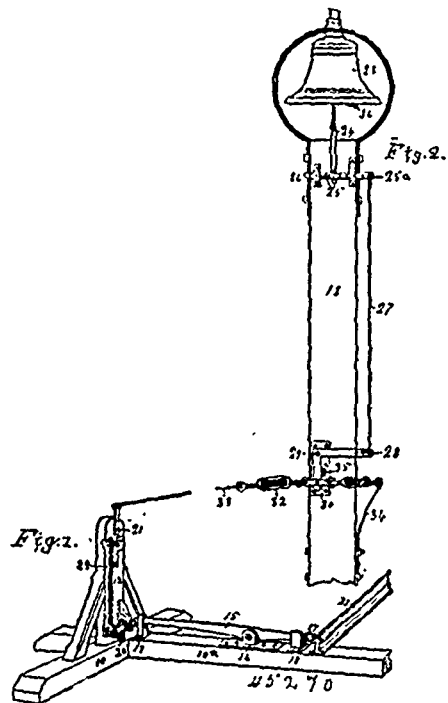
No. 45,270. Signal for Railways.

(Signal de chemin de fer.)

William J. Butler, Woodstock, Ontario, Canada, 8th February, 1894; 6 years.

Claim.—1st. In a railway signal, the combination, with a lever adapted to be engaged by the wheels of a passing train, of a bell, the tongue of which has a lever-arm, a connecting-rod, a horizontal-lever connected with an elbow-lever, and the lever operated by a passing train, substantially as described. 2nd. In a railway signal, the combination, with a lever adapted to be engaged by the wheels of a

passing train, of a bell carried by a support at one side of the track, which bell has a tongue with a lever-arm, a connecting-rod, a hori-



zontal-lever connected with an elbow-lever a spring or weight for returning the elbow-lever to its normal position, a stop for preventing the elbow-lever from being drawn too far by the spring or weight and mechanism for operating the elbow-lever from the lever operated by a passing train, substantially as herein shown and described. 3rd. In a device of the character described, the combination, with an upper and lower angle-lever, and a connecting-rod uniting the same, one extremity of the lower lever being adapted for engagement with the wheels of a passing train, and guide devices connected with the lower-lever, of a bell, the tongue of which has a lever-arm, a connecting-rod, a horizontal-lever connected with an elbow-lever, a spring or weight for returning the elbow-lever to its normal position, a stop for preventing the elbow-lever from being drawn too far by the spring or weight, a cable provided with a turn-buckle connected with a horizontal-bar attached to the elbow-lever, which cable is attached to the upper angle-lever, substantially as and for the purpose specified. 4th. In a device of the character described, the combination with an upper and lower angle-lever and a connecting-rod uniting the same, one extremity of the lower-lever being adapted for engagement with the wheels of a passing train, and guide devices connected with the lower-lever, of a bell, and intermediate mechanism between the bell and a cable, one end of which is attached to a horizontal-bar by means of a turn-buckle, and the other end of which is attached to the upper angle-lever, and a return spring or weight connected with the horizontal-bar by a turn-buckle at a point opposite the horizontal-bars connected with the cable by a turn-buckle, substantially as and for the purpose specified. 5th. In a device of the character described, the combination with a main lever, one end of which is adapted for engagement with the wheels of a passing train, guide devices engaging with the lever, a shorter lever arranged at a right angle to the main lever, and connected with one extremity thereof, and an elbow-lever the horizontal member whereof is connected with the shorter lever, of a bell, and a cable provided with a turn-buckle and intermediate mechanism between the cable and the bell, as and for the purpose specified.

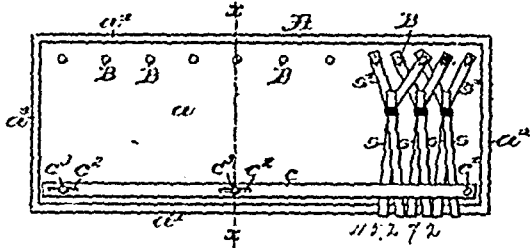
No. 45,271. Utilization of Liquors Containing Sulphate of Alumina or Ferric Sulphate for Making Manures. (Utilisation des liqueurs continent du sulfate d'alumine ou ferrique pour la fabrication d'engrais.)

Leberecht Tralls, Dux, Bohemia, Austria, 8th February, 1894; 6 years.

Claim.—1st. The process of utilizing liquors containing sulphate of alumina or ferric sulphate, especially the lixivation of shale ashes or the waste liquor in the manufacture of alum, by conversion into sulphate manures or agricultural fertilizers, which consists in combining therewith by saturation or absorption, ammoniacal, calcareous or nitrogenous substances, whereby the escape of the free or volatile ammonia is prevented, the nitrogen retained, and the chlorides destroyed, as set forth. 2nd. The method of carrying out the pro-

cess described, consisting in mixing the liquors containing sulphate of alumina or ferric sulphate in an evaporated state, with the materials or substances containing ammonium carbonate, etc., as set forth. 3rd. The method of carrying out the process described, so as to enrich the resulting product in nitrogen, by reconverting the hydroxide of aluminum or iron contained in the resulting product into their corresponding sulphates, and then again reducing the latter by the use of the ammonical substances, as set forth.

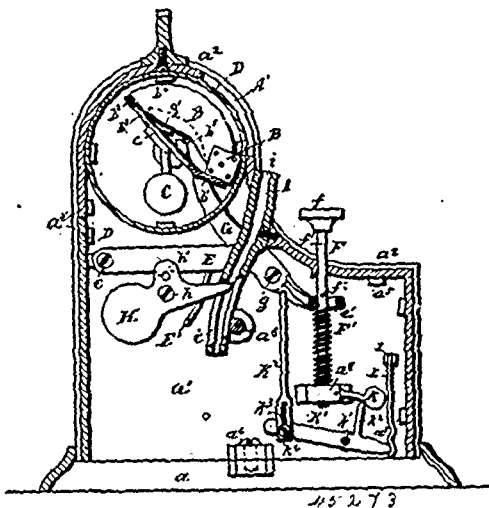
No. 45,272. Trunk Tray. (*Tiroir d'étalage pour coffres.*)



Edward Josiah Cummings, Quincy, Massachusetts, U.S.A., 8th February, 1894; 6 years.

Claim.—1st. A trunk tray for suspenders provided along one side with a series of bottom studs to which the button straps of suspenders may be buttoned, and provided at the side opposite the button studs with a fastening device to hold the free ends of the suspenders, said fastening devices being separated from the edge of the tray to leave a space through which the free ends of the suspenders may be passed beyond the fastening device to permit said ends to drop or hang over the edge of the tray, and whereby the said suspenders are held at opposite sides of the tray, substantially as described. 2nd. A trunk tray for suspenders, provided along one side with a series of button studs to which the button straps of suspenders may be buttoned, and a fastening device consisting of a strap at the opposite side of the tray to hold the free ends of the suspenders in place, said fastening device being separated from the edge of the tray to leave a space through which the free ends of the suspenders beyond the fastening device may be passed to permit them to drop or hang over the edge of the tray while being displayed, substantially as described. 3rd. A trunk tray for suspenders, provided along one side with a series of button studs, each consisting of a single vertical post to which the button straps of suspenders may be buttoned, and a fastening device consisting of a strap *c* having slots *c*², and the studs *c*² at the opposite side of the tray to hold the free ends of the suspenders in place, substantially as described. 4th. In a trunk tray or suspenders, the combination with the tray bottom, of a tubular rivet inserted through the tray bottom and headed at the opposite side thereof, and a thimble independent of the rivet interposed between the head of the rivet and the tray bottom, substantially as described.

No. 45,273. Dice Caster. (*Appareil à jeter les dés.*)



John Reese Rowlands, Syracuse, New York, U.S.A., 8th February, 1894; 6 years.

Claim.—1st. In a dice caster, the combination of a rocking dice support B, a movable actuating lever E, a movable dog G having one end pivoted to the actuating lever and the other end detachably engaged with the dice support for operating the same, and a hand piece F movable independent of the actuating lever and mechanically

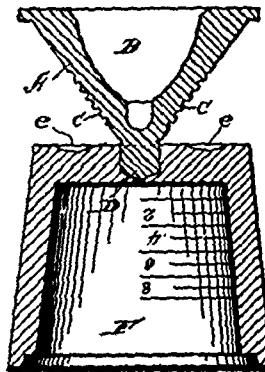
connected thereto for operating the same, substantially as and for the purpose specified. 2nd. In a dice caster, the combination of a frame, a dice support B journaled in the frame, a movable actuating lever E pivoted to said frame beneath the dice support, a movable dog G extending upwardly from the actuating lever and having one end pivoted thereto and the other end detachably engaged with the dice support for operating the same, a movable hand piece F connected to said actuating lever for operating the same and having one end arranged at the outside of the frame, and a spring F¹, for forcing the hand piece to its normal position, substantially as and for the purpose described. 3rd. In a dice caster, the combination of a rocking dice support B, a movable actuating lever E, a movable dog G having one end connected to the actuating lever, and the other end detachably engaged with the dice support for operating the same, a chute I for the actuating members, a movable stop lever H having a shoulder h¹ for engaging said actuating lever and preventing its movement and having an arm arranged in the path of the actuating members whereby the said members operate the stop lever, and a hand piece F movable independent of the actuating lever and mechanically connected thereto for operating the same, substantially as and for the purpose described. 4th. In a dice caster, the combination of a frame, a dice support B journaled in the frame and provided with a series of longitudinally inclined ways b² for receiving and arranging the dice diagonally and thereby changing the axes of rotation of the dice, substantially as and for the purpose specified. 5th. In a dice caster, the combination of a frame, a dice support B having a lengthwise portion b¹ arranged to support the dice in their normal position and having a second lengthwise portion b² arranged at an angle with the former portion and provided with a series of inclining ways b² for receiving and arranging the dice diagonally and thereby changing the axes of rotation of the dice, and a counterweight C for supporting the dice support in its normal position, substantially as and for the purpose described. 6th. In a dice caster, the combination of a frame, a stationary barrel or cylinder D, a dice support B arranged within the barrel or cylinder and journaled in the frame and provided with a series of separate partitions b⁴ for forming separate compartments for the dice, a movable dog G having one end pivoted to the actuating lever and the other end detachably engaged with the dice support for operating the same, and a hand piece F movable independent of the actuating lever and mechanically connected thereto for operating the same, substantially as and for the purpose specified. 7th. In a dice caster, the combination of a dice support B, a movable hand piece F connected to said dice support for actuating the same, a lever K for preventing return movement of the hand piece, and a lever K¹ for forcing the lever K out of operative position, substantially as and for the purpose described.

No. 45,274. Cup and Base Piece Combined.

(*Coupe et appui combinés.*)

Harvey R. T. Coffin, Glen Falls, New York, U.S.A., 8th February, 1894; 6 years.

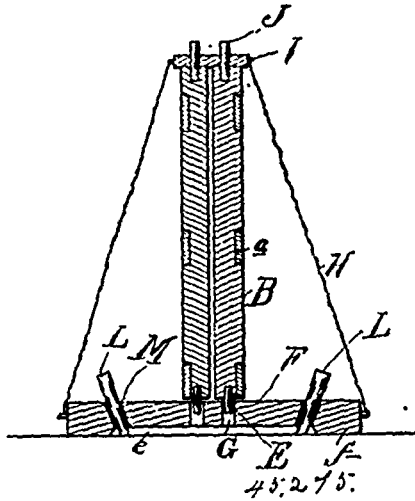
FIG. 3



45,274.

Claim.—1st. A hollow conical cup, provided with a series of recesses on its outside and having a head D, at the bottom of the cup, substantially as described. 2nd. A hollow conical cup, made of glass provided with a series of recesses on its outside and having a head D, at the bottom of the cup, substantially as described. 3rd. A conical cup, provided with a supplemental groove or recess for the reception and accommodation of the absorbent, substantially as described. 4th. A conical cup, forming a receptacle and provided with a supplemental groove within the main receptacle, said groove adapted to receive an absorbent or pen wiper and provided with a bar extending across the cup inside of the groove containing the absorbent, substantially as described. 5th. A conical cup forming a receptacle, in combination with a supplemental groove or recess within the receptacle of the cup and a bar extending across the inside of the cup and an absorbent material within the groove, substantially as described. 6th. A conical cup, provided with an absorbent material and a bar A¹, within the receptacle formed within the top of the cup, in combination with the base piece adapted to receive and accommodate ink or other substances, substantially as and for the purpose specified. 7th. In a device of the character described, the combination of a cup adapted to form both a base piece and a receptacle, with a second member adapted to form base piece and a receptacle, the two adapted to be put together to form a reversible, separable goblet, substantially as and for the purpose specified.

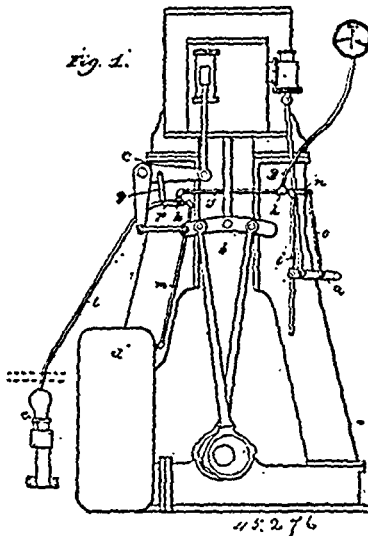
No. 45,275. Fence. (Clôture.)



William John Johnston, Port Huron, Michigan, U.S.A., 8th February, 1894; 6 years.

Claim.—In a fence, the combination of the panels, having end posts, having their inner faces rounded, ground sills having apertures in pairs near the middle, in which the pins in the lower ends of the posts of adjoining panels engage, the brace cap having detachable pivot pins engaging into the tops of the posts and the brace wires connecting the outer ends of the caps and sills, substantially as described.

No. 45,276. Indicator for Steam Boats. (Indicateur pour bateaux à vapeur.)

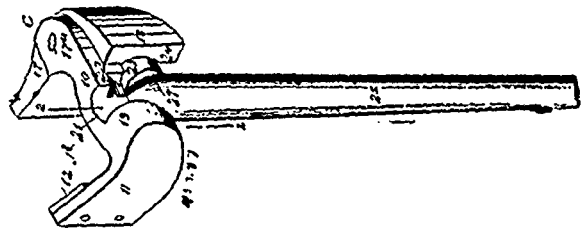


pencer Dewees Thurston, Camden, New Jersey, U.S.A., 8th February, 1894; 6 years.

Claim.—1st. An indicating system for steam vessels comprising a pressure annunciator, a duct therefrom having branches, respectively, to the atmosphere to a source of pressure, and to a chamber wherein the pressure is less than that of the atmosphere, means, substantially as described controlling said branches whereby said duct can be successively thrown into communication with the outer atmosphere, said source of pressure, or said chamber, substantially as described. 2nd. An indicating system for steam vessels comprising a pressure operated annunciator, a connection therefrom having branches, respectively, communicating with the atmosphere, a chamber or portion of the engine wherein there is excessive pressure, a chamber wherein the pressure is less than that of the atmosphere, and valves controlling said branches and connected with and operated by movable portions or parts of the engine, as and for the purpose as set forth. 3rd. An indicating system comprising an annunciator or indicator, a tube from the operating parts thereof having branches to bodies of fluid under different pressure, valves

controlling said branches so that the branches can be successively thrown into continuity with the main tube, and connections between said valves, respectively, and the mechanism controlling the stopping and starting of an engine, and the reserving mechanism of the engine, substantially as described. 4th. An indicating system comprising a pressure operated annunciator, a connection, such as a tube, therefrom having branches connected respectively with bodies of fluid under different pressure, valves controlling said branches, a connection from the throttle lever to operate one of said valves, and a connection from the other valve to the reserving mechanism of the engine, substantially as described. 5th. In an indicating system, the combination of an annunciator, a tube therefrom connected with sources of alternating pressure and having a connection to the outer atmosphere, a valve controlling said connection to the outer atmosphere, a steam engine having a throttle lever, and connections from said lever to said valve for closing and opening said tube to the outer air as said lever is moved to start or stop the engine, substantially as described. 6th. In an indicating system, the combination with an annunciator, of a tube from the operating part thereof connected with sources of different pressure, a valve arranged to alternately connect said tube with said sources of different pressure, the reversing mechanism of an engine, and connections between said reversing mechanism and said valve to operate the valve, as and for the purpose substantially as described. 7th. In an indicating system, the combination of a pressure operated annunciator, of a steam engine, a tube from said annunciator having an opening to the outer atmosphere, a valve controlling said opening and connected with and operated by a throttle lever of the engine, said tube having branches connected with a pump cylinder or chamber, and with a condenser chamber respectively, a valve controlling said branches, and connections from the reversing mechanism of the engine to said last mentioned valve for operating the same, substantially as described. 8th. In an indicating system, the combination of an annunciator operated by difference in pressure, connecting for placing the operating mechanism of the annunciator into communication with sources of different pressure, and mechanism controlled by operating parts of a steam engine for successively placing said annunciator in communication with said sources of different pressure when the direction of movement of the engine is changed or the engine is stopped or started, substantially as described. 9th. In an annunciator, a spring controlled piston in a cylinder, an indicating finger moving over a face and geared to and operated by the piston rod or stem of said piston, and an audible alarm mechanism operated by the movement of said piston rod, substantially as described. 10th. In an annunciator comprising the cylinder, the case thereon having the face, a shaft in the case having the finger moving over the face and provided with a gear, a spring controlled piston in said cylinder having the loop embracing said gear, and provided with gearing meshing with the same, substantially as described. 11th. An annunciator having the spring controlled piston, the shaft carrying the indicating finger and geared to and rotated by the reciprocation of said piston, the gong, the separate spring controlled clappers, and the discs on said shaft having jaws to engage said clappers, substantially as described.

No. 45,277. Wrench. (Clé à écrou.)

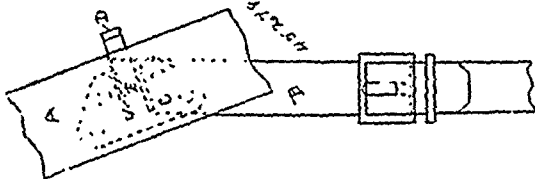


Frederick Sanford Seymour, Lake Geneva, Wisconsin, U.S.A., 8th February, 1894; 6 years.

Claim.—1st. In a wrench, the combination of two angular jaws, one jaw being pivoted upon the other, a handle provided with a head, pivoted in one jaw and having rocking engagement with the other, and a cam carried by the head of the handle, adapted for engagement with one member of the movable jaw, as and for the purpose set forth. 2nd. In a wrench, the combination, with two angular jaws, one having pivotal engagement with the other, and a member of one jaw overlapping the corresponding member of the other, of a handle provided with a T-head, said head being journaled in the fixed jaw, between said fixed jaw and the overlapping member of the movable jaw, and a cam located upon one member of the said head, adapted for engagement with the overlapping member of the movable jaw, and to force the opposing member of the said jaw in direction of the corresponding member of the fixed jaw, as and for the purpose specified. 3rd. In a wrench, the combination, with a body comprising two approximately L-shaped jaws, one pivotally connected with the other, and the back member of the pivotal jaw overlapping the corresponding member of the fixed jaw, the back member being provided with a socket, a recess adjacent to the socket, and a second socket facing the rear mem-

ber of the pivotal jaw, the rear member of the pivotal jaw being provided with a cavity in its forward face, of a handle provided with a T-head pivoted in the sockets of the fixed jaw, and a cam located upon one member of the said head, adapted to enter the recess in the rear member of the fixed jaw, and likewise to exert outward, rearward pressure upon the recessed surface of the rear member of the pivotal jaw, as and for the purpose set forth. 4th. In a wrench, the combination, with two angular pivoted jaws one jaw being pivoted at the junction of its members to the rear member of the other jaw with its rear member overlapping the same, and means adapted to act upon the said rear members to force the said jaws towards each other, substantially as shown and described.

No. 45,278. Hold-back Bracket. (Ragot de limonière.)

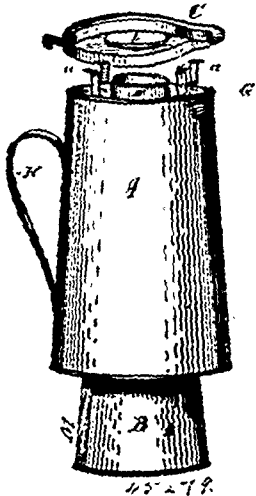


James Houghton, Brantford, Ontario, Canada, 8th February, 1894; 6 years.

Claim.—As an article of manufacture, a carriage hold-back bracket, consisting of a plate C, by means of which the bracket, is attached to the shaft or pole, having a bar E, for the hold-back strap when in position, and the upright projection D, to keep the hold-back strap in position, forming one solid whole, substantially as and for the purpose hereinbefore set forth.

No. 45,279. Lamp or Oil Stove.

(Lampe ou poêle à huile.)



Charles L. Campbell, Campbellton, Nova Scotia, and Charles R. Hoben, St. John, New Brunswick, both of Canada, 8th February, 1894; 6 years.

Claim.—The combination of the vessel A, with the attachment or stand a, a, a, the tube B, and the lower extension of tube or base B, X, substantially as and for the purpose hereinbefore set forth.

No. 45,280. Fluid Meats and the Process of Manufacturing Same. (Extrait de bœuf et procédé de fabrication.)

William Clark, Montreal, Quebec, Canada, 8th February, 1894; 6 years.

Claim.—1st. A compound consisting of animal flesh, a meat extract, a gelatinous substance and a wheaten product. 2nd. A compound consisting of lean flesh reduced to semi-fluid form or mass and combined with a meat extract, a gelatinous substance and a wheaten product, as set forth. 3rd. As a fluid meat ingredient, flesh reduced to a homogeneous mass. 4th. In the process of manufacturing fluid meat, first, the reduction of lean flesh to small portions; secondly, cooking same; thirdly, separating by straining the resulting liquor from the meat particles; fourthly, reducing said meat particles to a homogeneous mass and finally skimming the said resulting liquor and re-combining it with the "massed" meat, as set forth. 5th. In the process of manufacturing fluid meats, first, the reduction of lean flesh to a homogeneous mass; second, mixing the same with extract of beef and a wheaten product and amalgamating the mixing; deriving from the animal sinew, muscle and fibre a gelatinous mass; fourthly melting such gelatinous mass, adding thereto the amalgamated mixture of "massed" meat, extract of beef and wheaten product and stirring same thoroughly together and subsequently straining the whole into a waterbath to be cooked, as set forth.

No. 45,281. Manufacture of Artificial Stone.

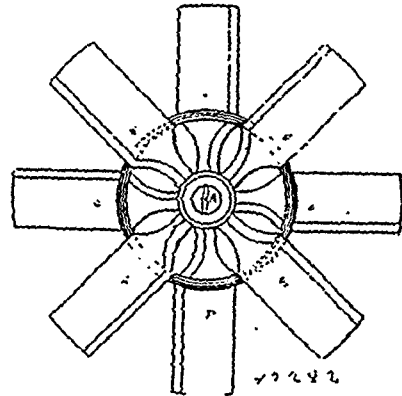
(Fabrication de pierre artificielle.)

Clément Loblanc, Montréal, Québec, Canada, 9 février, 1894; 6 ans.

Résumé.—1° Pour une pierre artificielle, un liquide spécifique composé d'acide sulfurique, de carbonate ou de chlorhydrate d'ammoniaque, de carbonate de soude, de la potasse et de poudre de fer dans les proportions et pour les fins indiquées. 2° Une pierre artificielle composée de ciment de Portland ou autre, de sable, de chaux, de mou liquide spécifique et d'eau dans les proportions et pour les fins indiquées.

No. 45,282. Dasher for Churns.

(Cylindre de baratte.)

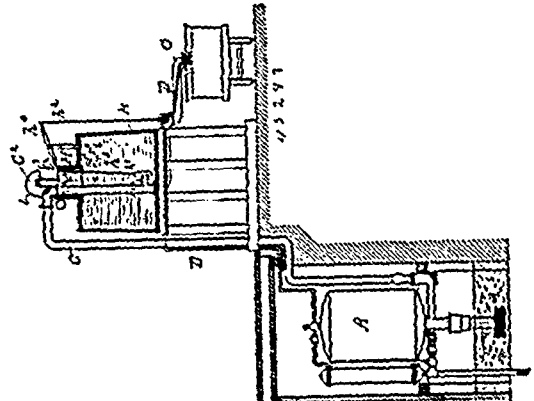


James Edwin Gibbs and John W. Wetter, both of Chattanooga, Tennessee, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. In a churn-dasher, the combination of the two sections carrying each a radial series of blades oppositely inclined to the vertical plane thereof, of a clutch-ring of comparatively large diameter arranged concentric with the hub of, and attached to the blades of one of said series, the teeth of said ring being arranged to engage directly with the blades of the other series, substantially as specified. 2nd. In a churn-dasher, the combination with an upper section having a hollow spindle or sleeve, a lower section journaled on said hollow spindle or sleeve, and bearing screw, and the cup-shaped reversible washer carried by said screw and engaging the lower face of the said lower section, substantially as specified. 3rd. The herein described improved churn-dasher, comprising the dasher stick or shaft, the upper section working against the lower end of said stick or shaft and carrying a series of blades, and having a hollow sleeve or spindle, a lower section journaled on said sleeve or spindle, said lower section having a hub formed with a cup-shaped cavity, the clutch-ring arranged concentrically with said hub, the bearing screw, and the cup-shaped reversible washer, said sections carrying each a series of similar blades, but inclined in opposite directions to a vertical plane thereof, said clutch ring being attached to the blades of the said lower section and having its teeth adapted to engage with the blades of the upper section substantially as specified.

No. 45,283. Water Elevator.

(Appareil alimentateur d'eau.)



Paul Sattelkan and Herman Reinhard Winkelmann, both of Philadelphia, Pennsylvania, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. The combination of the vacuum tank, the steam pipe on the tender, and a pipe for conveying steam from the tender pipe to the vacuum tank, said conveying having means for checking the

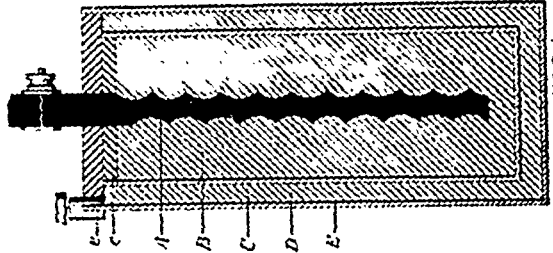
flow of air, but no valve for stopping the flow of steam through the same, substantially as described. 2nd. A steam vacuum water tank having all its inlets and outlets water sealed, substantially as specified. 3rd. The combination of the tank, the inlet therefor, the discharge pipe, the steam inlet, and the spray reservoir and connections, a valve in the water discharge pipe adapted to open when steam is admitted to the tank to discharge the water past said valve, and a dome above the valve into which a certain quantity of water is forced during the passage of water through the pipe, so that when the valve closes, the water from the dome will fall into the space about the valve, and be retained there by the valve forming a water seal for the water discharge pipe, substantially as described. 4th. The combination of the vacuum water elevator, the discharge pipe therefor, a reserve tank, a valve controlling the passage of water through the discharge pipe or into the reserve tank, and an outlet for said reserve tank, substantially as specified. 5th. The combination of the vacuum water elevator, the discharge pipe therefor, a reserve tank, a valve controlling the passage of water through the discharge pipe, or into the reserve tank, said valve being controlled by the water in the reserve tank, so that when the reserve tank is full the communication with the tank will be closed, and when the water in the tank is low the valve will be opened and water will discharge into the tank, substantially as described. 6th. The combination of the discharge pipe, the vacuum tank to which it is connected, a reserve tank, said reserve tank having a contracted upper portion, an opening in the discharge pipe through which water may pass into the reserve tank, a valve in said pipe, and a float in the contracted portion of the reserve tank controlling the valve, substantially as described. 7th. The combination of the vacuum tank, the discharge pipe therefor connected to a goose neck hanging over a track, a steam pipe adapted to be connected to the steam supply pipe of a locomotive or tender, and connected directly to the vacuum tank, a reserve tank mounted above the level of the track so that the water will flow from said tank to the tender by gravity, a valve opening in the discharge pipe of the vacuum tank, a handle for operating said valve, whereby on opening the valve water in the reserve tank will flow through the goose neck by gravity, an opening in the discharge pipe above the said valve opening through which the water from the vacuum tank will flow into the reserve tank, with a valve controlling the flow of water either through the opening or through the discharge pipe and a float operating the said valve, substantially as described. 8th. The combination of a tank, a spray reservoir, water supply and outlet for the tank, with an air seal communicating with the tank and the spray reservoir, said air seal being beyond the suction limit of the tank, substantially as described. 9th. The combination of the tank, the water inlet and the water outlet therefor, a steam supply pipe entering the tank at the top, a spray reservoir, pipes forming communication between the spray reservoir and the upper and lower portions of the tank, and extending beyond the suction limit of the tank, substantially as described. 10th. The combination of the tank, inlets and outlets therefor, a reservoir, pipes *d* and *d'* forming the communication between the reservoir and the tank, and extending below the suction line of the tank, with a point *d²* on one of said pipes so that the pipes can be driven into the ground, substantially as described. 11th. The combination of a vacuum tank, the water inlet and outlet therefor, a steam inlet pipe adapted to be coupled to a steam generator, and a water seal device in said steam pipe, substantially as specified. 12th. The combination of a vacuum water tank, steam inlet pipe having a loop extending below a water level, an opening in the base of said loop, and a valve for said opening which will close on the passage of steam through the pipes, and will open when steam is cut off and allow water to flow into the loop, thereby making a water seal for the pipe, and preventing the admission of air to the tank through the pipes, substantially as described. 13th. The combination of the vacuum tank, the steam inlet therefor, a check valve in said steam inlet pipe, a steam exhaust pipe communicating with the tank, and a steam actuated valve closing said pipe when steam is turned into the supply pipe, said valve allowing the steam to escape through the steam exhaust pipe when the live steam is cut off, substantially as described. 14th. The combination of the tank, the steam supply pipe therefor, an exhaust pipe entering the tank, a valve closing said pipe while steam is entering the tank, and a series of outlets connected with said pipe, arranged at different levels in the tank, substantially as described. 15th. The combination of the tank, the steam supply pipe therefor, the steam exhaust pipe, a valve closing said pipe when steam is entering the tank, a manifold connected with the exhaust pipe, and a series of pipes depending from the said manifold, said pipes being of different lengths and open to receive steam from the tank when the steam supply is cut off, substantially as described.

No. 45,284. Galvanic Battery. (Batterie galvanique.)

Harry T. Johnson, New York, State of New York, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. In a dry battery, the combination of a containing cup or cylinder forming the positive electrode, a semi-solid filling within the same, and a negative electrode having an uneven surface embedded in said filling, substantially as shown and described. 2nd. In a galvanic battery, the combination of a cup-shaped positive electrode, a porous diaphragm or cup within the same, a semi-solid mixture containing an excitant between the same and said positive electrode, a negative electrode surrounded by said

porous diaphragm, and having an uneven surface, and a semi-solid filling between the surface of the electrode and said diaphragm, substantially as shown and described. 3rd. In a dry battery, the combination of a containing cup or cylinder forming the positive



electrode, a semi-solid filling within the same, comprising the exciting and depolarizing agents of the battery, and a negative electrode transversely corrugated or ribbed to form an uneven surface, such corrugated or ribbed portion of the negative electrode being embedded in said semi-solid filling, substantially as shown and described.

No. 45,285. Ship. (Navire.)



Richard B. Painter, and William G. Elliott, both of Williamsport, Pennsylvania, U.S.A., 9th February, 1894; 6 years.

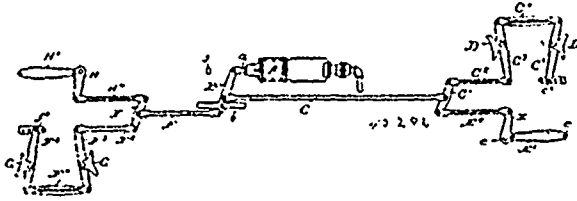
Claim.—1st. The combination with the hull of a vessel provided with arches or cavities formed therein at intervals along its side, and adapted to be covered by a shutter and provided with removable hatches, of a series of transverse shafts arranged coincident with the cavities and terminating in the same, propellers carried by the shafts, and means for operating the shafts, substantially as specified. 2nd. The combination with a vessel provided at intervals along its side with arches or cavities, of a series of transverse shafts arranged coincident with and terminating in the arches, propellers mounted on the shafts within the arches, and front and rear propeller-carrying shaft arranged at each side of the bow and stern of the vessel, propeller-wheels arranged upon the outer ends of the front and rear shafts, the blades of said wheels being twisted, and means for operating the transverse and the front and rear shafts, substantially as specified. 3rd. The combination with the hull of a vessel, the sides of which are provided with cavities, of a series of propeller-carrying shafts arranged coincident with and terminating in the cavities, front and rear shafts arranged at the bow and stern, respectively, means for operating the same and the transverse shaft, twin propeller-wheels mounted upon each of the front and rear shafts, said wheels having their blades spaced apart and arranged in annular series, the blades of one series alternating with those of the other, substantially as specified. 4th. The combination, with a vessel, a series of transverse shafts arranged therein and extending from its sides, and front and rear shafts carrying propeller-wheels, of a rear engine for operating the rear shafts, the front engine for operating the front shafts, an electric motor arranged adjacent to each of the transverse shafts, a dynamo connected therewith and connections between the front engine and the dynamo and from the dynamo to the motors, substantially as specified. 5th. The vessel, having an inner wall combined with an outer wall, compoundly curved and at intervals contacting with the inner wall of the vessel, forming a series of water-tight compartments, and between the same a series of caves, propellers arranged in the caves, and cans for operating said propellers, substantially as specified. 6th. The combination, with the vessel having an inner wall and an outer wall compoundly curved and alternately contacting with the inner wall, thus forming a series of water-tight compartments and intermediate arches, of transverse shafts terminating in the arches, propellers carried by the shafts and means for operating the shafts, and an outer wall for removably covering the arches, substantially as specified.

No. 45,286. Brake for Railroad Cars. (Frein de chars.)

Ogden W. Dean, Chicago, Illinois, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. The combination, in braking apparatus, of the power lever, the brake levers and the lifting devices, with an equalizing lever joined at its centre to the power lever, at one end to the brake levers and at the other end to the lifting devices, substantially as set forth. 2nd. The combination, with the power lever, the brake levers and the lifting devices, of the lever *C*, a connection between the power lever and said lever *C*, joined to the latter near its centre, a connection from one end of said lever *C*, to the brake levers and a connection from the other end thereof to the lifting devices, substantially as specified. 3rd. In devices for lifting the car, the

combination of a lifting lever and the centre pin of the car acting as a fulcrum for the lever, substantially as specified. 4th. The com-



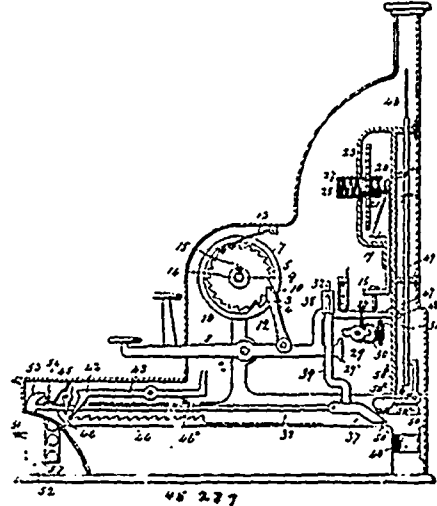
ination, with the car and its truck, of a brake and lifting mechanism at each truck, a single brake cylinder and lever connections between the brakes and the cylinder, essentially as set forth, whereby both the brakes and the lifting mechanisms are actuated by the single cylinder, and each remains operative in case the other becomes disabled, substantially as specified. 5th. The combination, with the car, its trucks and a single air brake cylinder, of a brake and lifting mechanism at each of said trucks, both the brakes having a lever connection with the cylinder, and each being independent of the other, and each of the lifting mechanisms being actuated by the levers of its companion brake, substantially as specified. 6th. The combination, with a car of a brake cylinder, a power lever actuated by said cylinder and pivoted at *b*, braking levers for each truck jointed to said power lever at opposite sides of said pivot *b*, and actuated by said lever, and lifting devices for each truck connected to and receiving power from the braking levers, substantially as specified. 7th. The combination of lifting lever E^1 , with the centre pin E^2 upon which it is fulcrumed, and which is provided with collar c^2 and centre plate e^2 , upon which said collar rests and which is supported upon the truck, substantially as set forth. 8th. The combination, in the lifting mechanism of a car, of lever E^1 , centre pin E^2 acting as a fulcrum for said lever and provided with a collar c^2 , and centre plate e^2 supporting said collar, substantially as set forth. 9th. The combination of lifting lever E^1 and centre pin E^2 , acting as a fulcrum for said lever, said lever being recessed to receive said pin, and said recess being widened to permit the rocking of the lever upon the pin, substantially as set forth. 10th. The combination, with a car and its braking apparatus of independent lifting devices for lifting the ends of the car, such devices being mechanically connected to and receiving power from the lever of the braking apparatus, substantially as specified. 11th. The combination, with a car and its braking apparatus, of lifting devices connected directly to and receiving power from the lever *B* of the braking apparatus, substantially as specified. 12th. The combination, with a car and its atmospheric brake apparatus, of lifting devices located at the centre pin, and receiving power from the brake apparatus, and a valve controlling the air passage to the brake apparatus connected to and operated by said lifting devices, substantially as set forth. 13th. The combination, with a car and its atmospheric brake apparatus embodying a brake cylinder and triple valve, of mechanism for lifting the car and a valve actuated from said lifting mechanism and located in and controlling the air passage leading from the triple valve to the cylinder, substantially as set forth. 14th. The combination, with the triple valve, of a brake cylinder, a chamber *S* located between the triple valve and the cylinder, and opening from the former, a valve controlled passage such as *10* leading from said chamber to the cylinder and an opening between the passage and said chamber, provided with a check valve, substantially as specified. 15th. The combination, with the brake cylinder and triple valve, of a valve located between and controlling the passage of air from one to the other, and lifting devices deriving power from the brake apparatus and having a connection to and serving to close said valve when said devices are themselves actuated, substantially as set forth. 16th. In an air brake apparatus, the combination of the brake cylinder, the lifting devices, the valves F^1 , controlling the entrance of air to the cylinder and mechanical devices whereby said lifting devices operate said valves, substantially as set forth. 17th. In an air brake apparatus, the combination of the brake cylinder, the triple valve, the lifting devices, the valves F^1 , controlling the entrance of air to the cylinder and mechanical devices whereby said lifting devices operate said valves, substantially as set forth.

No. 45,287. Cash Register. (*Registre de monnaie.*)

William H. Thompson, East Stroudsburg, Pennsylvania, U.S.A.
9th February, 1894; 6 years.

Claim.—1st. In combination, the keys, the total adder mechanism comprising the discs, the spiral shaft passing through the same and the connections from the keys for operating said shaft lengthwise, substantially as described. 2nd. In combination, the keys, the cross-bar having the series of pins the total adder disc, the spiral shaft passing through the same, the wedge-bar connected to the cross-bar for operating the spiral shaft and the spring for returning the shaft to normal position, substantially as described. 3rd. In combination, the keys, the registering mechanism operated thereby, the drawer, the locking-bar movable horizontally and laterally of the keys to lock them in position and the holder for said locking-bar

consisting of the vertically movable wedge-bar arranged to be held up by the drawer when the same is in, substantially as described. 4th. In combination, the keys, the registering mechanism operated thereby, the drawer, the key locking-bar movable horizontally and laterally of the keys to lock them in place the vertically movable



holder-bar engaging the laterally sliding lock-bar and the pivoted foot between the holder and the drawer, said holder being arranged to be elevated to lock the keys in normal position when the drawer is closed, substantially as described. 5th. In combination, the registering mechanism, the key lock comprising the plate having the inclined slots with shouldered portions, the keys in said slots adapted to operate the slide and the means for operating the slide independently of the keys consisting of the vertically movable holder bar, the pivoted foot for controlling the same, and the draw to move said pivoted foot upward to shift said plate and lock the keys, substantially as described. 6th. In combination, the keys, the registering mechanism, the drawer having the series of teeth, the arrester lever adapted to be operated by the keys, and the spring catch adapted to hold the arrester lever up, and arranged to be released by the closing of the drawer, substantially as described. 7th. In combination, the keys, the registering mechanism, the key lock with means for holding it in locked position when the drawer is closed, and the arrester for retaining said drawer in open position said arrester being arranged to be operated by the keys to release the drawer, substantially as described. 8th. In combination, the keys, the indicating tablets with their rods, the retaining dog, the drawer and drawer lock and the push-rod having its rear end, an incline adapted to engage and operate the retaining dog directly, said rod having also an incline at its front end to operate the drawer lock directly, substantially as described. 9th. In combination, the keys, the indicating rods, the dog therefor, the key lock, the drawer and the push-rod independent of the key lock adapted to release the tablet dog, said push-rod having a pivoted foot to control the key lock, substantially as described. 10th. In combination, the keys, the indicating rods, the retaining dog therefor, the key lock, the drawer and drawer lock and the push-rod independent of the key lock adapted to release the drawer and having a pivoted foot to control the key lock with an incline to operate the tablet dog, substantially as described. 11th. In combination, the keys, the indicating tablets, the drawer with its lock, the push-rod to release the tablets, and a series of combination lock-bars to control the operation of the push-rod, substantially as described. 12th. In combination, the keys, the indicating tablets, the drawer with its lock, the push-rod to control the tablet, and the series of combination lock-bars having upper and lower notched edges, said bars being reversible and the means for holding them in either position, substantially as described. 13th. In combination, the keys, the indicating mechanism, the push-rod for releasing the same, the drawer with its lock, the push-rod having the plate at its end with the upper incline adapted to operate the drawer lock, and provided also with pins, and the notched combination lock-bars adapted when properly adjusted to receive the pins in the notches, substantially as described.

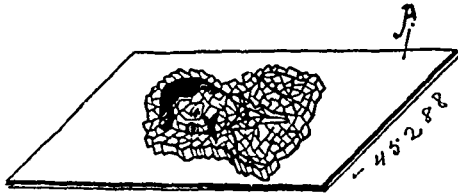
No. 45,288. Process of Making Mosaics.

(*Procédé pour la fabrication de mosaïque.*)

Horace B. Alkays, Frenchtown, Montana, U.S.A., 9th February, 1894; 6 years.

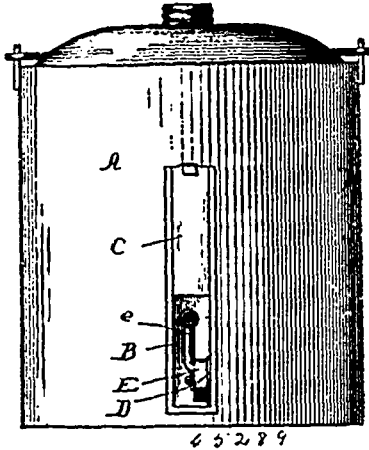
Claim.—The herein described process of reproducing pictures in mosaic, which consists of tracing on a plate of glass by means of transparent colours the picture to be reproduced, then removably cementing blocks of stone or other substance of which the mosaic is to be composed, and of shades corresponding to the colours on the

glass, on the under surface of said glass plate, and then coating the under surface of said blocks with a coating of suitable cement, and



lastly removing said glass plate and polishing the surface of said coloured blocks, substantially as and for the purpose set forth.

No. 45,289. Oil Can. (Bidon à huile.)



Charles P. Parish & Company, assignee of Charles H. Phelps, all of Chicago, Illinois, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. The combination, with a can A, having a recess B in its outer surface, of a plug D, secured in one of the side walls of said recess and having a face substantially parallel thereto, a faucet E, pivoted to said plug by means of a face-plate substantially parallel to the face of the plug and normal to the pivot, and a pliable washer interposed between the face-plate and the face of the plug, said plug, washer and face-plate being respectively provided with openings, which may be brought to register with each other in one position of the washer and face plate, but which will be thrown out of register by turning the faucet on its pivot, substantially as described. 2nd. The combination, with the can A, having the recess B, of the plug D, secured in one of the side walls of the recess, the faucet E, having the spout c, and the face-plate c', provided with spurs c'', the pliable washer F, forced upon the face-plate c', and the pivot bolt G, adapted to clamp the face-plate, washer and plug together, substantially as described. 3rd. In a device of the class described, a pivoted faucet provided with ports arranged in register when the spout of the faucet is considerably below the horizontal position and to be thrown out of register by the raising of the spout before the latter reaches a horizontal position, substantially as described.

No. 45,290. Manufacture of Artificial Fuel.

(Fabrication de combustible artificiel.)

Robert F. Strong and Alexander Gordon, both of London, England, 9th February, 1894; 6 years.

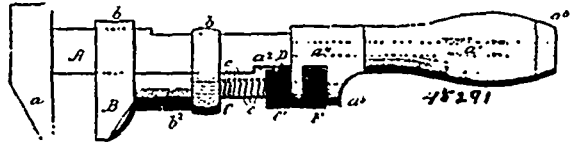
Claim.—Artificial fuel manufactured from anthracite coal dust or other compact carbonaceous material, cellulose and hydraulic lime combined in about the proportions and for the purposes herein described.

No. 45,291. Wrench. (Clé à écrou.)

Jerry Foley, Syracuse, New York, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. In a wrench, the combination of a shank A, provided at one end with a fixed jaw a, and having a projection arm a', and a cut-out a'', interposed between the jaw a, and the arm a' in proximity to said arm a', a jaw B, supported upon and movable lengthwise of the shank A,

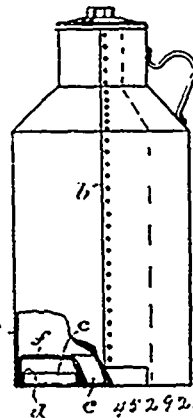
between the jaw a, and the arm a', and provided with a socket b', closed at one end and extending inwardly from the opposite face of the jaw B, and having a series of engaging shoulders b', and a groove b'', a spindle C, having one end journalled in the arm a', and the other end arranged within the socket b', and provided with a series of shoulders c, for engaging the shoulders b', and registering with the groove b'', and a shoulder C', of greater diameter than the spindle C, fixed thereto and projecting within the cut-out a'', and oppositely arranged stop-shoulders D, D, for engaging the opposite faces of the shank A, consisting of the projecting ends of a pin



passed through the shoulder C', substantially as and for the purpose set forth. 2nd. In a wrench, the combination of a shank A, provided at one end with a fixed jaw a, and having a projecting arm a', and a cut-out a'', interposed between the jaw a, and the arm a', in proximity to said arm a', a jaw B, supported upon and movable lengthwise of the shank A, between the jaw a, and the arm a', and provided with a socket b', closed at one end and extending inwardly from the opposite face of the jaw B, and having a series of engaging-shoulders b', and a groove b'', a spindle C, having one end journalled in the arm a', and the other end arranged within the socket b', and provided with a series of shoulders c, for engaging the shoulders b', and registering with the groove b'', said shoulders c, having at corresponding ends pointed engaging extremities c', a shoulder C', of greater diameter than the spindle C, fixed thereto and projecting within the cut-out a'', and oppositely arranged stop-shoulders D, D, for engaging the opposite faces of the shank A, substantially as and for the purpose specified. 3rd. In a wrench, the combination of a shank A, provided at one end with a fixed jaw a, and having a projecting arm a', provided with a cut-out a', extending inwardly from its outer face, and a cut-out a'', interposed between the jaw a, and the arm a', in proximity to said arm a', a jaw B, supported upon and movable lengthwise of the shank A, between the jaw a, and the arm a', and provided with a socket b', closed at one end and extending inwardly from the opposite face of the jaw B, and having a series of engaging shoulders b', and a groove b'', a spindle C, having one end journalled in the arm a', and formed of less diameter than the spindle C, and provided with screw threads c'', and the other end arranged within the socket b', and provided with a series of shoulders c, for engaging the shoulders b', and registering with the groove b'', a shoulder C', of greater diameter than the spindle C, fixed thereto and projecting within the cut-out a', and formed of less width than the width of said cut-out, a stop-shoulder D, for engaging the shank A, and an adjusting nut E, mounted upon the screw threaded extremity of said spindle C, and arranged within cut-out a', whereby said spindle C, and jaw B, may be lengthwisely adjusted, substantially as and for the purpose set forth.

No. 45,292. Can. (Boîte métallique.)

Thomas Charles Davidson, Montreal, Quebec, Canada, 9th February, 1894; 6 years.



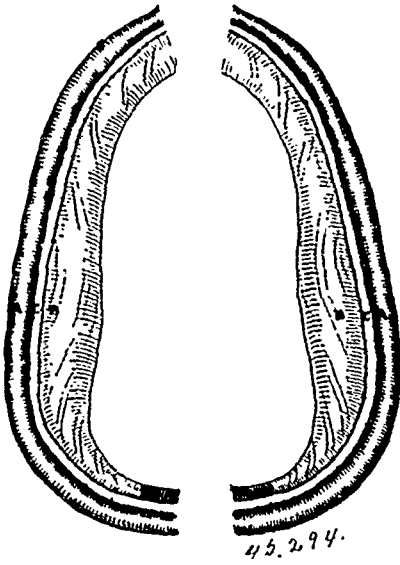
Claim.—1st. The combination of the can body a, having turned in portion c, forming pockets d, and bottom f, having flange c fitting in said pocket, for the purpose set forth. 2nd. The combination of the can body a, made from the blank having cut away lower corner portion, and turned in portion c forming pocket d, and bottom f, having flange c fitting in said pocket, for the purposes set forth.

No. 45,293. Mucilage, etc. (Mucilage, etc.)

Charles M. Higgins, Brooklyn, New York, U.S.A., 9th February, 1894; 6 years.

Claim.—1st. An adhesive compound formed of water, dextrine and peroxide of hydrogen, substantially in the proportions set forth. 2nd. In the manufacture of adhesive compounds, first making solution of dextrine in water, and then adding peroxide of hydrogen thereto, and allowing the same to stand and settle, substantially as set forth.

No. 45,294. Horse Collar. (Collier de cheval.)



Edmund Henry, Gullidge, Oakville, Ontario, Canada, 9th February, 1894; 6 years.

Claim.—As an article of manufacture, a harness collar having a flexible or pliable strip of any required width, between and connecting the frame and body thereof, substantially as and for the purpose hereinbefore set forth,

No. 45,295. Knapsack. (Havre-sac.)



Henry C. Merriam, Fort Logan, Colorado, U.S.A., 9th February, 1894; 6 years.

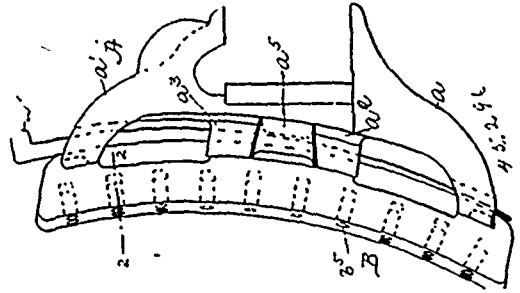
Claim.—1st. In combination with the knapsack, the braces adapted to be supported in the hip-strap, and having the edges of their upper ends provided with a series of notches, and the flexible fastening means passing around the braces and engaging said notches to adjustably secure the braces to the pack, substantially as described. 2nd. In combination with the pack and braces adapted to be supported upon the hip-strap and adjustably connected to the pack at the upper rear corners, the adjusting strap c secured at the lower part of the pack and extending forward to the braces for the purpose of regulating the angle of the pack with reference to the brace A, and the back of the person carrying pack.

No. 45,296. Brake-Shoe. (Sabot de frein.)

William Wirt Whitcomb, Boston, Massachusetts, U.S.A., 10th February, 1894; 6 years.

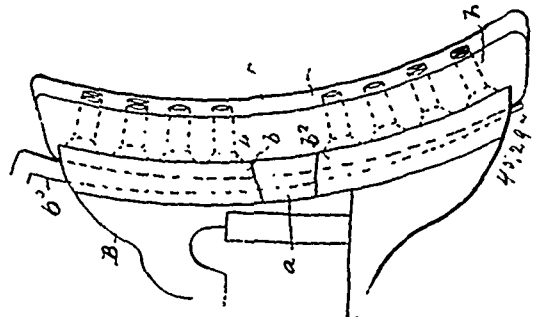
Claim.—1st. A composite brake-shoe, consisting of a metallic portion having one or more sockets or holes, non-metallic portions inserted into said holes or sockets, and a locking device or key to firmly secure the said non-metallic portion in its socket, substantially as described. 2nd. A composite brake-shoe, consisting of a

metallic portion having one or more sockets or holes, non-metallic portions inserted into said holes or sockets, and a locking device or key embedded in the said non-metallic portion to firmly secure the same to the metallic portion, substantially as described. 3rd. The herein described composite brake-shoe, consisting of a metallic portion having a solid rear portion and provided with one or more



sockets or holes, extended from the front face of the shoe toward the solid rear portion, non-metallic plugs inserted into said holes or sockets, and a key or device to lock the said plug in its sockets, substantially as described. 4th. The herein described composite brake-shoe, consisting of a metallic portion having one or more sockets enlarged at their rear ends non-metallic plugs inserted therein, and a key or locking device to distend the rear end of the non-metallic plug into the enlargement of the socket or hole, substantially as described. 5th. A composite brake-shoe, consisting of a metallic portion having one or more holes or sockets, one or more plugs of a softer material inserted into said sockets, and a locking device or key to firmly secure the plug in its socket, substantially as described.

No. 45,297. Brake-Shoe. (Sabot de frein.)



William Wirt Whitcomb, Boston, Massachusetts, U.S.A., 10th February, 1894; 6 years.

Claim.—1st. In a brake-shoe, the combination, with a metallic portion having a plurality of holes or sockets extended through the shoe and enlarged at their rear end, of a plurality of plugs inserted into the said holes or sockets and enlarged at their rear ends, substantially as described. 2nd. The combination, with a brake-shoe, consisting of a metallic portion provided with a plurality of holes or sockets extended through the shoe and enlarged at their rear end, and a plurality of plugs inserted into the said holes from the rear of the shoe and enlarged at their rear ends, and a cover for said plugs secured to the rear side of the shoe, substantially as described. 3rd. The combination, with a brake-shoe, consisting of a metallic portion provided with one or more holes or sockets extended through the shoe, of a plurality of plugs inserted into said holes or sockets, the said holes or sockets and plugs being constructed to prevent forward displacement of the plugs, and a cover for the back or rear face of the shoe to prevent rearward displacement of the plugs, substantially as described.

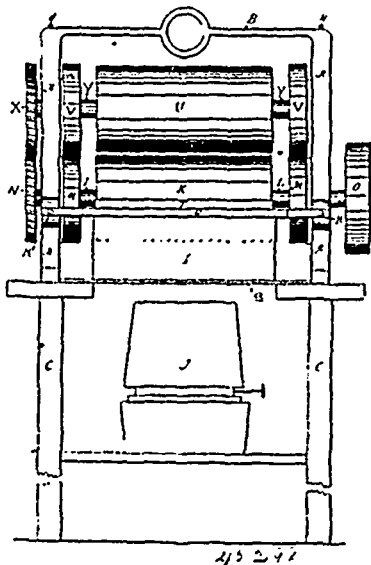
No. 45,298. Machine for Waxing Leather.

(Machine pour cirer le cuir.)

Eugène Guay St. Henry, Montreal, Quebec, Canada, 10th February, 1894; 6 years.

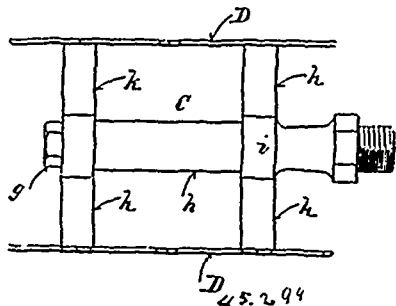
Claim.—1st. The combination of the heater J, and the recipient I, with the rollers K and U, the shoulder pieces V V and M M, the wheel O, and the geared-wheels N and X, all substantially as described and for the purpose specified. 2nd. The combination of the roller K, with the leather board T, fixed to the shelf Q, which is provided with the screws R, R, and the rubber S, all substantially

as described and for the purpose specified. 3rd. The combination of the pieces A A, with the blocks D and E, on top of which is the



rubber F, with the plate G, provided with the screw H, all substantially as described and for the purpose specified.

No. 45,299. Pedal for Bicycles. (Pédale de bicycles.)



Charles Herman Metz, Waltham, and Walter Measure, Highlandville, both in Massachusetts, U.S.A., 10th February, 1894; 6 years.

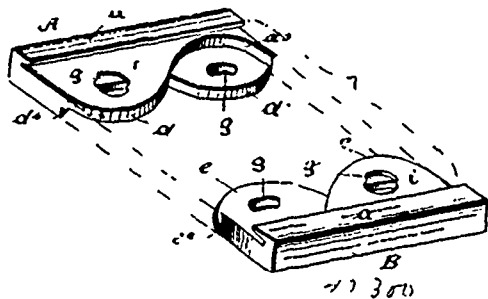
Claim.—1st. In a crank pedal for bicycles, a hollow hub for the pedal shaft provided integrally with the hollow laterally projecting arms to which the foot-plates may be secured, substantially as set forth. 2nd. In a crank pedal for bicycles, a hub provided integrally with laterally projecting hollow arms, in combination with foot-plates secured to said arms. 3rd. In a crank pedal for bicycles, a pedal shaft having an end threaded to turn into the crank arm and provided with a shoulder at the inner end of said thread for receiving a wrench. 4th. The shaft A, threaded at b, and provided with the shoulder f, in combination with the hub C, journalled on said shaft. 5th. In a crank pedal for bicycles, the foot plate D, provided with the stops p, and brads m, arranged on a curve, substantially as and for the purposes set forth. 6th. The improved pedal herein described, comprising the hub C, in which the pedal shaft may journal, and having the hollow arms k, and the foot plates D, secured to the ends of said arms. 7th. In a crank pedal for bicycles, the combination, with the foot plate, of a detachable tip comprising an angle-iron shaped to receive said plate and faced with rubber and devices for detachably securing said iron to said plate. 8th. In a crank pedal for bicycles, the tip H, comprising the iron g, having a rubber cushion vulcanized thereon and a screw for detachably securing the same to a pedal foot-plate. 9th. In a crank pedal for bicycles a foot plate arranged transversely in parallelism with the pedal shaft and having upwardly projecting stops at its ends.

No. 45,300. Rail Joint. (Joint de rail)

Charles T. Stagg, jr., Philadelphia, Pennsylvania, U.S.A., 10th February, 1894; 6 years.

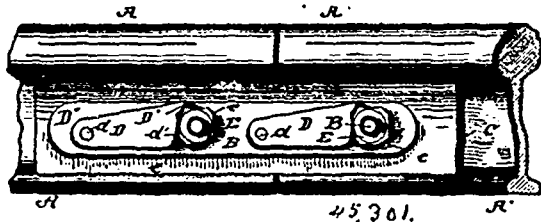
Claim.—1st. The combination, in a rail-joint, of the two oppositely shaped and interlocking sections, each section having inwardly protruding portions and recesses on different horizontal levels, said sections adapted to engage into each other beneath the bottom flange of the rail and lip for confining the flanges of the rail to the top of the joint, and provided with vertically arranged key

receiving openings, and a locking-key adapted to be placed in position in said openings from beneath the joint, substantially as



specified. 2nd. The combination, in a rail-joint, of the two opposite sections, having recesses in different horizontal and vertical planes, projecting portions on each section adapted to fit within such recesses, and each provided with an elongated opening a key having a rectangular shank adapted to each of such openings, and elongated heads on said keys adapted to recesses in the projecting portions of the sections and a stop at the end of each recess to limit the movement of said head, substantially as described. 3rd. The combination, in a rail-joint, of two opposite sections adapted to fit together, projecting lips on each section adapted to engage with the bottom flange of the rail, each section being provided with openings as g, g', and recesses, i, a locking-key having a rectangular shank adapted to such openings whereby on the turning of the key the lips will be forced into intimate contact with the rail flange, substantially as described. 4th. The combination, in a rail-joint, of two oppositely-shaped and interlocking sections, having longitudinally disposed flanges for engaging the flange of the rail, and each section having inwardly protruding portions and recesses on different horizontal levels, and at different portions of the sections, said protruding portions of each section adapted to engage and register in the oppositely disposed recess of the opposite section, oblong, vertically disposed recesses provided in each protruding portion, adapted to register with each other when the sections are adjusted together in position, a headed oblong key in cross section, provided through the orifices of each of the protruding sections for locking said sections together upon the rail, substantially as described. 5th. The combination, in a rail-joint, of the two oppositely-shaped interlocking sections A and B, each section having the inwardly protruding portions d, d', e, e', respectively, and recesses d^2 and d^3, and e^2, e^3, respectively, said recesses adapted to receive the protruding portion of the opposite section, vertically disposed oblong orifices g, g', provided through said sections, locking keys H, H', secured in said orifices, having a rectangular shank h^1, elongated head h, and key h^2 recess i, provided in the upper portion of the plates d, e, for receiving and engaging the head h, of the said key, longitudinal lips a, provided upon upper surface of said sections engaging the base of the rail, substantially as described. 6th. In combination with the two sections having flange-engaging lips, and each provided with registering openings, of a locking-key comprising an elongated head portion, a shank of rectangular form, and a rectangular end portion, to which an operating tool may be applied, substantially as specified.

No. 45,301. Nut Lock. (Arrêt-écrou.)



Ira Nappin, Farmington, Illinois, U.S.A., 10th February, 1894; 6 years.

Claim.—1st. The combination with the rails and the bolts, of the nuts with cut away corners, and the pivoted locking-plate, having a cam portion and a projection, having a cam face, substantially as and for the purpose specified.

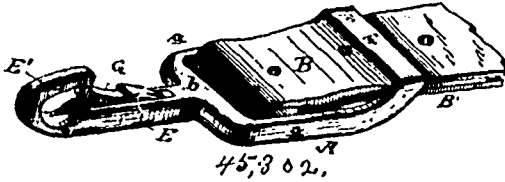
No. 45,302. Buckle and Snap Hook.

(Boucle et crochet à ressort.)

Günther Fridrich Carl Schroter, Redding, California, U.S.A., 10th February, 1894; 6 years.

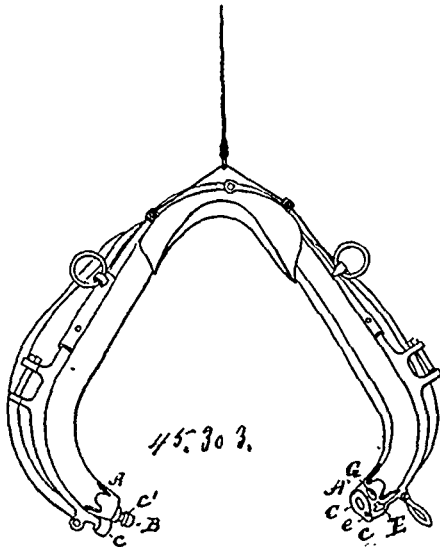
Claim.—An improved combined buckle and snap hook, consisting of an open frame or loop, having the side-bars with upwardly curved ends, the upper cross-bars c, the lower cross-bars d at one side of the vertical plane of the latter, the cross-bar b at the opposite end of the

frame having the outwardly extended slotted-bar provided with a hook, a spring-actuated tongue or catch pivoted within the slot of



said hook-bar, and adapted to close the throat of the hook, the cross-bars *g* and *h*, occupying the upper and lower portions of the frame or loop between the bars *b* and *d*, the oppositely extending tongues mounted on said bars *g* and *h*, and to engage the strap connections, one of said tongues adapted to be seated against the cross-bars contiguous to their free ends, substantially as herein described.

No. 45,303. Fastener for Collars.
(Attache de collier de cheval.)



Charles Everitt, Oshkosh, Wisconsin, U.S.A., 10th February, 1894; 6 years.

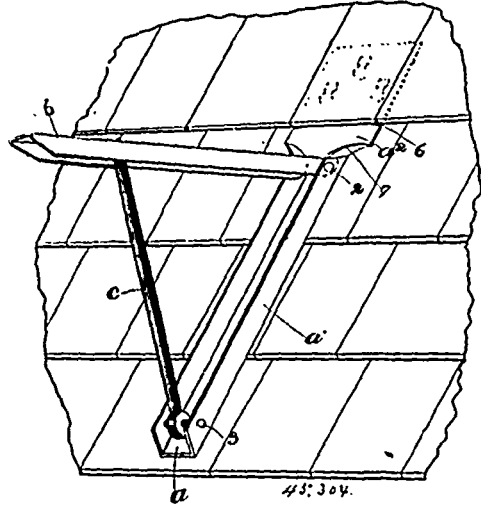
Claim.—1st. A collar fastening consisting of two parts A, A', adapted to be brought together and automatically locked, the part A being provided with a head having a shoulder, and the part A' provided with a socket and a spring latch, the latter comprising a bolt G, a pivoted thumb piece E, which bears at the lower end against a stud on the bolt and holds it in a normally outward condition, substantially as described. 2nd. A collar fastening consisting of two parts A, A', adapted to be brought together and automatically locked, the part A being provided with a bevelled head B, having a shoulder C', and the part A' provided with a socket and spring latches, the latter adapted to engage the head on both sides, the latter comprising a shouldered bolt G, provided with a longitudinal slot S, and guided by a pin P, a pivoted thumb-piece E which bears near its lower end against a stud on the bolt, and a spring H which bears upon the bolt and holds it in a normally outward condition, substantially as described.

No. 45,304. Bracket for Shingling Purposes.
(Taquet pliant pour couvertures en bardeau.)

John B. Kenison and Michael F. Burke, both of Lynn, Massachusetts, U.S.A., 12th February, 1894; 6 years.

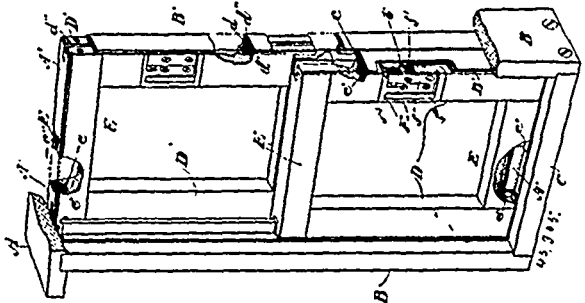
Claim.—1st. The folding shingling bracket herein shown and described, consisting of the wall-plate *a*, having upturned side edges *a'*, and the flat end portion *a''*, provided with holes 5 having slots leading therefrom, the sole-plate *b*, having downwardly turned side edges *b'*, and pivotally connected to the wall-plate, and having several holes 4, and the brace-rod *c*, pivotally connected to the wall-plate, and having a hooked end to engage the sole-plate, substantially as described. 2nd. The folding shingling bracket herein shown and described, consisting of the wall-plate *a*, having upturned side edges *a'*, and the flat end portion *a''*, provided with keyhole slot 5, the sole-plate *b* having several holes 4, and also having downwardly turned side edges *b'*, and pivotally connected to the wall-plate, so that when turned in parallelism therewith it occupies a position between the side edges of said wall-plate, and the brace-rod *c*, pivotally connected to the wall-plate, and having a hooked end which passes through the holes 4 and engages the sole-plate, sub-

stantially as described. 3rd. In a staging-bracket, the combination of a sole-plate, brace-rod, and wall-plate, said wall-plate having a



thin flat end portion provided with several keyhole slots for the securing nails, and also with a butt-line guide, and a limiting stop located a short distance below said butt-line guide, substantially as described. 4th. In a folding staging-bracket, the combination of a wall-plate, brace-rod pivotally connected thereto, having its upper end notched as shown, and the sole-plate also pivotally connected to the wall-plate, and having several keyhole slots for the notched hooked end of the brace-rod, substantially as described. 5th. In a folding staging-bracket, the combination of a wall-plate, brace-rod pivotally connected thereto having its upper end notched as shown, and the sole-plate also pivotally connected to the wall-plate, and having several keyhole slots for the notched hooked end of the brace-rod, and a pivoted-plate adapted to be turned to cover the circular portion of said keyhole slots, substantially as described.

No. 45,305. Fastener and Slide for Windows.
(Arrêt et coulisse de fenêtres.)

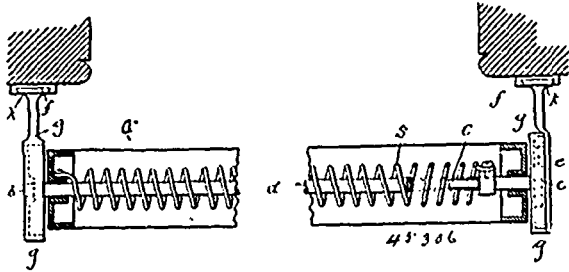


William Bentley, Lethbridge, North-west Territories, Canada, 12th February, 1894; 6 years.

Claim.—1st. The combination, with the window sash and frame of grooves formed in the side of the stiles of the sash designed to be adjustable upon the tongue of the T-shaped angle side-bars, and a groove made in one of the rails of the sash designed to fit over the tongue of the head or sill T-shaped angle-bar, as and for the purpose specified. 2nd. The combination, with the window sash and frame, of the grooved T shaped angle-bars secured in the sides of the stiles of the sash, the grooves which bars are designed to fit over the tongues of the T-shaped side-bars and are adjustable thereon, and the grooved T-shaped angle-bar secured in the top or bottom rail of the sash and grooved to fit over the T-shaped bar on the head or sill when the sash is closed, as and for the purpose specified. 3rd. The combination, with the window sash and frame, having the grooves formed in the outer sides of the stiles and designed to fit and be adjustable upon the tongues of the side-bars, of a spring-plunger located in the stile and extending throughout so as to come in contact with the tongue of the side-bars, as and for the purpose specified. 4th. The combination, with the window sash and frame, having the grooves formed in the outer sides of the stiles and designed to fit and be adjustable upon the tongues of the side-bars, of a spring-plunger designed to fit within an annular recess in the tongue of the side-bar when the window is closed and means for removing the spring-plunger when it is desired to open the window, as and for the purpose specified. 5th. The combination, with the window sash and frame, having the grooves formed in the outer sides of the stiles and designed to fit and be adjustable upon the

tongues of the side-bars, of the annular recess *b*¹, formed in the tongue of the angle-bar *B*¹, the spring-plate *f*, provided with a plunger *f*¹, and the spindle *f*¹, having the semi-circular end located to the inside of the spring plate *f*, at the outer end, and a handle *f*², at the inner end, as and for the purpose specified.

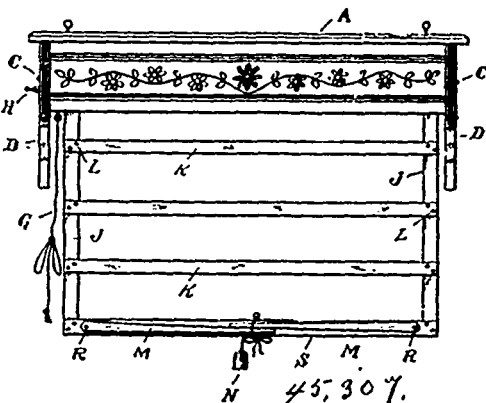
No. 45,306. Means for Supporting and Adjusting Window Blinds. (*Moyen de supporter et d'ajuster les stores de fenêtre.*)



William H. Nesbitt, Blenheim Gardens, Willesden Green, Middlesex, England, 12th February, 1894; 6 years.

Claim.—1st. The herein described supporting bracket, consisting of a permanent and separable part, and having in or on the latter a bearing for a roller, substantially as set forth. 2nd. The combination with the roller or cross-piece, of the brackets made in two separable parts, substantially as set forth. 3rd. The combination with the base adapted for permanent attachment, of a separate piece having a bearing for the roller, said base and piece being provided with tapering and dove-tailed projections, and a foot-piece, substantially as set forth. 4th. The combination with a bracket, of a rotary piece thereon attached to the roller gudgeon, and a transverse shaft connected with such rotary piece for adjusting and holding, substantially as set forth. 5th. The combination with the bracket, of the worm-wheel connected with the roller gudgeon, and a worm for adjusting and holding the wheel, substantially as set forth. 6th. In a window-blind apparatus, a roller having a cylinder, a rotary disc engaging said cylinder, a sleeve within said disc having a ratchet on one end and one or more nuts on the other end, a central or main spindle within the sleeve, a spring for pressing said disc and ratchet together, a pawl engaging the ratchet, and a main spring *14*, substantially as set forth. 7th. In a window blind apparatus, a roller having a cylinder, a rotary disc engaging said cylinder, a sleeve within said disc having a ratchet at one end and a nut on the other, a main spindle within the sleeve, a spring for pressing said disc and ratchet together, a pawl engaging the ratchet, a main spring *14*, and supporting brackets for the roller made in two separable parts, one of said parts being provided with tapering projections and the other with a foot piece, substantially as set forth.

No. 45,307. Clothes Drier. (*Séchoir à linge.*)



Valentine Reichert, Waterloo, Ontario, Canada, 12th February, 1894; 6 years.

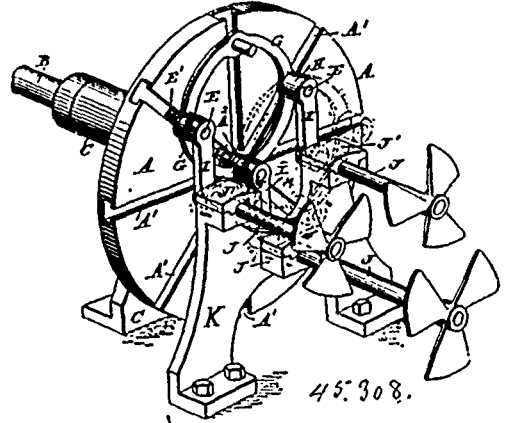
Claim.—The combination of a mantel-shelf *A*, and slats *K* fastened to webs *J*, which are secured to said roller *B* or spring rollers, and operated either by spring roller, cord and groove pulley or crank, and secured by spring pin from unrolling, substantially as and for the purpose herebefore set forth.

No. 45,308. Mechanical Movement. (*Mouvement mécanique.*)

Timothy C. Van Wyck, Brooklyn, New York, U.S.A., 12th February, 1894; 6 years.

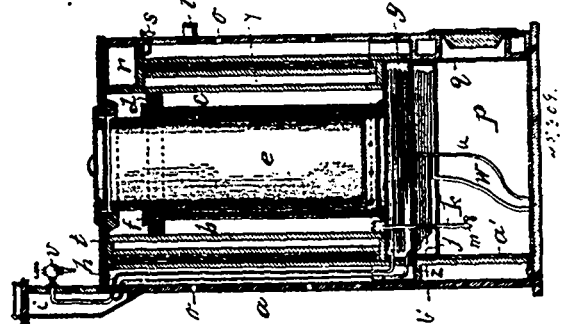
Claim.—1st. In a mechanical movement, the combination with a rotary disc having radial grooves in its face, of a movable frame pro-

vided with studs projecting in the grooves and actuated by the walls thereof, and a plurality of shafts having cranks connected to and



operated by said frame, all arranged and adapted to operate in the manner, and for the purpose substantially as described. 2nd. In a mechanical movement, the combination, with a rotary disc having radial T-shaped grooves in its face, of a movable frame provided with a stud projecting into the grooves and actuated by the walls thereof, a plurality of pins projecting from the opposite side of the frame and away from it, a plurality of cranks connected to the pins, and shafts fixed to said cranks.

No. 45,309. Soda Fountain and Ice Cream Cooler Combined. (*Fontaine à soda et réfrigérateur de crème glacée combinés.*)



Frank W. Merrill, Deering, Maine, U.S.A., 12th February, 1894; 6 years.

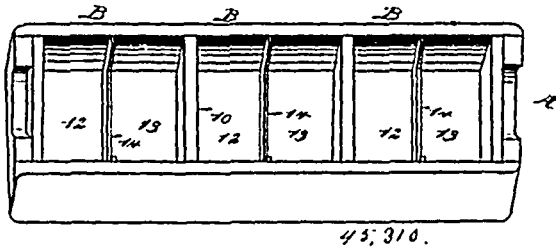
Claim.—1st. In a combined ice cream cooler and soda fountain, an outside case, an ice tank adapted to hold an ice cream can arranged within said case, a cold water chamber beneath said ice tank and in communication with said ice tank, a soda pipe passing through said ice water chamber and thence out and upward between said case, and said ice tank and terminating at a point above said case, as and for the purposes set forth. 2nd. In a combined ice cream cooler and soda fountain, an outside case, an ice tank supported therein, perforated jacket set in said ice tank, and having lateral braces bearing against the walls thereof, a closed ice water tank beneath said ice tank, and a pipe leading from the ice water tank, an intermediate cold air chamber between said ice tank and said ice water tank, a soda pipe adapted to pass through said cold air chamber and thence up between said air case and ice tank, substantially as and for the purposes set forth. 3rd. In a combined ice cream cooler and soda fountain, an outside case, an ice tank adapted to hold an ice cream can suitably mounted in said case, an ice water chamber below said ice tank, a cold air chamber intermediate between said ice tank and ice water chamber, a soda pipe passing through the cold air chamber, as and for the purposes set forth. 4th. In a combined ice cream cooler and soda fountain, an outside case, an ice tank supported therein adapted to hold a cream can, an ice water chamber below said ice tank, a cold air chamber intermediate between said ice tank and ice water chamber, and syrup reservoirs arranged at the top between the outside case and the ice tank, as and for the purposes set forth.

No. 45,310. Brick Mould. (*Moule à brique.*)

Charles A. Schultz, Rondout, New York, U.S.A., 12th February, 1894; 6 years.

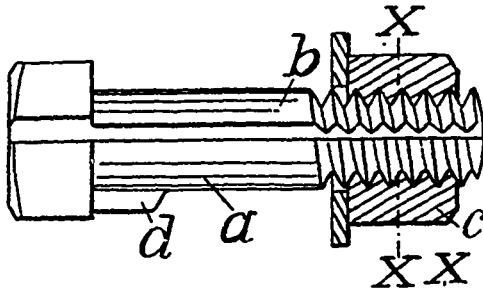
Claim.—1st. A brick mould, the same being divided into a series of compartments capable of accommodating two bricks, each compartment being sub-divided by a partition extending transversely

down the sides of the mould and transversely across the bottom, as and for the purpose specified. 2nd. In a brick mould, the combination, with a rectangular body divided into compartments, each



compartiment being adapted to accommodate two bricks, and each compartment being provided with a division rib extending transversely across the bottom and up the sides, flush with the upper surface of the mould, the rib being continuous and dividing the compartment into two communicating sub-compartments, of a pallet adapted to receive the bricks when removed from the mould, said pallet being provided with transverse ribs formed thereon, the ribs being adapted for engagement with the moulded brick opposite the section engaged by the ribs of the mould, whereby provision is made for making a groove in all four sides of the bricks or only on three sides thereof, as and for the purpose set forth.

No. 45,311. Nut Lock and Shaft Coupling.
(Arrête-écrou et armon de limonière.)

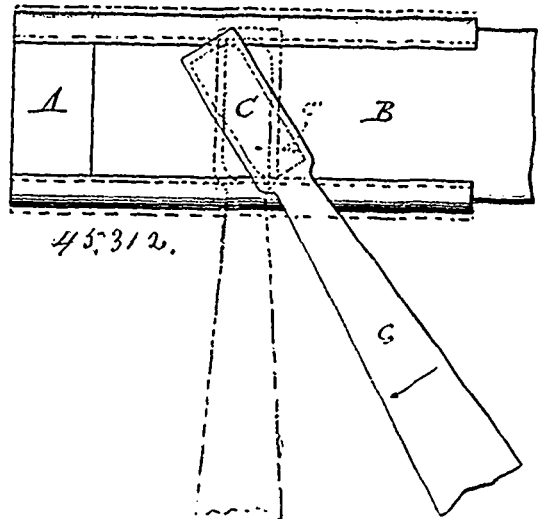


Edwin Stancliff, New York, State of New York, U.S.A., 13th February, 1894; 6 years.

Claim.—1st. In friction grip mechanism, a shaft split on a plane that lies in the general direction of the length of the shaft, the two parts being laid together so as to make the shaft complete, one of the parts being bevelled along one side by cutting away a portion of the face that contacts with the other part, in such manner as to form a longitudinal rocking edge so positioned that if the parts are rocked relatively to each other upon this edge in one direction, their combined diameter is increased beyond their combined diameter when the parts are rocked upon this edge in the other direction, substantially as described. 2nd. In a friction grip mechanism, a shaft split on a plane that lies in the general direction of the length of the shaft, the two parts being laid together so as to make the shaft complete, one of the parts being bevelled along one side by cutting away a portion of the face that contacts with the other part, in such manner as to form a longitudinal rocking edge so positioned that, if the parts are rocked relatively to each other upon this edge in one direction, their combined diameter is increased beyond their normal combined diameter, substantially as described. 3rd. In a friction grip mechanism, a shaft split on a plane that lies in the general direction of the length of the shaft, the two parts being laid together so as to make the shaft complete, one of the parts being bevelled along one side by cutting away a portion of the face that contacts with the other part, in such manner as to form a longitudinal rocking edge so positioned that, if the parts are rocked relatively to each other upon this edge in one direction, their combined diameter is increased beyond their normal combined diameter, in combination with a sleeve encircling the two parts of the shaft, and gripped thereby to prevent its turning freely in one direction upon the shaft, substantially as described. 4th. In friction grip mechanism, a shaft split on a plane that lies in the general direction of the length of the shaft, the two parts being laid together so as to make the shaft complete, one of the parts being bevelled along one side by cutting away a portion of the face that contacts with the other parts, in such manner as to form a longitudinal rocking edge so positioned, that, if the parts are rocked relatively to each other upon this edge in one direction, their combined diameter is increased beyond their normal combined diameter in combination with a sleeve encircling the two parts of the shaft and gripped thereby to prevent its turning freely in one direction upon the shaft, the length of the split being less than the width of the sleeve, substantially as described. 5th. In friction grip mechanism, a shaft split on a plane that lies in the general direction of the length of

the shaft, the two parts being laid together so as to make the shaft complete, one of the parts being bevelled along one side by cutting away a portion of the face that contacts with the other part, in such manner as to form a longitudinal rocking edge, so positioned that, if the parts are rocked relatively to each other upon this edge in one direction, their combined diameter is increased beyond their normal combined diameter, in combination with a sleeve encircling the two parts of the shaft and gripped thereby to prevent its turning freely in one direction upon the shaft, and means for holding either or both of the parts to prevent rocking, substantially as described. 6th. Friction grip mechanism constituting a nut-locking bolt, the threaded portion of which is composed of two parts separated on a plane that lies in the general direction of the length of the bolt, the two parts being laid together to make the bolt complete, one of the parts being bevelled along one side by cutting away a portion of the plane face that contacts with the other part, there being thus formed a rocking edge which lies in the general direction of the length of the bolt, and is so positioned that if the parts are rocked relatively to each other upon this rocking edge in one direction, their combined diameter is increased beyond their normal combined diameter, and the nut is turned off with difficulty, and turned on with comparative ease, substantially as described. 7th. Friction grip mechanism constituting a nut-locking bolt split on a plane that includes the central longitudinal axis of the bolt, the two parts being laid together so as to make the bolt complete, one of the parts being bevelled by cutting away a portion of the plane face that contacts with the other part, less than one-half of the said plane face being cut away, there being thus formed a longitudinal rocking edge which lies parallel to the longitudinal axis and on the side from which the cut is started, so that if the parts are rocked relatively to each other on this rocking edge in one direction their combined diameter is increased beyond their normal combined diameter, substantially as described.

No. 45,312. Clasp. (Agrafe.)



Charles La Dow, Albany, New York, U.S.A., 13th February, 1894; 6 years.

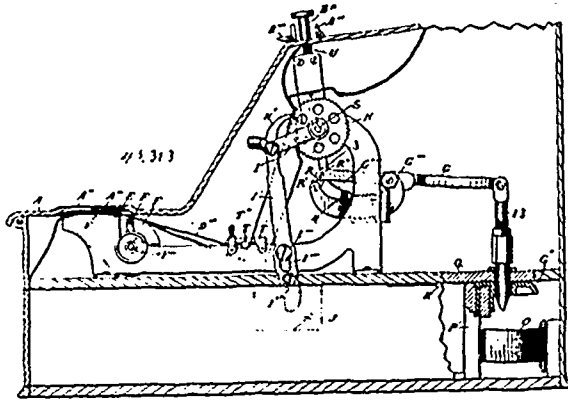
Claim.—1st. A spring clasp made of a single piece of material adapted to close by its own elasticity, and provided with opposing edges to receive an opening device. 2nd. A spring clasp made of a single piece of material adapted to close by its own elasticity, and provided with opposing edges, or seats for an opening device, in combination with a device engaging said edges to hold the clasp open. 3rd. A clasp made of a plate of spring material, adapted to be expanded edgewise, and with its edges having biting contact with a separate body. 4th. A flat clasp, edgewise expansible, made of spring material, and having opposing surfaces for an opening device. 5th. A clasp formed of spring material, having edges bent inwardly towards each other to form a seat for the object to which the clasp is applied, in combination with a device for opening the clasp. 6th. A clasp formed of spring material, adapted to close by its own elasticity, and having opposing undercut edges. 7th. A clasp consisting of a split, elastic casing, closing by its own elasticity, and having means for opening it, in combination with a central member, adjustable in the casing.

No. 45,313. Manual Recorder and Cash Drawer.
(Registre et caisse de comptoir.)

Harry M. Geiger and Daniel E. Corbitt, both of Grand Rapids, Michigan, U.S.A., 13th February, 1894; 6 years.

Claim.—1st. The combination of a movable drawer, a frame or case supporting such drawer, and a plurality of spools adapted to contain strips of writing material, each spool moved independently

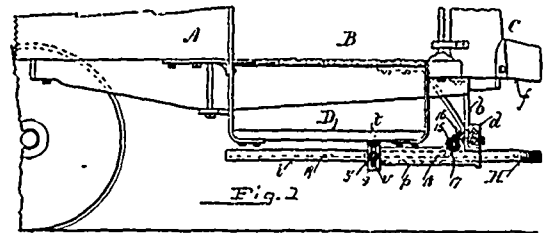
by the movement of the drawer, for the purpose specified. 2nd. The combination of a drawer, a plurality of paper strips adapted each to receive a column of figures, and suitable mechanism for con-



necting any one of such spools to the movable drawer whereby it may be moved independently of the other spools, for the purpose specified. 3rd. The combination of a movable drawer, a plurality of spools for containing paper strips, plurality of strips and a plurality of finger-bars, each bar adapted to make suitable mechanism between the drawer and one of the spools, thereby advancing a single strip of paper independently, substantially as described. 4th. The combination of a movable drawer, a case supporting said drawer, a plurality of spools bearing paper strips, a plurality of finger-bars, a plurality of finger bars, a locking-dog and connecting mechanism whereby the depression of any one of the finger-bars unlocks the dogs and allows one of the spools to be advanced with its paper strips independent of the other spools, for the purpose set forth. 5th. The combination of a case, a movable drawer, a plurality of spools, a plurality of paper strips supported by the spools, a plurality of fingers bars, a locking-dog and mechanism for advancing the spools operated upon the depressed finger-bar independently of the other spools, for the purpose specified. 6th. The combination of a supporting case, a movable drawer, a plurality of spools supported loosely upon the shaft, a shaft supporting such spools, and a plurality of finger-bars, each bar adapted when depressed to attach rigidly its corresponding spool to the shaft, for the purpose specified. 7th. The combination of a supporting case, a movable drawer a plurality of spools mounted, when in normal position, loosely upon a shaft, a revolving shaft, a plurality of finger bars, each bar when depressed attaching its corresponding spool to the shaft so that such spool will revolve with such a shaft, and suitable mechanism operated upon by the drawer to give an intermittent movement to the shaft and attached spool, for the purpose specified. 8th. The combination of a movable drawer, a plurality of spools, a plurality of strips supported by such spools, a shaft upon which the spools are loosely supported, a locking-dog, a plurality of finger-bars, each bar provided with suitable bearing whereby the depression of any one of the finger bars unlocks the dog allowing the drawer to be opened, and immediately preceding the unlocking of the dog, attaches its corresponding spool to said revolving shaft, whereby the spool is advanced for the purposes specified. 9th. The combination of a supporting case, a movable drawer, a plurality of spools normally loosely supported upon a shaft, a pivoted-dog, a plurality of finger-bars, each bar adapted as it is depressed, to unlock the dog and to connect its corresponding spool to the shaft, a ratchet-wheel upon said shaft, a pawl adapted to engage with the said ratchet-wheel, a cam on the drawer, and a push-rod moved by said cam to give an intermittent movement to the shaft for the purpose of advancing one of the paper strips, substantially as described. 10th. In combination with a pivoted-dog, substantially as described, a locking-bar having a plurality of lugs, a plurality of finger-bars, each bar adapted to depress the front end of the locking-dog, a locking-plate having a smooth surface, as G¹¹, adapted to hold the dog unlocked and a depressed finger-bar in its depressed condition, while the surface is moved beneath the rear end 13, of the locking-dog, substantially as and for the purpose specified. 11th. In combination with a pivoted locking-dog, a movable drawer, a plurality of spools, a plurality of paper strips, a shaft upon which said spools are loosely supported, mechanism for attaching any one of said spools independently to the shaft, and mechanism for revolving the shaft by the opening of the drawer, substantially as described. 12th. The combination of a movable drawer, a plurality of independently moving spools, each spool supporting a strip of paper, a shaft upon which such spools are loosely supported, means for attaching said spools severally to said shaft, a locking-dog, means for locking said dog, a spring adapted to move the drawer outwardly as soon as released by the dog, a ratchet-wheel on said shaft, a pawl engaging with said ratchet-wheel, supporting mechanism for said pawl, and a cam on the moving drawer adapted to operate said pawl mechanism, and give an intermittent movement to the shaft and to the paper spools attached rigid thereto, for the purpose described. 13th. The com-

bination of a movable drawer, a supporting case, a pivoted-dog, a plurality of paper supporting spools loosely supported on a revolving shaft, a plurality of finger-bars adapted severally to temporarily connect one of the spools rigid with the shaft, and to unlock the locking-dog, a locking-bar having a plurality of locking-lugs, a locking-plate having a surface as G¹¹, adapted to retain the dog out of locking position, and a locking-bar in locking position during the movement of the plate G¹¹, beneath the end 13, of the dog 7, substantially as described. 14th. In a manual typewriter and cash drawer, the combination of a revolving shaft, a plurality of rollers supported thereon, a plurality of cones, one for each roller rigid with the shaft, a plurality of adjusting nuts, one for each cone, a plurality of cone keys, each key provided with a wedge-shaped projection and an abutting surface on each roller with which the incline or wedge-shaped portion of the key engages, all so combined that the depression on each key will attach its corresponding roller to its corresponding cone and thereby to the shaft, substantially as and for the purpose described. 15th. The combination of a shaft, a plurality of rollers supported on said shaft, a plurality of cones rigid with the shaft, one for each roller, an adjustable nut for each cone, suitable mechanism for adjusting such nut, a plurality of keys each having a wedge-shaped projection, an abutting surface on each roller with which the key engages in its downward stroke, whereby the downward movement of the key attaches its corresponding roller to its corresponding cone and thereby to the shaft, substantially as described. 16th. The combination of a shaft, a plurality of rollers supported on said shaft, a plurality of cones attached to the shaft, an adjusting nut on each cone, a plurality of keys each provided with a wedge-shaped projection, an abutting surface on each roller with which its corresponding key engages in its downward stroke, an arm or lever connected to the adjusting nut, and a series of stops or notches adapted to engage said lever and retain the same in its adjustment, substantially as described.

No. 45,314. Car Fender. (Défense de chars.)



Louis Pfingst, Boston, Massachusetts, U.S.A., 13th February, 1894; 6 years.

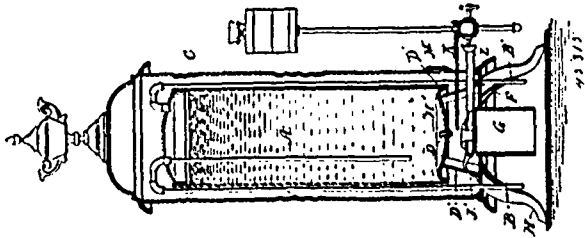
Claim.—1st. A car fender, comprising a platform fitted to slide in ways longitudinally of the car and be projected beyond the car dasher, substantially as described. 2nd. In a car fender, the combination, with ways supported from the car body of a platform fitted to be moved in said ways, and mechanism for locking said platform when projected beyond the car dasher, substantially as described. 3rd. A car fender, comprising a horizontally arranged platform fitted to slide in ways longitudinally of the car and be projected beyond the car dasher. 4th. In a car fender, the combination of ways supported from the car body with a horizontally arranged platform fitted to slide in said ways longitudinally of the car and mechanism for locking said platform when projected beyond the car dasher. 5th. A car fender, comprising a rectangular frame arranged horizontally and fitted to slide longitudinally of the car below its platform and a netting or screen on said frame. 6th. The combination of the car provided with ways *p*, with the rectangular platform *h*, having the elongated side-bars *i*, fitted to slide in said ways. 7th. The combination of the car, provided with horizontal ways under its platform, a movable platform fitted to slide in said ways longitudinally of the car, and a dog for locking said platform when projected or housed, substantially as described.

No. 45,315. Water Heater. (Calorifere.)

William S. Reed, Marshalltown, Iowa, U.S.A., 13th February, 1894; 6 years.

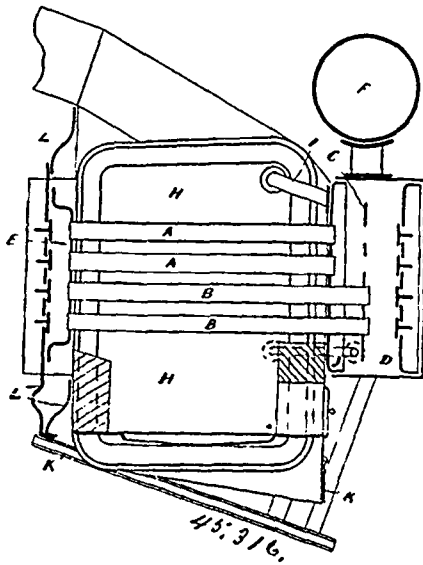
Claim.—1st. A water heater, consisting of a boiler, inlet and outlet water pipes, and a casing surrounding said pipes and boiler, forming a flue, substantially as described. 2nd. A water heater, consisting of a boiler, inlet and outlet water pipes, the inlet pipe leading into the upper end of said boiler, and extending downward to near the bottom thereof, and a casing surrounding said pipes and boilers forming a flue, and having a bottom with an opening therein, substantially as described. 3rd. A water heater, consisting of a boiler, water inlet and outlet pipes, a casing forming a flue surrounding said boiler and pipes, the latter extending alongside said boiler and a blow-off cock for said boiler, the bottom of said casing having an opening therein, said parts being combined, substantially as described. 4th. A water heater, consisting of a boiler, water inlet and outlet pipes, a casing with a bottom through which said pipes

pass, and having an opening therein, and a blow-off pipe leading from said boiler through said casing, surrounding said pipes and boilers forming a flue, and said casing having an opening at its



upper end, said parts being combined, substantially as described. 5th. A water heater, consisting of a boiler, water inlet and outlet pipes alongside of said boiler, a casing forming a flue surrounding said boiler and pipes, a blow-off cock from said boiler leading through said casing, and feet at lower end of said casing, the bottom of said casing having an opening therein, said parts being combined, substantially as described. 6th. A water heater, consisting of a boiler, inlet and outlet pipes, a casing surrounding said pipes and boiler, a bottom for said casing, supports for said boiler resting on said bottom, and a gas burner in said casing below said boiler said parts being combined, substantially as described.

No. 45,316. Water-tube Boiler. (Chaudières à tubes.)



Montagne H. C. Shann, Brisbane, Queensland, Australia, 13th February, 1894; 6 years.

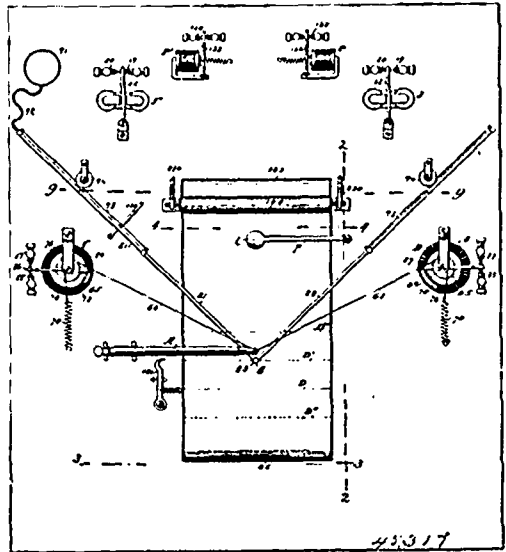
Claim.—1st. In water-tube boilers having the upper and lower rows of parallel inclined tubes, terminating respectively at their upper ends into chambers, and a vertically inclined diaphragm plate, separating said chambers and holes in said diaphragm plates opposite the tubes in the said upper rows, combined with water-jackets, substantially as hereinbefore described and as illustrated in my drawings. 2nd. In water-tube boilers having the upper and lower rows of parallel inclined tubes terminating respectively at their upper ends in two chambers, and a horizontally inclined diaphragm plate separating said chambers, combined with water-jackets, substantially as hereinbefore described and as illustrated in my drawings. 3rd. In water-tube boilers having the upper and lower rows of parallel inclined tubes terminating respectively at their upper ends in two chambers, lying side by side, combined with water jackets, substantially as hereinbefore described and as illustrated in my drawings. 4th. In water-tube boilers having a stack of tubes and water-jackets, and front and back connections, combined with flat curved bars, substantially as hereinbefore described and illustrated in my drawings. 5th. In water-tube boilers having front and back connections, and water-jacket combined with sets of soot-cleaning doors, substantially as hereinbefore described and as illustrated in my drawings.

No. 45,317. Telautograph. (Télautographe)

Elisha Gray, Highland Park, Illinois, U.S.A., 13th February, 1894; 6 years.

Claim.—1st. The combination with a transmitting pen, of an electric circuit, means operated through said pen for producing pulsations of substantially the same effective strength in said circuit, a receiving-pen placed under tension to move in a certain direction,

and restraining mechanism for holding the receiving-pen in-restraint as against said tension, the operation of the restraining mechanism being suspended at successive intervals through the agency of said



pulsations, so that the receiving-pen may move step by step as impelled by said tension, substantially as set forth. 2nd. The combination, with a transmitting-pen, of an electric circuit, means operated through said pen producing pulsations in said circuit, a receiving-pen placed under tension to move in a direction corresponding to the movement of the transmitting-pen, means for reversing the direction of said tension to correspond with reversal of direction of movement of the transmitting-pen, and restraining mechanism for holding the receiving-pen in restraint as against said tension, the operation of the restraining mechanism being suspended at successive intervals through the agency of said pulsations, so that the receiving-pen may move step by step as impelled by said tension, substantially as set forth. 3rd. The combination, with a transmitting-pen, of an electric circuit, means operated through said pen for producing pulsations in said circuit, said pulsations being of successively opposite polarity, a receiving-pen, power mechanism independent as to its source of power of said pulsations for giving movement to the receiving pen, restraining mechanism governed by said pulsations, and mechanism for reversing the direction of application to the receiving-pen of the power of the pen-moving mechanism to correspond with reversals in direction of movement of the transmitting-pen, substantially as set forth. 4th. The combination, with a transmitting-pen, of electric connections with a receiving-station, means operated through said pen for producing two series of electric pulsations of substantially the same effective strength traversing said connections, a receiving-pen placed under tension to move in two directions crosswise of each other, and restraining mechanism for holding the receiving-pen in restraint as against said two tensions, the operation of said restraining mechanism being suspended at successive intervals through the agency of said pulsations, so that the receiving-pen may move step by step as impelled by said tensions, substantially as set forth. 5th. The combination, with a transmitting-pen, of an electric circuit, means operated through said pen for producing pulsations in said circuit, power mechanism operated from a source of power independent of said pulsations, but controlled in its action through said pulsations, a receiving-pen moved by said power mechanism, and means for reversing the direction of application of the power of the power mechanism to the receiving-pen to correspond with reversals in direction of movement of the transmitting-pen, substantially as set forth. 6th. The combination, with a transmitting-pen, of an electric circuit, means operated through said pen for producing pulsations successively of opposite polarity in said circuit, power mechanism operated from a source of power independent of said pulsations, but controlled in its action by said pulsations, and a receiving-pen moved by said power mechanism, substantially as set forth. 7th. The combination, with a transmitting-pen, of electric connections with a receiving-station, means operated through said pen for producing electric pulsations of substantially the same effective strength, a receiving-pen, mechanism independent as regards its source of power of said pulsations for giving movement to the receiving-pen and caused to operate thereon through said pulsations, and connections for causing the pen moving mechanism at the receiving-station to operate and drive the receiving-pen to one of its extreme points of movement when the transmitting-pen is moved to its corresponding extreme point of movement, substantially as set forth. 8th. The combination, with a transmitting-pen, of

electric connections with a receiving-station, means operated through said pen for producing electric pulsations, a receiving-pen placed under tension to move in a certain direction, restraining mechanism for holding the receiving-pen in restraint as against said tension, the operation of the restraining mechanism being suspended at successive intervals through the agency of said pulsations, so that the receiving-pen may move as impelled by said tension in correspondence with the movement of the transmitting-pen, and mechanism for suspending the restraint upon the tension tending to move the receiving-pen until the latter is driven to one of its extreme points of movement when the transmitting-pen is moved to its corresponding extreme point of movement, substantially as set forth.

9th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations of successively-opposite polarity in said circuit, a receiving-pen, and a power mechanism giving movement to the receiving-pen and governed in the application of its power to the receiving-pen by the said pulsations, substantially as set forth.

10th. The combination, with a transmitting-pen, of two electric circuits, two interrupter devices operated through the movement of said pen in two directions crosswise of each other and producing a series of electric pulsations of successively-opposite polarity in each of said circuits, a receiving-pen, and a power mechanism giving movement to the receiving-pen in two directions crosswise of each other and governed in the application of its power to the receiving pen by said pulsations, substantially as set forth.

11th. The combination, with a transmitting-pen, of electrical connections with the receiving-station, two interrupter devices operated through the movement of said pen in two directions crosswise of each other and producing two series of electric pulsations of successively-opposite polarity, a receiving pen, and mechanism giving movement to the receiving-pen in two directions crosswise of each other and caused to operate thereon through said pulsations, substantially as described.

12th. The combination, with a transmitting-pen, of an electric circuit, devices operated through said pen and producing pulsations of successively-opposite polarity in said circuit, a receiving pen, a power mechanism independent as regards the source of its power of the line current, giving movement to the receiving-pen, and restraining mechanism governed by said pulsations, whereby the application of the power of the power mechanism to the receiving-pen is restrained, so that the movement of the receiving-pen is caused to correspond to that of the transmitting pen, substantially as set forth.

13th. The combination, with a transmitting pen, of an electric circuit, two batteries of unequal strength and opposed polarity in the circuit, an interrupter operated through the transmitting-pen and acting to alternately cut in and out of circuit the larger battery, so as to produce a series of pulsations of opposite polarity in the circuit, a receiving-pen, and a power mechanism giving movement to the receiving-pen and governed in the application of its power to the receiving-pen by the said pulsations, substantially as set forth.

14th. The combination, with a transmitting-pen, of two electric circuits, two interrupters operated through the movement of said pen in two directions crosswise of each other and producing a series of electric pulsations of successively-opposite polarity in each of said circuits, a receiving-pen, a power mechanism independent as regards the source of its power of the line-current, giving movement to the receiving-pen in two directions crosswise of each other, and restraining mechanism governed by said pulsations, whereby the application of the power of the power mechanism to the receiving-pen is restrained, so that the movement of the receiving-pen is caused to correspond to that of the transmitting-pen, substantially as set forth.

15th. The combination, with a transmitting-pen, of an electric circuit, an interrupter consisting of a series of contacts and a brush having movement the one relatively to the other operated through said pen and producing pulsations of successively-opposite polarity in said circuit, a receiving-pen, and mechanism giving movement to the receiving-pen and caused to operate thereon through said pulsations, substantially as set forth.

16th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a motor giving movement to the receiving-pen and controlled in the application of its power to the receiving-pen by said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the direction of the movement of the latter may be reversed, and means for controlling the reversing mechanism from the transmitting-station so as to cause the direction of movement of the receiving-pen to be reversed upon the reversal of the direction of movement of the transmitting-pen, substantially as set forth.

17th. In a telegraphic system, the combination of a receiving-pen, a power mechanism giving movement thereto, a reversing mechanism between the power mechanism and the receiving-pen, whereby the direction of movement of the latter may be reversed, said reversing mechanism having as a part thereof a magnetically-controlled clutch, and electrical connections with the transmitting-station, whereby said clutch is controlled and the operation of the receiving-pen governed, substantially as set forth.

18th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a motor giving movement to the receiving-pen and controlled in the application of its power to the receiving-pen by said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the direction of movement of the latter may be reversed, said reversing mechanism containing as part thereof magnetically-controlled clutches, and electrical connection with the transmitting-station,

whereby said clutches are controlled and the operation of the receiving mechanism governed, substantially as set forth.

19th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a motor giving movement to the receiving-pen and controlled in the application of its power to the receiving-pen by said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the direction of movement of the latter may be reversed, said reversing mechanism containing as a part thereof magnetically-controlled clutches, and a magnet in electrical connection with the transmitting-instrument and operated therefrom, controlling the circuits of the clutch-magnets and causing them to be properly energized to change the direction of movement of the receiving-pen in correspondence with the changes in direction of movement of the transmitting pen, substantially as set forth.

20th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a power mechanism giving movement to the receiving-pen and controlled in the application of its power to the receiving-pen by said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the latter may be reversed, a polarized magnet for controlling the action of the reversing mechanism, and circuit connections with the transmitting-station, whereby currents of reversed polarity are caused to traverse the coils of said polarized magnet, such reversals of polarity corresponding to reversals in direction of movement of the transmitting-pen, substantially as set forth.

21st. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen and means for giving movement to the receiving instrument in conformity to the pulsations reaching the receiving instrument, a part of said means consisting of a toothed-wheel operated step by step through the agency of said pulsations, whereby exact reproduction by the receiving-pen of the movements of the transmitting-pen is secured, substantially as set forth.

22nd. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a power mechanism moving the receiving-pen, an escapement governing the power mechanism in the application of its power to the receiving-pen, and a magnet controlling the escapement and operated by said pulsations, substantially as set forth.

23rd. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations of successively opposite polarity in said circuit, a receiving-pen, means for giving movement to the receiving-pen in conformity with the pulsations reaching the receiving instrument, part of said means consisting of a step by step escapement device, and a magnet controlling the escapement and operated by said pulsations, substantially as set forth.

24th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations of successively opposite polarity in the circuit, a receiving-pen, a power mechanism moving the receiving-pen, an escapement governing the power mechanism in the application of its power to the receiving-pen, and a polarized magnet controlling the escapement and operated by said pulsations, substantially as set forth.

25th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor moving the receiving-pen, an escapement governing the motor in the application of its power to the receiving-pen, a magnet controlling the escapement and operated by said pulsations, and reversing mechanism between the motor and the receiving-pen electrically controlled by the movement of the transmitting-pen, substantially as set forth.

26th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor moving the receiving-pen, a reversing mechanism between the motor and the receiving-pen electrically controlled by the movement of the transmitting-pen, a reversible escapement governing the motor in the application of its power to the receiving-pen, and a magnet controlling the reversible escapement and operated by said pulsations, substantially as set forth.

27th. The combination, with a transmitting-pen, of two electric circuits, two interrupters operated through the movement of said pen in two directions crosswise of each other and producing a series of pulsations in each of said circuits, a receiving-pen, means for giving movement to the receiving-pen in two directions crosswise of each other in conformity with the pulsations reaching the receiving instrument, a part of said means consisting of two toothed-wheels moving step by step, one of said wheels for each of said two crosswise directions of motion of the transmitting-pen, whereby uniformity of movement between the transmitting-pen and the receiving-pen is secured, and magnets controlling the toothed-wheels and operated by said pulsations, substantially as set forth.

28th. The combination, with a transmitting-pen, of two electric circuits, two interrupters operated through the movements of said pen in two directions crosswise of each other and producing a series of pulsations in each of said circuits, a receiving-pen, a motor moving the receiving-pen in two directions crosswise of each other, two escapements governing the motor in the application of its power to the receiving-pen, one for each of the two crosswise directions of motion of the transmitting-pen, and magnets controlling the escapements and operated by said pulsations, substantially as set forth.

29th. The combination, with a transmitting-pen,

of two electric circuits, two interrupters operated through the movements of said pen in two directions crosswise of each other and producing pulsations in said circuits of successively opposite polarity, a receiving-pen, a power mechanism moving the receiving-pen in two directions crosswise of each other, two escapements governing the power mechanism in the application of its power to the receiving-pen, one for each of the two crosswise directions of motion of the transmitting-pen, and polarized magnets controlling the escapements and operated by said pulsations, substantially as set forth. 30th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen, consisting of a series of contacts and a brush having a movement relatively to each other and producing pulsations in said circuit, a receiving pen, a power mechanism moving the receiving-pen, an escapement governing the power mechanism in the application of its power to the receiving-pen, and a magnet controlling the escapement and operated by said pulsations, substantially as set forth. 31st. The combination, with a transmitting-pen, of an electric circuit, an interrupter consisting of a series of contacts, and a brush having a movement the one relatively to the other, operated through said pen and producing pulsations of successively opposite polarity in said circuit, a receiving-pen, means for giving movement to the receiving-pen in conformity with the pulsations reaching the receiving-instrument, a part of said means consisting of a step by step mechanism, whereby uniformity of movement between the transmitting-pen and the receiving-pen is secured, and a magnet controlling the step by step mechanism and operated by said pulsations, substantially as set forth. 32nd. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing electric pulsations, a power mechanism operated from a source of power independent of said pulsations, a receiving-pen moved by said power mechanism, and means whereby the application of the force of the power mechanism to the receiving-pen is controlled by said pulsations, substantially as set forth. 33rd. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen, a receiving-pen, a power mechanism from which the receiving-pen is driven, the application of the power of the power mechanism to the receiving-pen being controlled by the said pulsations, and a unison device for bringing the position of the receiving-pen into correspondence with the position of the transmitting-pen, substantially as set forth. 34th. The combination, with a transmitting-pen, of two electric circuits, two interrupters operated, respectively, through the movement of said pen in two directions crosswise of each other and producing two series of electric pulsations in said circuits, power mechanism operated from a source of power independent of said pulsations, and a receiving-pen driven by said power mechanism, the application of the power of the power mechanism to the receiving-pen being in two directions crosswise of each other and controlled by the said pulsations, substantially as set forth. 35th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, mechanism operated from a source of power independent of said pulsations for driving the same, mechanism for controlling the connection of the driving mechanism with the receiving-pen, said controlling mechanism being operated by said pulsations, and means controlled from the transmitting-station for suspending the operation of the controlling mechanism in order that the pen-driving mechanism at the receiving-station may run to unison with the transmitting mechanism, substantially as set forth. 36th. The combination, in a telautographic system, of a transmitting-pen, a receiving-pen, mechanism for moving the receiving-pen caused to operate thereon through the movements of the movements of the transmitting-pen, a unison device for bringing the receiving-pen into unison with the transmitting pen, a paper-shifting mechanism at the receiving station, means for operating the same from the transmitting-station, and a circuit-controller and electric connections whereby the unison device is brought into operation upon each shifting of the paper at the receiving station, substantially as described. 37th. The combination, in a telautographic system, of a paper-shifting mechanism forming part of the receiving-instrument, a receiving-pen and a unison device for bringing the receiving-pen into unison with the transmitting pen, the unison device being connected to the paper-shifting mechanism, so as to be brought into operation at each shifting of the paper, whereby the unison of the machine is effected at the commencement of each line of writing, substantially as described. 38th. The combination, with a transmitting pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, means for placing the receiving-pen under tension, means for reversing the direction of said tension to correspond with reversals in direction of motion of the transmitting-pen, and a reversible escapement holding said receiving pen in restraint as against said tension and operated through said pulsations to permit the receiving-pen to move in either direction step by step, substantially as set forth. 39th. The combination of an escapement in which the engaging teeth have their opposite faces of substantially the same shape, so that it will operate with equal facility in either direction if the strain which controls it be reversed, a power mechanism held in restraint by said escapement, means for reversing the direction of the strain of the power mechanism upon the escapement, and a magnet for controlling the escapement, substantially as set forth. 40th. The combination, with a transmitting-pen, of an electric

circuit, an interrupter operated through said pen and producing pulsations successively of opposite polarity upon line, a receiving-pen, a motor for driving the same, an escapement-magnet in the circuit for governing the application of the power of the motor to the receiving pen in accordance with the pulsations, and means controlled from the transmitting-station for causing the escapement to become inoperative for the purpose of permitting the pen-driving mechanism at the receiving station to run to unison with the transmitting mechanism, substantially as set forth. 41st. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through the transmitting pen for producing pulsations in the circuit, a receiving-pen, and mechanism operated through said pulsations for giving motion to the receiving-pen, the interrupter having a lost motion with respect to the transmitting-pen upon reversal in the direction of movement of the transmitting-pen, whereby the transmissions of pulsations is suspended at the instant of reversal in direction of movement of the transmitting-pen, substantially as set forth. 42nd. The combination with the transmitting and receiving pens, of a pen-rest for raising the pen from the paper, two electro-magnets, one for elevating and the other for depressing the pen-rest, electrical connections having a circuit-controller at the transmitter for energizing one or the other of said magnets to elevate or depress the pen-rest, and a movable table beneath the transmitting-pen for operating said circuit-controller, substantially as set forth. 43rd. The combination with the receiving-pen and the circuit through which it is operated, of a pen-rest, two magnets for controlling the position of the pen-rest, one for elevating and one for depressing the same, electrical connections for each magnet, and relays in said circuit, the armatures of which control the circuits of the pen-rest magnets, substantially as set forth. 44th. The combination with the receiving-pen and the line-circuits through which it is operated, of a recording-surface over which the pen moves to reproduce the message, a feeding mechanism for shifting the recording-surface at times when the writing is suspended, a consequent-pole electro-magnet for controlling said feeding mechanism, said magnet having two sets of oppositely wound coils, two local circuits for the coils of said electro-magnet, relays in said line circuits, and electrical connections for simultaneously making or breaking the two circuits of the consequent-pole electro-magnet, whereby the operator at the transmitting-station can control the shifting of the paper at the receiving-station, substantially as set forth. 45th. The combination with the receiving-pen, of a recording-surface over which the pen moves to reproduce the message, a feeding mechanism for shifting the recording-surface, a consequent-pole electro-magnet for controlling said feeding mechanism, said magnet being provided with sets of oppositely-wound coils, a pen-rest and two magnets, one for elevating and one for depressing the same, the two pen-rest magnets being respectively in circuit with the two sets of coils of the paper-shifting magnet, and electrical connections having circuit makers and breakers at the transmitting-station, whereby the transmitting-operator can operate either the pen-raising magnet or the pen-depressing magnet or can operate simultaneously both of the circuits of these magnets, thereby operating the paper-shifting magnet, substantially as set forth. 46th. As a means for performing three operations at the receiving-station over two line-wires, the combination of two magnets acting oppositely upon an armature, two local circuits, one for each magnet, a magnet having separate coils in circuit, respectively, with the two first-named magnets, said coils being so arranged with reference to the magnet that the latter is affected to attract its armature only when both of its circuits are closed, and electrical connections controlled from the transmitting station, whereby the transmitting operator can make or break at will either of the local circuits at the receiving-station separately or both of the same simultaneously, substantially as set forth. 47th. In a telautograph system, the combination, with a receiving-pen, of a recording surface, a feeding mechanism for shifting the recording surface, an electro-magnet controlling said feeding mechanism, a power mechanism for giving motion to the receiving-pen, and a unison-circuit, and mechanism for bringing the transmitting and receiving-pens into unison with each other, said unison-circuit being controlled by the armature of the magnet for shifting the recording-surface, whereby the shifting of the paper and the bringing of the receiver into unison with the transmitter is simultaneously effected, substantially as set forth. 48th. In a telautograph system, the combination of a transmitting-pen, two electric circuits, two interrupters operated, respectively, through the movement of said pen in two directions crosswise of each other and producing two series of electric pulsations in said circuits, and means whereby the said pulsations are caused to control the movements of the receiving-pen, the transmitting-pen and the two interrupters being so placed with reference to the line of writing traversed by the transmitting-pen that the said two directions of movement shall be oblique to the said line of writing, whereby the pulsations caused by the perpendicular and those caused by the horizontal movements of the pen are divided between the two circuits, substantially as set forth. 49th. In a telautograph system, the combination of a transmitting and receiving instrument, each provided with a telautographic pen, located at the same station, the writing fields of the pens overlapping or a single writing-field serving for both pens, a recording-surface passing under the pens of both instruments, and electrical connections and circuit makers and breakers at the said station and also at the distant station, whereby the paper may at either station

be moved by the sending-operator, substantially as set forth. 50th. In a teleautographic system, the combination, at a single station, of a transmitting pen, a receiving-pen, the two pens being placed in such relation to each other that their writing fields overlap, and means for holding each of the pens when not in use out of the way of the pen being used, substantially as set forth. 51st. In a teleautographic system, the combination, at a single station, of a transmitting pen, a receiving-pen, a single paper upon which both are adapted to operate and means for holding the transmitting-pen and its chords sufficiently above the paper when not in use to permit the receiving pen to operate beneath them, substantially as set forth. 52nd. In a teleautograph system, the combination of a receiving-pen, a power mechanism for giving movement to the same, means for controlling the power mechanism from the transmitting station, a drum rotated by the power mechanism, an arm to which the receiving-pen is attached, and a cord connected at each end to the pen-arm and passing around the drum, whereby the rotation of the drum in either direction causes a corresponding movement of the pen-arm, substantially as described. 53rd. The combination, with a transmitting-pen, of an electric circuit, means operated through said pen for producing pulsations in the circuit, a receiving pen, a power mechanism independent as regards the source of its power of the line-current for giving movement to the receiving-pen and governed in its application of power to the receiving-pen through said pulsations, and electrical connections with the transmitting station controlling the operation of the power mechanism, whereby cessation of the pulsations brings the power mechanism to rest, substantially as set forth. 54th. The combination, with transmitting-pen, of an electric circuit, means operated through said pen for producing pulsations in the circuit, a receiving-pen, an electric motor for giving movement to the receiving-pen, and governed in the application of its power to the receiving-pen through said pulsations, a circuit for the motor independent of the line-current and electrical connections with the transmitting-station, whereby cessation of the pulsations causes a break in the circuit of the motor and brings it to rest, substantially as set forth. 55th. The combination, with a transmitting pen at a transmitting-station, of electrical connections with a receiving-station, an electric current traversing said connections, means for causing changes or variations in the condition of said current to correspond with the movements of the transmitting pen, a receiving-pen, a weight or its equivalent for giving movement to the receiving-pen, controlled in the application of its power thereto by said electric current, an electrically controlled clutch, the position of which controls the connection of the weight with the receiving-pen, and electrical connections whereby the clutch may be operated and the weight so connected to or disconnected from the receiving-pen, substantially as set forth. 56th. The combination, with a transmitting-pen of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a weight for giving movement to the receiving-pen, controlled in the application of its power to the receiving-pen by said pulsations, an electrically-controlled clutch, the position of which determines the connection of the weight with the receiving-pen, electrical connections with the transmitting station, whereby the clutch may be operated and the weight connected to or disconnected from the receiving-pen, and a motor for winding up the weight, substantially as set forth. 57th. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, two weights or their equivalents for giving movement to the receiving-pen and connected thereto so as to produce movements thereof in opposite directions, respectively, each weight being governed in the application of its power to the receiving-pen by said electric current, and electrical connections with the transmitting-station, whereby selection between the weights is made in accordance with the direction of motion of the transmitting pen, substantially as set forth. 58th. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, two weights for giving movement to the receiving-pen and connected thereto so as to produce movements thereof in opposite directions, respectively, each weight being governed in the application of its power to the receiving-pen by the said pulsations, and electrical connections with the transmitting-stations whereby selection between the weights is made in accordance with the direction of movement of the transmitting-pen, substantially as set forth. 59th. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, receiving-pen, two weights for giving movement to the receiving-pen, and connected thereto so as to produce movements thereof in opposite directions, respectively, each weight being provided with

a magnetic clutch, the position of which determines its connection with the receiving-pen, and each weight being governed in the application of its power to the receiving-pen by the said pulsations, and electrical connections with the transmitting-station whereby the magnet-clutches of the weights are controlled and thereby one or the other of the weights caused to operate upon the receiving pen in accordance with the direction of movement of the transmitting-pen, substantially as set forth. 61st. The combination of a transmitting-pen at a transmitting-station, electrical connections with a receiving station, an electric current, means for causing changes or variations in the condition of the current, a receiving pen, a force or prime motor for driving the receiving-pen and controlled in its operation thereon through said changes or variations, a weight introduced between the prime motor and the receiving-pen, the prime motor operating to raise the weight, so that the weight may drive the pen, and means for alternately making and interrupting the connection between the prime motor and the weight and the weight and the receiving-pen, so that the weight may be raised and the pen driven in alternation, substantially as set forth. 62nd. The combination with a transmitting pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, two weights for giving movement to the receiving-pen and connected thereto so as to produce movements thereof in opposite directions, respectively, each weight being governed in the application of its power to the receiving-pen by the said pulsations, electrical connections with the transmitting-station, whereby the weights are controlled and thereby one or the other of the weights caused to operate upon the receiving pen to accord with the direction of movement of the transmitting-pen, and a motor for winding up the weights, substantially as set forth. 63rd. The combination of a transmitting-pen at a transmitting-station, electrical connections with a receiving station, a receiving-pen, mechanism for driving the receiving-pen, a part of said mechanism consisting of a magnetic frictional clutch, a magnet for controlling the magnetic condition of said clutch, and means whereby the electrical condition of said magnet is controlled from the transmitting station and the movements of the receiving-pen thereby affected, substantially as set forth. 64th. The combination of a transmitting-pen at a transmitting-station, electrical connections with a receiving-station, a receiving-pen, mechanism for driving the receiving pen, reversing mechanism between the driving mechanism and the receiving-pen, a part of said reversing mechanism consisting of magnetic frictional clutches, coils placed in connection with magnetizable parts of said clutches, and means whereby the electric condition of said coils is controlled from the transmitting-station, so as to cause the direction of movement of the receiving-pen to be reversed in correspondence with reversal in direction of motion of the transmitting-pen, substantially as set forth. 65th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, two weights for giving movement to the receiving pen and connected thereto so as to produce movements thereof in opposite directions respectively, each weight being governed in the application of its power to the receiving-pen by the said pulsations, electrical connections with the transmitting-station, whereby the weights are controlled and thereby one or the other of the weights caused to operate upon the receiving pen to accord with the direction of movement of the transmitting-pen, a motor for winding up the weights, two magnets rotated by the motor, two drums or discs, to which the weights are attached, acting as armatures for the magnets, and electrical connections whereby the magnets are energized to wind up each of the weights while it is disconnected from the receiving-pen, substantially as set forth. 66th. The combination of a receiving-pen or other driven mechanism, two weights for giving movement to the driven mechanism and so connected therewith as to produce movements thereof in opposite directions, respectively, electrical connections whereby either one or the other of the weights may be caused to act upon the driven mechanism, as desired, a motor for winding up the weights, clutch-magnets, whereby the connection between the motor and the weights is controlled, and electrical connections whereby the clutch-magnets are operated to cause the motor to wind up each weight when it is disconnected from the driven mechanism, substantially as set forth. 67th. The combination of a receiving pen or other driven mechanism, two weights for giving movement to the driven mechanism and so connected therewith as to produce movements thereof in opposite directions, respectively, electrical connections whereby either one or the other of the weights may be caused to act upon the driven mechanism, as desired, a motor for winding up the weights, clutch-magnets whereby the connection between the motor and the weights is controlled, electrical connections whereby the clutch-magnets are operated to cause the motor to wind up each weight when it is disconnected from the driven mechanism, and circuit connections whereby each clutch-magnet is de-energized when it has raised its weight to a certain height, substantially as set forth. 68th. The combination of a receiving pen or other driven mechanism, two weights for giving movement to the driven mechanism and so connected therewith as to produce movements thereof in opposite directions, respectively, electrical connections whereby either one or the other of the weights may be caused to act upon the driven mechanism, as desired, a motor for winding up the weights, two drums or discs to which the weights are respectively attached, two magnets rotated

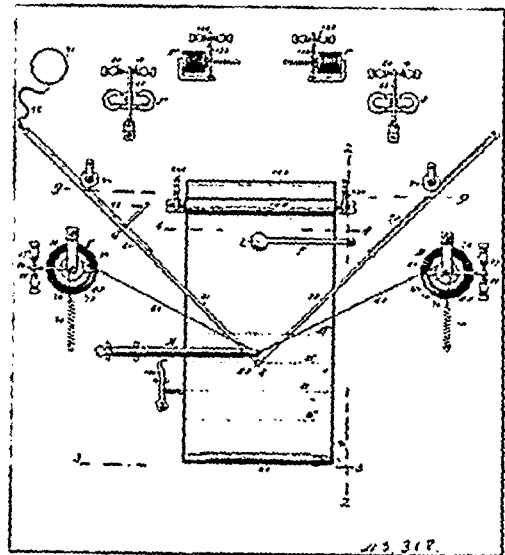
by the motor, said drums or discs acting, respectively, as armatures for said magnets is energized and caused to attract its disc and lift one of the weights when such weight is disconnected from the driven mechanism, substantially as set forth. 69th. The combination of a receiving-pen or other driven mechanism, two weights for giving movement to the driven mechanism and so connected therewith as to produce movement thereof in opposite directions, respectively, each of said weights having as a part thereof or attached thereto a magnetic clutch, electrical connections whereby either one or the other of the clutches may be operated and its weight thereby caused to act upon the driven mechanism, as desired, a power mechanism for winding up the weights, two discs from which the weights are suspended, each disc being provided with a metallic surface capable of magnetic attraction, two magnets rotated by the power mechanism, the excitable portion of each of the magnets being in frictional contact with the magnetizable surface of one of the discs, and electrical connections whereby each of said magnets is energized and caused to attract its disc and lift one of the weights when such weight is disconnected from the driven mechanism, substantially as set forth. 70th. The combination of a receiving-pen, the drum 39, connected thereto, the cord 8, the magnet-weights M, N, means for controlling the alternate engagement of said magnet-weights with the cord from the transmitting-station, and means for raising the weights when disconnected, *ie.* *precisely*, from the cord, substantially as set forth. 71st. The combination of a receiving-pen, the drum 23, connected thereto, the cord 8, the magnet-weights M, N, means for controlling the alternate engagement of said magnet-weights with the cord from the transmitting-station, the power-shaft 30, magnets X, Y, attached thereto, armature-disks 28, 29, connected with the weights, and means whereby the magnets X, Y, are alternately energized from the transmitting-station for the purpose of raising the weights, substantially as set forth. 72nd. The combination of a transmitting-pen, a receiving-pen, electrical connections between the transmitting and receiving-pens, a motor for giving motion to the receiving-pen, a magnet, as X, fixed to the shaft of motor, an armature-disc, as 28, a weight suspended from the disc and connected with the receiving-pen, and means for intermittently energizing the magnet to cause it to raise the weight, substantially as set forth. 73rd. The combination with the power-shaft 30, the magnet, as X, attached thereto, an armature-disc, as 28, a weight, as M, suspended from the disc, means for intermittently energizing the magnet to cause the weight to be raised, a pen connected with the weight and driven by it as it falls, and circuit connections operated at a certain elevation of the weight to de-energize said magnet, substantially as set forth. 74th. The magnet M, provided with a movable core 15, and armature 16 attached thereto, in combination with a cord 8 and pen connected therewith, said cord passing through the magnet and its core, the movable core constituting a clutch-piece, whereby the magnet is alternately connected with the cord to drive the pen and disconnected therefrom, substantially as and for the purposes set forth. 75th. In a teleautographic system, the combination of a receiving pen, a weight or other prime motor for giving motion thereto, an electro-magnetic clutch between the weight and the receiving-pen, and electrical connections between the clutch and the transmitting-station, whereby said clutch is controlled and the operation of the receiving pen governed, substantially as described. 76th. The combination with a teleautographic receiving-pen, of a support therefor consisting of a flat horizontal surface, and provided with an approach inclined upward from the table, so that the pen will may automatically ride up thereon, substantially as described. 77th. The combination with a teleautographic pen, of a support for the same, consisting of a flat non-absorbent surface, whereby escape and evaporation of fluid are more or less prevented, substantially as set forth. 78th. In a teleautographic system, the combination of a teleautographic transmitting-pen, a teleautographic receiving-pen, a single writing-platen furnishing a single writing-field or overlapping writing-fields for both pens, and means for withdrawing the receiving-pen from the platen when not in use, substantially as set forth. 79th. The combination with a transmitting, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a power mechanism giving movement to the receiving-pen and controlled in the application of its power to the receiving-pen by said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the direction of movement of the latter may be reversed, and a separate line-wire, and connections for controlling the reversing mechanism from the transmitting station, so as to cause the direction of movement of the receiving pen to be reversed upon the reversal of the direction of movement of the transmitting-pen, substantially as set forth. 80th. In a teleautographic system, the combination of a transmitting-pen, circuit-controlling devices, connections between the circuit-controlling devices and the transmitting-pen, whereby the movements of the pen effect changes or variations in the condition of the line-current, a portion of these connections having a spring action, and a switch for throwing the instrument from the transmitting to the receiving position, and vice versa, said switch being provided with a portion adapted to hold transmitting-pen and being also provided with a spring adapted to hold it in that position wherein the instrument is set for sending messages, the switch being so placed and the switch-spring being so adjusted with reference to the spring connections between the transmitting pen and the circuit controlling devices that when the transmitting-pen is placed upon the pen

holding portion of the switch the instrument is turned from the sending to the receiving position, substantially as set forth. 81st. The combination of a sending and receiving instrument at one station, a switch for shifting the line-wires from one instrument to the other, electrical connections with the distant station, whereby the receiving-pen at that station may be withdrawn from its recording position, and a circuit-controller connected to the said switch, whereby said connections are operated and the distant receiving-pen is withdrawn from its field upon the shifting of the switch from the sending to the receiving position, substantially as set forth. 82nd. In a teleautographic system, the combination of a receiving-pen, a power mechanism giving movement to the receiving-pen, an escapement controlled from the transmitting-station and governing the operation of the power mechanism upon the receiving-pen, and means also controlled from the transmitting-station for disconnecting the escapement from the receiving-pen, substantially as set forth. 83rd. In a teleautographic system, the combination of a transmitter provided with a teleautographic receiving-pen at a single station, and a single writing-field or overlapping writing-fields for both pens, substantially as set forth. 84th. The combination of a rotating shaft, a disc mounted so as to rotate freely thereon, a weight connected with the disc, a receiving-pen or other driven mechanism, an electrically controlled mechanism for alternately connecting the weight with the pen, so as to drive the same and the disc with the shaft, so as to raise the weight, substantially as set forth. 85th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations of successively-opposite polarity in said circuit, mechanism for driving the receiving-pen caused to operate thereon through said pulsations, a reversing mechanism between the driving mechanism and the receiving-pen, whereby the direction of movement of the latter may be reversed, electrical connections with the transmitting-station for controlling the reversing mechanism, and connections with the transmitting-pen, whereby the polarity of the current on the reversing-circuit is reversed upon a reversal in direction of motion of the transmitting-pen, said reversal of polarity causing the reversing mechanism at the receiving-station to operate and reverse the direction of motion of the receiving-pen, substantially as set forth. 86th. The combination, with the transmitting and receiving-pens, of a pen-rest for raising the receiving-pen from the paper, two electro-magnets, one for elevating and the other for depressing the pen-rest, and electrical connections controlled from the transmitting-station, whereby the transmitting-operator may energize one or the other of said magnets to elevate or depress the receiving-pen, substantially as set forth. 87th. In a teleautographic system, the combination of a transmitting-instrument and a receiving-instrument located at the same station, the pens of said instruments moving in a single writing-field or overlapping fields and a single recording-surface serving for the pens of both instruments, substantially as set forth. 88th. In a teleautographic system, the combination of a transmitting-instrument, a receiving-instrument located at the same station, each instrument being provided with a teleautographic pen, the pens of both instruments moving in a single writing-field or overlapping fields, a single recording-surface serving for the pens of both instruments, a feeding mechanism for shifting the recording-surface, a transmitting-instrument located at a distant station, and connections whereby said feeding mechanism may be operated both by the operator at the home station and by the operator at the distant station, substantially as set forth. 89th. The combination of a transmitting-pen, a pen-rack therefor, electrical connections with a distant station for driving the receiving-pen at that station to a selected position, as 1, and a circuit-controller governing said connections connected with the pen-rack and operated by the placing of the pen therein to cause the receiving-pen to be driven to said selected position, substantially as set forth. 90th. The combination of a receiving pen, electrical connections with a transmitting-station, whereby the receiving-pen may be driven to a selected position, as 1, a circuit-controller governing said connections, and a retarding device for causing the operation of the circuit-controller to occupy a certain length of time sufficient for the driving of the receiving-pen to said selected position, substantially as set forth. 91st. The combination of a receiving instrument provided with a receiving-pen, an electric circuit connecting the receiving-instrument with a transmitting-station, power mechanism giving motion to the receiving-pen and caused to operate thereon through electric-pulsations traversing said circuit from the transmitting-station, said power mechanism being independent as to its source of power of said pulsations and said pulsations being of substantially the same effective strength, and fixed stops defining the range of movement which can be given to the receiving pen by the power mechanism, substantially as set forth. 92nd. The combination of a receiving-pen, a pen-rest for the same, electrical connections with a transmitting-station, and an increase-controller operating to temporarily increase the current normally traversing said connections, whereby the transmitting-operator may control the position of the pen-rest and consequently of the receiving-pen, substantially as set forth. 93rd. The combination, with a transmitting-pen, a receiving-pen, main line-circuits, and means whereby the receiving-pen is caused to move through the agency of pulsations produced in said circuits through the movements of the transmitting-pen, of an independent reversing-circuit, devices whereby reversal of direction of movement of the transmitting-pen causes a change of polarity in the current traversing the reversing-circuit and consequent reversal in the

direction of movement of the receiving-pen, a pen-rest for the receiving-pen, and electrical connections whereby the operator at the transmitting-station may change the strength of current on the reversing-circuit and thereby raise or lower the receiving-pen, substantially as set forth. 94th. The combination, with a transmitting-pen, a receiving-pen, main-line circuits, and means whereby the receiving pen is caused to move through the agency of pulsations produced in said circuits by the movement of the transmitting-pen, of an independent reversing circuit, devices whereby reversal of direction of movement of the transmitting-pen causes a change of polarity in the current traversing the reversing-circuit and consequent reversal in the direction of movement of the receiving-pen, a recording-surface for the receiving-pen, feeding mechanism for moving the recording-surface, and electrical connections whereby the operator at the transmitting station may change the strength of current in the reversing-circuit for the purpose of operating the feeding mechanism to shift the recording-surface, substantially as set forth. 95th. The combination of a receiving pen, a pen-rest therefor, two line-circuits provided with connections for changing the strength of current in one or other of the circuits to raise or depress the pen-rest, respectively, a magnetically-controlled paper-shifting mechanism at the receiving-station, and connections at the transmitting-station, whereby the operator can simultaneously change the current strength in both of said circuits and thereby shift the paper at the receiving-station, substantially as set forth. 96th. The combination, with a receiving-pen, of a stationary recording-surface over which the pen moves to reproduce the message, a feeding mechanism for shifting the recording-surface, an electro-magnet controlling the feeding mechanism, local electric circuits including said magnets, two line-wires controlling said local circuits and devices at the transmitting-station for producing simultaneously upon both of the line-circuits a current of temporarily-increased strength, whereby the transmitting operator may control the said local circuits and cause the paper to be shifted, substantially as set forth. 97th. The combination of a receiving-pen or other driven mechanism, a weight for giving movement to the driven mechanism, mechanism for raising the weight, mechanism for connecting the weight alternately to the weight-raising mechanism and to the driven mechanism, and a magnetically-controlled clutch governing the said connecting mechanism, and acting thereby to alternately cause the weight to be raised and the driven mechanism to be moved, substantially as described. 98th. The combination of a receiving-pen or other driven mechanism, a weight for giving movement to the driven mechanism, a shaft, mechanism for rotating the shaft to raise the weight, and electrically-controlled mechanism mounted on the shaft for connecting the weight alternately to the shaft and to the driven mechanism, substantially as described. 99th. The combination of a receiving-pen or other driven mechanism, a weight for giving movement to the driven mechanism, a shaft, mechanism for rotating the shaft to raise the weight, a pulley on the shaft from which the weight is suspended, a pulley on the shaft connected with the driven mechanism, a clutch-magnet, and mechanism controlled by the clutch-magnet to connect the weight-pulley alternately to the shaft and to the pulley connected with the driven mechanism, substantially as described. 100th. The combination of a receiving-pen or other driven mechanism, a weight for giving movement to the driven mechanism, mechanism for raising the weight, mechanism for connecting the weight alternately to the weight-raising mechanism and to the driven mechanism, a magnetically-controlled clutch controlling the connecting mechanism, and acting thereby to alternately cause the weight to be raised and the driven mechanism to be moved, and means for automatically arresting the operation of the weight-raising mechanism when the weight has been raised to a sufficient height, substantially as described. 101st. The combination of a receiving-pen or other driven mechanism, a weight for giving movement to the driven mechanism, mechanism for raising the weight, mechanism for connecting the weight alternately to the weight-raising mechanism and to the driven mechanism, and a magnetically-controlled clutch controlling the said connecting mechanism, thereby to alternately cause the weight to be raised and the driven mechanism to be moved, and a second clutch, as I control the operation of the weight-raising mechanism and provided with connections, whereby it operates to automatically arrest the operation of the weight-raising mechanism when the weight has been raised to a sufficient height, substantially as described. 102nd. In a teleautographic system, the combination of a receiving-pen, two weights for giving movement to the receiving-pen respectively in different directions, mechanism for raising the weights, mechanism for connecting the weights alternately with the receiving-pen and the weight-raising mechanism, and two electrically-controlled clutches or controlling the said connecting mechanism thereby to cause the two weights to be alternately raised and the receiving-pen to be alternately driven in different directions, substantially as described. 103rd. In a teleautographic system, the combination of a receiving-pen, two weights for giving movement to the receiving-pen respectively in different directions, mechanism for raising the weight, mechanism for connecting each weight alternately with the receiving-pen and the weight-raising mechanism, and two magnet-clutches controlling the said connecting mechanisms thereby to cause the two weights to be alternately raised and the receiving-pen to be alternately driven in different directions, substantially as described. 104th. In a teleautographic receiving-instrument, the combination of a receiving-pen, a pen-drum connected thereto, two loose pulleys,

each connected to the drum by a cord, a tension device operating to keep the cords taut, and means for alternately revolving one or the other of the pulleys, as one or the other direction of movement of the receiving-pen is required, substantially as described. 105th. In a teleautographic receiving-instrument, the combination of a receiving-pen, a pen-drum connected thereto, two loose pulleys, each connected to the drum by a cord, two loose pulleys carrying weights, and means electrically controlled from the transmitting-station for connecting one or the other of the pulleys connected to the drum with a weight-carrying-pulley, according to the direction of motion required for the receiving-pen, substantially as described. 106th. In a teleautographic system, the combination of a receiving-pen, a pen-drum with which the pen is connected, a rotating motor-shaft, two pairs of loose pulleys mounted on the shaft, one pulley of each pair carrying a weight, and the other pulley of each pair being connected with the pen-drum, and means electrically controlled from the transmitting-station for alternately connecting each of the weight-carrying pulleys to the motor-shaft and to the other loose pulley of the pair, whereby the raising of the weights is effected by the shaft, and the driving of the receiving-pen is effected by the weights, substantially as described. 107th. The combination of the magnet Y¹, the spring-pressed armature-pulleys 82, 83, mounted so as to move to and from the magnet, the screw 62 and the pulley 81, substantially as and for the purpose set forth.

No. 45,318. System of Teleautography.
(*Système de Téléautographie.*)

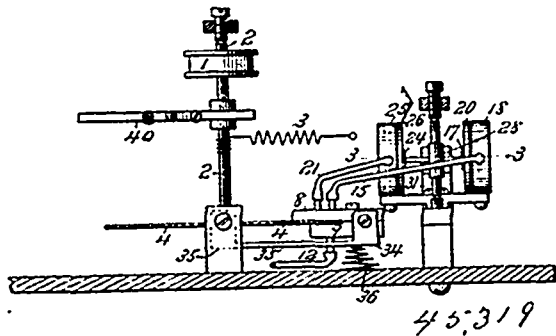


Elisha Gray, Highland Park, Illinois, U.S.A., 13th February, 1894; 6 years.

Claim. 1st. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of the transmitting-pen into pulsations of successively-opposite polarity in an electric circuit varying in number with the linear extent of the movement of said pen and varying in speed of succession with the rapidity of said movement, and transmitting the said pulsations into movements of the receiving-pen, substantially as set forth. 2nd. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of the transmitting-pen into two series of electric pulsations, the pulsations of each series being successively of opposite polarity, and transmitting the said two series of pulsations into movements of the receiving-pen, substantially as set forth. 3rd. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of said transmitting-pen into two series of pulsations, the pulsations of each series being successively of opposite polarity and of substantially the same effective strength and respectively varying in number with the linear extent of the movement of said pen and varying in speed of succession with the rapidity of said movement, and transmitting said two series of pulsations into movements of the receiving-pen, substantially as set forth. 4th. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of said transmitting-pen into electric pulsations of substantially the same effective strength, applying independent force to the receiving-pen, thereby imparting to it a tendency to move in a given direction, and regulating the operation of said force upon the receiving-pen through said pulsations, substantially as set forth. 5th. The method of transmitting and

recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of said transmitting-pen into pulsations in an electric circuit, said pulsations being of substantially the same effective strength and varying in number with the linear extent of movement of said pen and varying in speed of succession with the rapidity of said movement, applying independent force to the receiving-pen, thereby imparting to it a tendency to move in a given direction, reversing the direction of the application of said force upon the receiving-pen to correspond with reversals in direction of motion of the transmitting-pen, and regulating the operation of said force upon the receiving-pen through said pulsations, substantially as set forth. 6th. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of the transmitting-pen into electric pulsations of substantially the same effective strength, placing the receiving-pen under tension, tending to move it in a direction corresponding to the movement of the transmitting-pen, holding the receiving-pen in restraint as against said tension, reversing the direction of said tension to correspond with reversal of direction of movement of the transmitting-pen, and through the agency of said pulsations causing the restraint upon the receiving-pen to be suspended at regular successive intervals, so that the receiving-pen may move step by step in either direction as impelled by said tension, substantially as set forth.

No. 45,319. Teliagraph. (Télaugraphe)



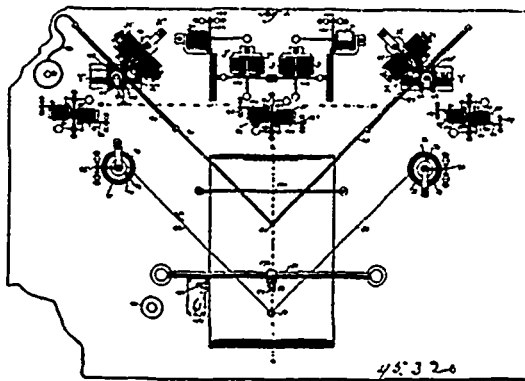
Elisha Gray, Highland Park, Illinois, U.S.A., 13th February, 1894; 6 years.

Claim. 1st. The combination of a vibrating circuit-closer, a supply of fluid under pressure for giving movement to the circuit-closer, and a magnet, as 31, operating upon the circuit-closer to prevent it from stopping except at one or other of its contact positions, substantially as set forth. 2nd. The combination of a transmitting pen, circuit connections with a receiving station, a circuit-interrupter, and a supply of fluid under pressure controlled through the movements of the transmitting-pen, and caused thereby to operate the interrupter, substantially as described. 3rd. The combination of a transmitting-pen, circuit connections with a receiving station, a circuit-interrupter, a supply of fluid under pressure, and a valve mechanism operated through the movements of the transmitting-pen and controlling the force of the fluid under pressure, so as to cause it to move the interrupter in accordance with the movements of the transmitting-pen, substantially as set forth. 4th. The combination of a transmitting-pen, circuit connections with a receiving-station, a circuit-interrupter, a chamber having a movable portion connected with the interrupter, and a supply fluid under pressure controlled through the movements of the transmitting-pen, and caused thereby to give movement to said movable portion of the chamber in accordance with the movements of the transmitting pen, substantially as set forth. 5th. The combination of a transmitting-pen, circuit connections with a receiving-station, a circuit-interrupter, a supply of fluid under pressure, two chambers, each having a movable portion, said movable portion being connected with the circuit-interrupter, and valve mechanism operated through the movements of the transmitting-pen, whereby the force of the fluid under pressure is caused to give movement to the movable portion of said chambers, and consequently to the circuit-interrupter, alternately in opposite directions, substantially as set forth. 6th. The combination of a transmitting-pen, circuit connections with a receiving-station, a circuit interrupter, a supply of fluid under pressure, a chamber having a movable portion connected with the interrupter, a perforated plate caused to move through the movement of the transmitting-pen, and valve passages between the supply of fluid under pressure and said chamber operated by the perforated plate in its movement, whereby the force of the fluid under pressure is caused to give movement to the movable portion of said chamber, and consequently to the circuit interrupter, substantially as set forth. 7th. The combination, with a transmitting-pen, of circuit connections with a receiving station, an interrupter operated through said pen producing electric pulsations, a receiving-pen, and a supply of fluid under pressure for giving movement to the receiving-pen and caused to operate thereon through said pulsations, substantially as set forth. 8th. The combination of a transmitting-pen, circuit connections with a receiving

station, an interrupter operated through said pen and producing electric pulsations traversing said circuit connections, a receiving-pen, a chamber having a movable portion connected with the receiving-pen, and a supply of fluid under pressure controlled through said pulsations, whereby the force of the fluid under pressure is caused to give movement to the movable portion of the chamber and thus to the receiving-pen in accordance with the movements of the transmitting-pen, substantially as set forth. 9th. The combination of a transmitting-pen, circuit connections with a receiving-station, an interrupter operated through said pen and producing electric pulsations traversing said circuit connections, a receiving-pen, two chambers each having a movable portion, the movable portion of each chamber being connected to the receiving-pen alternately in opposite directions in accordance with the movements of the transmitting-pen, substantially as set forth. 10th. The combination, with a transmitting-pen, of circuit connection with a receiving-station, two interrupters operated through the movement of said pen in two directions crosswise of each other and producing two series of electric pulsations traversing said circuit connections, a receiving-pen, and a supply of fluid under pressure for giving movement to the receiving-pen in two directions crosswise of each other and caused to operate thereon through said pulsations, substantially as set forth. 11th. The combination of a transmitting-pen, circuit connections with a receiving-station, two interrupters operated through the movement of said pen in two directions crosswise of each other and producing two series of electric pulsations traversing said circuit connections, a receiving-pen, chambers having each a movable portion connected with the receiving-pen, a supply of fluid under pressure controlled through said pulsations, whereby the force of the fluid under pressure is caused to give movement to the movable portions of the chambers and thus to the receiving-pen in two directions crosswise of each other, and in accordance with the movements of the transmitting-pen, substantially as set forth. 12th. The combination of a transmitting-pen, circuit connections with the receiving-station, an interrupter for producing electric pulsations operated through said transmitting-pen, a receiving-pen, a supply of fluid under pressure for giving movement to the receiving-pen, and mechanism caused to operate by said pulsations, whereby the application of the force of the fluid under pressure to the receiving-pen is held in restraint and released at successive intervals, so that the movement of the receiving-pen is caused to correspond to that of the transmitting-pen, substantially as set forth. 13th. The combination of a transmitting-pen, circuit connections with a receiving-station, two interrupters operated in two directions crosswise of each other through the movements of said transmitting-pen and producing a series of electric pulsations in each of said circuits, a supply of fluid under pressure for giving movement to the receiving-pen in two directions crosswise of each other, and mechanism caused to operate by said pulsations, whereby the application of the force of the fluid under pressure to the receiving-pen is held in restraint and released at successive intervals, so that the movement of the receiving-pen is caused to correspond to that of the transmitting-pen, substantially as set forth. 14th. The combination of a transmitting-pen, circuit connections with a receiving-station, an interrupter operated through said pen and producing pulsations traversing said circuit connections, a receiving-pen, a supply of fluid under pressure for giving movement to the receiving-pen and caused to operate thereon through said pulsations, and means for reversing the direction of the application of the force of the fluid under pressure to the receiving-pen controlled from the transmitting-station, whereby the direction of movement of the receiving-pen is reversed upon reversal of direction of movement of the transmitting-pen, substantially as set forth. 15th. The combination of a transmitting-pen, circuit connections with a receiving-station, two interruptions operated through the movements of said pen in two directions crosswise of each other, and producing two series of electric pulsations traversing said circuit connections, a receiving-pen, a supply of fluid under pressure for giving movement to the receiving-pen and caused to operate thereon through said pulsations in two directions crosswise of each other, and means for reversing the direction of the application of the force of the fluid under pressure to the receiving-pen in each of said two directions controlled from the transmitting-station, whereby the direction of movement of the receiving-pen is reversed upon reversal of direction of movement of the transmitting-pen in either of the said two directions, substantially as set forth. 16th. The combination of a transmitting-pen, circuit connections with a receiving-station, an interrupter operated through said pen and producing electric pulsations traversing said circuit connections, a receiving-pen, a supply of fluid under pressure for giving movement to the receiving-pen, and an electrically-controlled valve mechanism and means for operating the same from the transmitting-station for reversing the direction of the application of the force of the fluid under pressure to the receiving-pen controlled from the transmitting-station, whereby the direction of movement of the receiving pen is reversed upon reversal of direction of movement of the transmitting-pen, substantially as described. 17th. The combination, with a transmitting-pen, circuit connections with the receiving-station, an interrupter operated through said pen and producing electric pulsations traversing said circuit connections, a receiving pen, a supply of fluid under pressure for giving movement to the receiving pen, valve mechanism for reversing the direction of application of the force of the fluid under pressure to the receiving-

pen, and a magnet and electrical connections with the transmitting-station, whereby said valve mechanism is operated upon each reversal of direction of movement of the transmitting pen, substantially as described 18th. The combination of a transmitting-pen, circuit connections with a receiving-station, an interrupter operated through said transmitting pen and producing electric pulsations traversing said circuit connections, a receiving-pen, a supply of fluid under pressure for giving movement to the receiving-pen, a valve mechanism for reversing the direction of the application of the force of the fluid-pressure to the receiving-pen, a polarized magnet for controlling the valve mechanism, an electric circuit connecting said magnet with the transmitting-station, and connections whereby the current upon said circuit is reversed upon each change of direction of movement of the transmitting-pen, whereby the valve mechanism is shifted and the direction of movement of the receiving-pen is reversed, substantially as set forth. 19th. The combination of a transmitting-pen, circuit connections with a receiving-station, an interrupter operated through said pen and producing electric pulsations traversing said circuit connections, a receiving-pen, a supply of fluid under pressure for giving movement to the receiving-pen, and an escapement governing the application of the force of the fluid under pressure to the receiving-pen and caused to operate by said pulsations, substantially as set forth. 20th. The combination of a transmitting-pen, circuit connections with a receiving station, an interrupter operated through said pen and producing electric pulsations traversing said circuit connections, a receiving pen, a supply of fluid under pressure for giving movement to the receiving-pen, an escapement governing the application of the force of the fluid under pressure to the receiving-pen and operated by said pulsations, and mechanism for reversing the direction of the application of the force of the fluid under pressure to the receiving-pen electrically controlled from the transmitting-station, substantially as set forth. 21st. The combination of a transmitting-pen, two electric circuits, two interrupters operated through the movement of said pen in two directions crosswise of each other and producing a series of pulsations in each of said circuits, a receiving-pen, a supply of fluid under pressure for giving movement to the receiving-pen in two directions crosswise of each other, and two escapements governing the application of the force of the fluid under pressure to the receiving-pen, one for each of the two crosswise directions of motion of the transmitting-pen and caused to operate by the pulsations, substantially as set forth. 22nd. The combination of a transmitting-pen, electric connections with a receiving-station, an interrupter operated through said pen and producing electrical pulsations traversing said connections, a receiving-pen, a supply of fluid under pressure for placing the receiving-pen under tension, means for reversing the direction of said tension to correspond in direction of motion with the transmitting-pen, and a reversible escapement holding said receiving-pen in restraint as against said tension and operated through said pulsations to permit the receiving-pen to move in either direction step by step, substantially as set forth. 23rd. The frame-piece 94, carrying a part of the escapement adjustable to and from magnet H, substantially as set forth.

No. 45,320. Telautograph. (Telautographic.)



Elisha Gray, Highland Park, Illinois, U.S.A., 13th February, 1894; 6 years.

Claim.—1st. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor giving movement to the receiving-pen and caused to operate thereon through said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the direction of movement of the latter may be reversed, magnetically-controlled clutches controlling the reversing mechanism, a current-controller at the transmitting-station for causing a temporary change in the line current upon each reversal of the direction of motion of the transmitting-pen, and circuit connections whereby such temporary change in the line-current operates upon the magnetically-controlled clutches to cause the direction of the movement of the receiving-pen to be reversed, sub-

stantially as set forth. 2nd. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor giving movement to the receiving pen and controlled in the application of its power to the receiving-pen by said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the direction of movement of the latter may be reversed magnetically-controlled clutches controlling the reversing mechanism, a magnet in line-current controlling the clutches, and a current controller at the transmitting-station for sending to line currents of increased strength upon each reversal of the direction of motion of the transmitting-pen, and thereby operating the last named magnet to control the action of the clutches and cause the direction of movement of the receiving pen to be reversed, substantially as set forth. 3rd. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor giving movement to the receiving-pen and controlled in the application of its power to the receiving-pen by said pulsations, a reversing mechanism between the motor and the receiving-pen, whereby the direction of the movement of the latter may be reversed, clutch magnets connected with the reversing mechanism and provided with electric connections, a commutator or other suitable circuit-controller for controlling the energization of the clutch-magnets, a magnet controlling the position of the commutator or other circuit-controller, and means for electrically controlling the last-named magnet from the transmitting-station, and thereby operating the reversing mechanism at the receiving-station upon a change of the direction of motion of the transmitting-pen, substantially as set forth. 4th. The combination of a transmitting-pen, an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving pen, a motor for moving the receiving-pen and caused to operate thereon through said pulsations, a train of gearing connecting the motor with the receiving-pen, a part of said train consisting of a magnetically-controlled clutch, and electrical connections with the transmitting-station controlling said clutch, substantially as set forth. 5th. The combination of a transmitting-pen, an electric-circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving pen, a motor for moving the receiving-pen and caused to operate thereon through said pulsations, a train of gearing connecting the motor with the receiving-pen, a reversing mechanism constituting a part of said train of gearing, and electrical connections with the transmitting-station controlling the reversing mechanism, substantially as set forth. 6th. The combination of a transmitting-pen, an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor for moving the receiving-pen, and caused to operate thereon through said pulsations, a train of gearing connecting the motor with the receiving-pen, two electrically controlled clutches constituting parts of said train of gearing, and electrical connections with the transmitting-station, whereby one or the other of said clutches is brought into operation according to the direction of motion required to be given to the receiving-pen, substantially as set forth. 7th. The combination, in a telautograph system, of a receiving-pen, a motor for giving movement to the same, a reversible escapement controlled from the transmitting station, whereby the application of the power of the motor to the receiving-pen is governed, reversing mechanism between the motor and the escapement, consisting of two reversely-acting gear-wheels provided with portions capable of magnetic attraction, and two magnets rotated by the motor, the magnetic portions of the gear-wheels acting as armatures for two magnets, respectively, and electrical connections controlled from the transmitting-station, whereby one or the other of these magnets may be energized at the will of the transmitting operator to grip its gear-wheel, substantially as set forth. 8th. The combination of a motor, a telautographic receiving-pen, an escapement for governing the application of the power of the motor to the telautographic receiving-pen, an electro-magnetic frictional clutch constituting a part of the train of gear between the motor and the escapement, and electrical connections for operating the clutch, as required, to cause the motor to operate the telautographic receiving-pen, substantially as set forth. 9th. The combination of a motor, a driven mechanism, an escapement for governing the application of the power of the motor to the driven mechanism, a power-transmitting device intermediate between the motor and the escapement, consisting in part of a magnetically-controlled frictional clutch, one part of said clutch being moved by the motor and the other intermediate between the motor and the escapement, and electrical connections whereby the magnetizable portions of said clutch may be excited in a determinate degree, whereby power is transmitted by the friction of its surfaces sufficient to drive the driven mechanism, but insufficient to overcome the restraining action of the escapement, substantially as set forth. 10th. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen for producing pulsations in the circuit, a receiving-pen a motor giving movement to the receiving-pen and governed in the application of its power to the receiving-pen through said pulsations, an electrically-controlled frictional clutch constituting a part of the train of gear between the motor and the receiving pen, one of the parts of said clutch being moved by the motor, and electrical connections operated from the transmitting-station, whereby the magnetization of the excitable

portions of the clutch, and consequently the transmission of power therethrough, is controlled by the transmitting operator, substantially as set forth. 11th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor for giving movement thereto, an escapement controlling the application of the power of the motor to the receiving-pen, and in turn controlled by said pulsations, a train of gearing connecting the motor with the receiving-pen, and having as a part thereof two electro-magnetic frictional clutches, together constituting a reversing mechanism, and electric connections with the transmitting-station, whereby one or the other of said clutches is energized as one or the other direction of motion of the receiving-pen is desired, the degree of energization of the clutches being such that power is transmitted through the frictional contact of their surfaces sufficient to drive the receiving-pen, but insufficient to overcome the restraining action of the escapement, substantially as set forth. 12th. The combination with a transmitting-pen, of an electric circuit, an interrupter operated through said pen for producing pulsations in the circuit, a receiving-pen, a motor for giving movement to the receiving-pen and governed in the application of its power to the receiving-pen through said pulsations, a reversing mechanism situated between the motor and the receiving-pen, consisting in part of two electro-magnetic frictional clutches, electrical connections, and a commutator or other suitable circuit-controller whereby one or other of the said clutches may be operated, a magnet controlling the position of the commutator or other circuit-controller, and electrical connections with the transmitting-station, whereby the transmitting operator may operate the last named magnet, and thereby control the direction of motion transmitted from the motor to the receiving-pen, substantially as set forth. 13th. The combination of a commutator-disc, an escapement by which the position of the disc is controlled, a magnet controlling the escapement through its armature and contact, a spring through which an electric current passes to the commutator, said spring being attached to the armature of the escapement magnet, whereby the change of current controlled by the commutator is effected immediately upon the movement of the armature, substantially as and for the purposes set forth. 14th. The combination in a telautographic system, of a transmitting-pen, a line-circuit, a receiving-pen, a motor for giving motion to the receiving-pen, an interrupter operated through the transmitting-pen for sending pulsations over the circuit, whereby the application of the power of the motor to the receiving-pen is governed, a reversing mechanism between the motor and the receiving-pen, two magnets and electrical connection for controlling said reversing mechanism, a commutator whereby one or the other of said magnets is caused to be energized according to the direction of rotation desired, a magnet governing said commutator, a unison-brush bearing upon the commutator and forming a part of a local circuit which includes the commutator-magnet, and electrical connections having a circuit maker and breaker at the transmitting-station, whereby the transmitting operator can close the unison-circuit, and thereby operate the commutator-magnet if the two pens are out of unison as to direction of motion, substantially as set forth. 15th. In a telautograph system, the combination with a receiving-pen, of a recording surface, a feeding mechanism for shifting the recording-surface, an electro-magnet controlling said feeding mechanism, a motor for giving motion to the receiving-pen, an electrically-controlled reversing mechanism between the motor and the receiving-pen, and a unison-circuit for shifting the position of said reversing mechanism when the receiving-pen is out of unison with the transmitting-pen as regards direction of motion, said unison-circuit being controlled by the armature of the magnet for shifting the recording-surface whereby the shifting of the paper and the bringing of the receiver into unison with the transmitter are simultaneously effected, substantially as set forth. 16th. The combination with a transmitting-pen, of a receiving-pen, an electric circuit, an interrupter operated through the transmitting-pen for producing pulsations in the circuit, a motor for giving movement to the receiving-pen, an escapement governing the application of the power of the motor to the receiving-pen and controlled by said pulsations, a polarized electro-magnet governing the escapement and operated by said pulsations, a magnetically-controlled reversing mechanism between the motor and the receiving-pen, a unison-circuit and connections for causing the position of the reversing mechanism to be shifted, and means operated from the transmitting-station for actuating the unison-circuit connections and depolarizing said escapement magnet, thereby bringing the transmitting and receiving pens into unison as regards direction of motion, and permitting the receiving-pen to run without restraint and overtake the transmitting-pen behind it, substantially as set forth. 17th. The combination of a receiving-pen, mechanism for reversing its direction of movement, a magnet, as J^1 , for controlling the reversing mechanism, a local circuit, as x^1 , for operating the magnet J^1 when the receiving pen is out of unison, and connections with the transmitting-station for controlling the circuit x^1 , substantially as set forth. 18th. The combination of a receiving-pen, power mechanism for moving the same, controlled by a magnet, as H^1 , mechanism for reversing the direction of movement of the receiving-pen, controlled by a magnet, as J^1 , local circuits as u , x^1 , for acting upon the magnets H^1 , J^1 , respectively, when the receiving pen is out of unison, and connections with the transmitting-station for controlling said local circuits, substantially

as set forth. 19th. In a telautograph system, the combination of a main-line wire, two magnets each provided with an armature, each of said armatures when on its front or back stop forming a part of a path for the main-line circuit, a third armature so placed as to be acted upon alternately by the said two magnets, circuit connections between the coils of each magnet and a local battery, and shunt or short circuits from the said third armature passing once around the coils of each magnet and closed by the attraction of the third armature to that magnet, whereby the alternate energization of the magnets causes momentary changes in the line-circuit, substantially as set forth. 20th. An apparatus for effecting a momentary change in one or more circuits, consisting of two magnets, each provided with an armature which, with a contact-stop, constitutes a circuit changer, a third armature operated upon by each of the two magnets alternately, a circuit connecting the coils of each of the magnets with a battery, and two shunt or short circuits, one around the coils of each of the magnets, the shunt around each magnet being closed upon the attraction of the said third armature to that magnet, substantially as set forth. 21st. As a means for controlling the reversal of motion of a receiving-pen to correspond with reversals in direction of movement of the transmitting-pen, a commutator controlling the circuits of the reversing-magnets, and having a tendency to move, and mechanism controlled from the transmitting-station holding the commutator in restraint as against said tendency and permitting it to move in correspondence with reversals in direction of movement of the transmitting pen, substantially as set forth. 22nd. As a means for controlling the reversal of motion, of a receiving pen to correspond with reversals in direction of movement of the transmitting-pen, a commutator controlling the circuits of the reversing-magnet, and having a tendency to move, an escapement holding the commutator in restraint as against said tendency, and a magnet controlling the escapement and itself electrically controlled from the transmitting-station to permit the commutator to move step by step and thus select between the circuits of the reversing mechanism, substantially as set forth. 23rd. The combination, with a transmitting pen, of an electric circuit, means operated through said pen for producing pulsations in the circuit, a receiving-pen, a motor giving movement to the receiving-pen governed through said pulsations, a circuit for the motor independent of the line-circuit, a circuit-maker and breaker in said circuit, connections between the circuit-maker and breaker, and a normally-moving part of the apparatus, and an electro-magnet controlling said connections, whereby cessation of the pulsations on the line-circuit causes operative connection to be effected between the circuit maker and breaker in the motor-circuit and said moving part of the apparatus, thereby presently breaking the motor-circuit and bringing the motor to rest, substantially as set forth. 24th. The combination, with a transmitting-pen, of an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving pen, a motor for driving the same, and a polarized escapement-magnet for governing the application of the power of the motor to the receiving-pen in accordance with said pulsations, and means controlled from the transmitting-station for depolarizing the escapement-magnet for the purpose of permitting the pen-driving mechanism at the receiving-station to run to unison with the transmitting mechanism, substantially as set forth. 25th. The combination of a transmitting-pen, an electric circuit, an interrupter operated through said pen, and producing pulsations in said circuit, a receiving-pen, a motor for giving movement to the receiving-pen and caused to operate thereon through said pulsations, a reversing mechanism between the motor and the receiving-pen, and electrical connections for shifting the position of the reversing mechanism when the receiving-pen is out of unison with the transmitting-pen as regards direction of motion, substantially as set forth. 26th. The combination of a transmitting-pen, an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor for giving movement to the receiving-pen, an escapement for controlling the motor, said escapement being controlled through said pulsations, a reversing mechanism between the motor and the receiving-pen, electrical connections for shifting the position of the reversing mechanism when the receiving-pen is out of unison with the transmitting-pen as regards direction of motion, and means for suspending the operative engagement of the escapement to permit the receiving-pen to run to unison with the transmitting-pen, substantially as set forth. 27th. The combination of a transmitting-pen, an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor for giving movement to the receiving-pen and caused to operate thereon through said pulsations, a reversing mechanism between the motor and the receiving pen, and means for producing a temporary change in the condition of the current upon the said circuit upon each reversal of the direction of movement of the transmitting-pen, whereby the reversing mechanism is operated to reverse the direction of movement of the receiving-pen, substantially as set forth. 28th. The combination of a transmitting-pen, an electric circuit, an interrupter operated through said pen and producing pulsations of successively-opposite polarity in said circuit, a receiving-pen, a motor for giving movement to the receiving-pen and caused to operate thereon through said pulsations, a reversing mechanism between the motor and the receiving-pen, and means for producing a temporary change in the condition of the current upon the said circuit upon each re-

versal of the direction of movement of the transmitting-pen, whereby the reversing mechanism is operated to reverse the direction of movement of the receiving-pen, substantially as set forth. 29th. The combination of a transmitting-pen, an electric circuit, an interrupter operated through said pen and producing pulsations in said circuit, a receiving-pen, a motor giving movement to the receiving-pen and cause to operate thereon through said pulsations, a magnetically controlled clutch controlling the connection of the motor with the receiving-pen, and means for producing temporary changes in the current traversing said circuit, whereby the action of the clutch is controlled from the transmitting-station, substantially as set forth. 30th. In a telautographic system, the combination of a transmitting-instrument and a receiving-instrument located at the same station, a single recording-surface serving for the pens of both instruments, a feeding mechanism for shifting the recording-surface, connections whereby the transmitting operator may operate the feeding mechanism to shift the recording-surface at the distant station and at the home station simultaneously, and independent connections whereby he may shift the recording-surface at the home station alone, substantially as set forth. 31st. The combination of the two main circuits *b, c*, connections whereby the temporary changes are produced in said circuits upon reversals in direction of movement of the transmitting-pen, a circuit-controller for simultaneously breaking the circuits *b, c*, and a circuit controller, as 15, for preventing the occurrence of said temporary change while said circuits are open, substantially as set forth. 32nd. The combination with a transmitting-pen of an electric circuit, means operated through said pen for producing electric pulsations of successively opposite polarity in the circuit, whereby the receiving-pen is caused to move, and a circuit-controller operated through the movements of the transmitting-pen for effecting a temporary change of current strength in the circuit upon each reversal in direction of movement of the transmitting pen, substantially as described. 33rd. The combination with a transmitting-pen, of an electric circuit, means operated through said pen for producing electric pulsations of successively opposite polarity in the circuit, whereby the receiving-pen is caused to move, a circuit-controller operated through the movements of the transmitting-pen for effecting a temporary change of current strength in the circuit upon each reversal in direction of movement of the transmitting-pen, whereby the receiving-pen is reversed, a pen rest for the receiving-pen, and circuit connections for breaking the circuit to operate the pen-rest, substantially as set forth. 34th. The combination with a transmitting-pen, of two electric circuits, means operated through said pen for producing a series of electric pulsations of successively opposite polarity in each of said circuits, whereby the receiving-pen is caused to move, a circuit-controller operated through the movements of the receiving-pen for effecting a temporary change of current strength in each of said circuits upon each reversal in direction of movement of the transmitting-pen, whereby the receiving-pen is reversed, a pen-rest for the receiving-pen, and circuit connections for breaking one of said circuits to lower the pen-rest and the other of said circuits for raising the pen-rest, substantially as set forth. 35th. The combination of a telautographic pen driven from an appropriate source of power, reversing-magnets *X¹, Y¹*, and their respective local circuits, a commutator controlling said circuits, magnet *J¹*, governing the commutator, and electrical connections with the transmitting-station controlling the magnet, substantially as set forth. 36th. The combination, with a transmitting-pen, of an electric circuit, means operated through said pen for producing pulsations in said circuits, a receiving-pen, mechanism independent as regards its source of power for moving the receiving-pen and caused to operate thereon through said pulsations, electrical connections whereby when the transmitting-pen is placed at one extreme point of its movement the receiving-pen is brought into unison with the transmitting-pen as regards direction of motion, and electrical connections whereby the pen-moving mechanism at the receiving-station is at the same time caused to operate and drive the receiving-pen to its corresponding extreme point of movement, substantially as set forth.

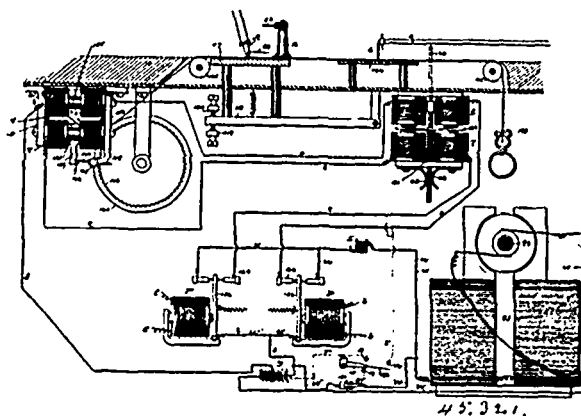
No. 45,321. Art of Telegraphy.

(Art de la télégraphie.)

Elisha Gray, Highland Park, Illinois, U.S.A., 13th February, 1894; 6 years.

Claim.—1st. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of the transmitting-pen into electric pulsations of successively opposite polarity, transmitting the said pulsations into movements of the receiving-pen, causing a temporary change in the line-current upon each reversal in direction of movement of the transmitting-pen, and through the agency of such changes causing corresponding reversals in the direction of movement of the receiving-pen, substantially as set forth. 2nd. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of the transmitting-pen in two directions crosswise of each other into two series of electric pulsations, the pulsations of each series being of successively opposite polarity, transmitting the said pulsations into movements of the receiving-pen, causing temporary changes in the line-current or currents upon reversals in direction of movement of the transmitting-pen, and through the agency of such

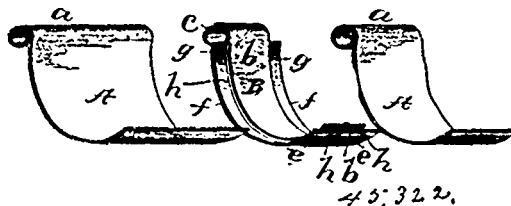
changes causing corresponding reversals in the direction of movement of the receiving-pen, substantially as set forth. 3rd. The



method of transmitting and recording a character by the movement of a transmitting-pen and a receiving-pen by transmitting the movement of the transmitting-pen into electric pulsations, transmitting the said pulsations into movements of the receiving-pen, causing a temporary change in the line-current upon each reversal in direction of movement of the transmitting-pen, and through the agency of such changes causing corresponding reversals in the direction of movement of the receiving-pen, substantially as set forth. 4th. The method of transmitting and recording a character by the movements of a transmitting-pen and a receiving-pen by transmitting the movements of the transmitting-pen in two directions crosswise of each other into two series of electric pulsations, transmitting the said pulsations into movements of the receiving-pen, causing temporary changes in the line current or currents upon reversals in direction of movement of the transmitting-pen, and through the agency of such changes causing corresponding reversals in the direction of movement of the receiving-pen, substantially as set forth.

No. 45,322. Eave Trough Coupler.

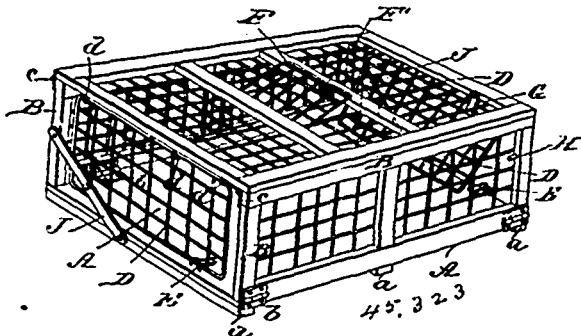
(Joint pour larmiers de toit.)



John Milton Davidson, Allegheny, Pennsylvania, U.S.A., 13th February, 1894; 6 years.

Claim.—1st. A coupling for sections of eaves-troughs having a central strip or fold provided with a bead at one end, and two lateral reverse folds which form pockets to receive the adjacent ends of two sections. 2nd. A coupling for sections of eaves-troughs having a central fold on its concave face and a bead at one end of the fold, and two reverse lateral folds on the convex face, the free edges of the lateral folds extending beyond the lateral edges of the centre fold.

No. 45,323. Folding Crate. (Manne pliante.)

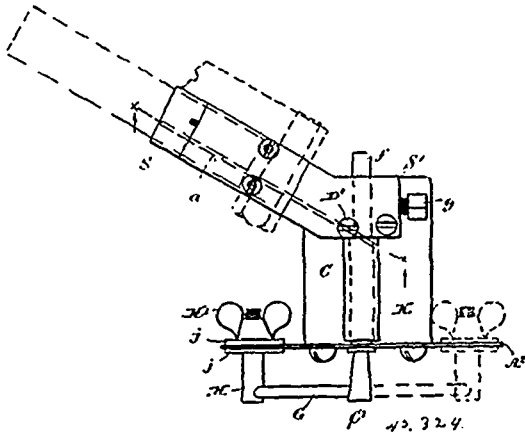


Samuel Isam Butters and Granville Bartlett, both of Clarksbury, West Virginia, U.S.A., 14th February, 1894; 6 years.

Claim.—1st. The combination with the bottom and the sides hinged thereto, and a top hinged to the sides, of a spring catch on

the end bar of the top, and a pin projecting from the end bar of the adjacent side in the direction of the length of the crate and adapted to engage said catch as the crate is folded into its closed position, substantially as specified. 2nd. The herein described folding crate comprising a bottom, sides hinged thereto with the hinges at the top and bottom of said sides upon opposite sides thereof, a top having a hinged door with a spring-wire catch, ends hinged to the top, spring-wire catches on the bottom for said ends, diagonal braces pivoted to the bottom and sides and jointed at their centres, a spring catch upon the top bar at one end, a pin projecting from the end of the adjacent side in the direction of the length of the crate, to automatically engage said catch as the parts are folded and hold the same in their closed position, substantially as specified.

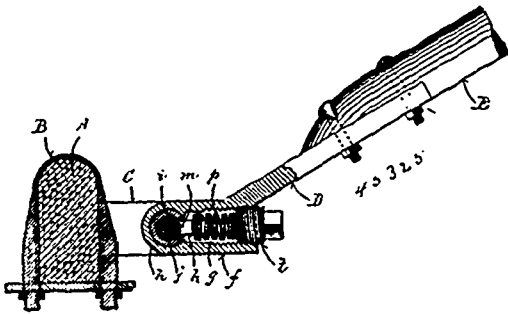
No. 45,324. Wire Coiler. (Machine à lover le fil de fer.)



The Dominion Wire Manufacturing Company, Montreal, Quebec, Canada, assignee of Clarence Otis White and Marshall Burns Lloyd, both of Minneapolis, Minnesota, U.S.A., 14th February, 1894; 6 years.

Claim.—1st. A wire coiler having a mandrel with variable coiling groove and means for retaining the travelling wire in said groove. 2nd. A wire coiler having a mandrel in two parts with variable coiling groove and means for retaining the travelling wire in said groove. 3rd. A wire coiler having a spirally grooved mandrel made in two portions respectively stationary and movable, the groove being formed in part on one and part on the other and thereby rendered variable, and means for retaining the travelling wire in said groove. 4th. A wire coiler having a grooved mandrel made in two parts, one of which is movable relatively to the other, a retainer and means for effecting the adjustment of such movable part, for the purposes set forth. 5th. A wire collar having a grooved mandrel made in two parts, one of which is rotatable relatively to the other, a retainer completely enclosing one of said parts and partially the other, and a suitably controlled arm or lever for operating such rotatable part, for the purposes set forth. 6th. In a wire coiler, the combination of a grooved mandrel in two parts, one of which is movable relatively to the other, a retainer for confining the wire to the grooves of the mandrel, a guide for the wire to the receiving end of the mandrel, an adjustable bearing block forming a part of said guide with means for adjusting same and means for effecting the adjustment of the movable part of said mandrel, for the purposes set forth.

No. 45,325. Thill Coupler. (Arçon de limonière.)

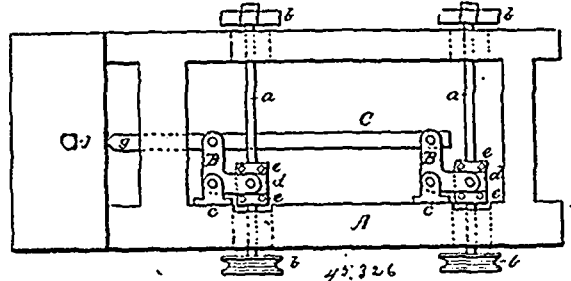


Daniel Murray, Salem, and Oron G. Cilley, Boston, both of Massachusetts, U.S.A., 14th February, 1894; 6 years.

Claim.—1st. In a thill-coupling, a thill-iron provided with an opening for the coupling-pin and a chamber extending into said opening, in combination with a spring pushed plunger disposed in said chamber and projecting into the pin-opening in position to engage said pin. 2nd. In a thill-coupling, a thill-iron provided

with an opening for the coupling-pin and having a chamber extending into said opening, in combination with a spring-pushed plunger disposed in said chamber and projecting into the opening and a screw plug or equivalent means for regulating the tension of said spring. 3rd. In a thill-coupling, a thill-iron having an enlarged opening for the coupling-bolt, split-bushing in said opening, a chamber in said iron having its bottom registering with the split in said bushing, a spring-pushed plunger in said chamber projecting into said split and mechanism for regulating the tension of said spring. 4th. In a thill-coupling, the clip and lugs provided with the pivoted bolt openings, in combination with the bolt therein, the thill-iron having an opening for said bolt and an interiorly screw-threaded chamber leading into said opening, a spring-pushed plunger in said chamber in engagement with the bolt and a screw-plug for regulating the tension of said spring, all being arranged to operate substantially as specified.

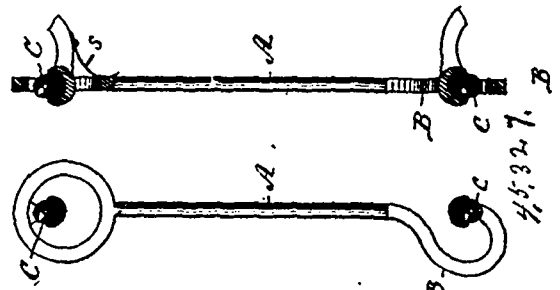
No. 45,326. Oil-setting Device for Saw-mill Carriages. (Compensateur pour charriots de scierie.)



James McAllister and A. C. Hubbell, both of South Manistique, Michigan, U.S.A., 14th February, 1894; 6 years.

Claim.—1st. The combination, with a saw-mill carriage and axles, of a bracket secured to the carriage, a rod passing through the arms of said bracket, a cross-head of the feed mechanism mounted on said rod and adapted to slide from end to end of the bracket, bell crank levers pivotally connected to the carriage and to the axles, a connecting bar pivotally connected to said bell crank levers and connected to the cross-head, and means for locking said cross-head, substantially as set forth. 2nd. The combination, with a saw-mill carriage and axles, of a bracket secured to the carriage, a rod passing through the arms of said bracket, a cross-head of the feed mechanism mounted on said rod and adapted to slide from end to end of said bracket, said cross-head having a socket therein, a pin adapted to pass through said bracket and enter said socket, bell crank levers pivotally connected to the carriage and to the axles, and a rod connected to the cross-head and pivotally connected to said bell crank levers, substantially as set forth.

No. 45,327. Suspension Rod for Swinging Sieves. (Tige de suspension pour cribles oscillants.)



Carl Hagenmacher, assignee of Jacob Wörner, both of Budapest, Kingdom of Hungary, 14th February, 1894; 6 years.

Claim.—In gyrating sieves, the combination of suspensory rods A, provided with balls C, or sockets D, at their ends and having a bend or crook B, projected out of the direct line or strain, as and for the purpose set forth.

No. 45,328. Bob Sleigh. (Traîneau-jumeau.)

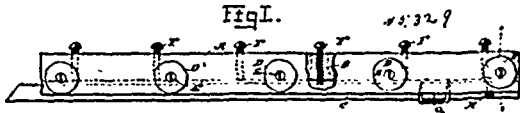


The Bain Wagon Company, assignee of James Anderson, both of Woodstock, Ontario, Canada, 14th February, 1894; 6 years.

Claim.—The combination with the long reach and rear bob connected at the front to the long reach by the short reach of the rear

bolster provided with clip blocks, each of which is secured to the bottom of the rear bolster by a single bolt, flexibly connected to the long reach, and united to the short timbers by the straight guide bars extending laterally beyond each side of the timber within the clips of the blocks, as and for the purpose specified.

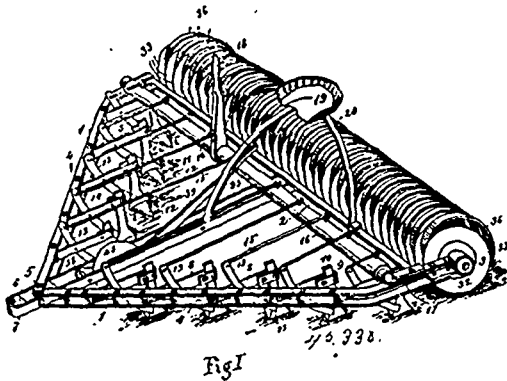
No. 45,329. Saw Templet. (Jauge de scie.)



Benjamin F. Spooner, Orange, Texas, U.S.A., 14th February, 1894; 6 years.

Claim.—1st. A saw templet comprising a stock or holder, and a flexible band or blade held adjustably therein, substantially as shown and described. 2nd. A saw templet comprising a stock or holder, a flexible band or blade held in the said stock or holder, and means, substantially as described, for adjusting the band to the desired curve, substantially as shown and described.

No. 45,330. Harrow. (Herse.)

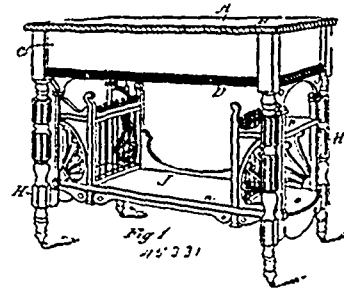


Martin Bruner, Buckland, Ohio, U.S.A., 14th February, 1894; 6 years.

Claim.—1st. In a harrow, the combination with a harrow-bar, of arm loosely pivoted to the harrow-bar, and having their rear ends bent upon themselves to form sockets, binding-screws passed through the bent portions in front of the sockets, standards arranged in the sockets, and triangular ploughs arranged at the lower ends of the standards, substantially as specified. 2nd. In a harrow, the combination with a harrow-bar, arranged diagonally to the line of draft, and consisting of upper and lower metal-section, and spacing-bolts connecting the sections of bell cranked-shaped arms pivoted to every other spacing-bolt and bent around the next adjacent bolt, and plough-carrying standards connected to the rear ends of the arms, substantially as specified. 3rd. The combination, with a triangular harrow-frame, a rock-shaft journalled in the rear end therefore, and a hand-lever for operating the shaft, of a series of arms loosely connected to the converging-side beams of the harrow-frame, plough-carrying standard connected to the rear end of the arms, curved colter-bars pivoted to the arms and located to the sides of the standards, and connecting-rods between the shaft and the upper ends of the colter-bars, substantially as specified. 4th. In a harrow, the combination with a triangular frame, a rock-shaft and its hand-lever, said shaft being journalled at the rear end of the frame, of a series of arms connected to the converging beams of the frame, standards connected to the arms and provided with ploughs at their lower ends, curved colter-bars pivoted to the arms and taking at the sides of the standards, and having their front convex edges reduced to form cutting edges, and connecting rods between the rock-shaft and the upper ends of the colter-bars, substantially as specified. 5th. In a harrow, the combination with opposite bearing eyes, conical plugs seated in the eyes, a binding-rod passing through the plugs and having nuts, a hollow shaft mounted on the rod and flared to bear upon the plug, a flange at each end of the shaft, and a series of harrow-discs and space-disc alternately arranged upon the shaft, substantially as specified. 6th. In a harrow, the side and central beams formed of strap-metal doubled at their rear ends to form eyes, the doubled-ended conical bearing block 27, located in the eye of the central beam, the conical bearing-block, 21 located in the eyes of the side-beams, the two tubular shafts 23, located between the end and central bearing-blocks, the internal bored conical bushings located in the ends of the shafts and provided at their outer ends with annular perforated securing flanges or discs, of the binding-rod passed through the bearing-blocks, the nuts on the ends of the same, the series of harrow and spacing-discs alternately arranged upon the shafts, and tie-rods passing through the same and the

flanges of the bushings, substantially as specified. 7th. In a harrow, the combination with a triangular frame, a transverse shaft in rear of the same, a series of discs carried by the shaft, and a rock-shaft in front of the discs, of a lever for operating the rock-shaft, a series of arms pivoted to the converging side-beams of the frame, plough-carrying standards secured to the rear ends of the arms, colter-bars pivoted upon the arms at the sides of the standards, and connecting-rods between the upper ends of the colter-bars and the rock-shaft, substantially as specified. 8th. In a harrow, the combination with the triangular frame, having the opposite end and central bearings, the two shafts journalled in the bearings, the harrow and spacing-discs alternately located upon the shafts and secured together, of the series of ploughs arranged in front of the discs and connected to the side-beams of the frame, the curved lever pivoted to the central beam and the disc carried thereby, substantially as specified.

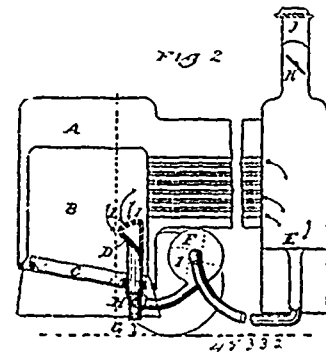
No. 45,331. Combined Table and Writing Cabinet. (Pupitre et table combinés.)



John Danner, Canton, Ohio, U.S.A., 14th February, 1894; 6 years.

Claim.—1st. In a new article of manufacture, the combination of the supporting legs H and body A, of the panel C, hinged to said body and provided with levelling block a, arms E, having elongated apertures a, and side projections c, pivotally secured to the slide and the panel C, a slidable table F, adapted to pass between the panel C, and the levelling block, and the projection c, on the arms E, the cabinet G, having grooves l, on the under side thereof, pins m, projected from said slidable slide into said grooves, whereby said cabinet may be moved in said table, substantially as described and for the purpose set forth. 2nd. In a table, of a foldable side panel C, the top B, having thereunder a cabinet consisting of a series of compartments or divisions, adapted to slide transverse the body of the table, and a slidable leaf adapted to engage and move said cabinet, substantially as described and for the purpose set forth. 3rd. The combination, with the table A, of the cabinet G, adapted to slide transverse the body of the table, a slidable leaf F, adapted to be drawn from under and out, with said cabinet and a support for said leaf, substantially as set forth.

No. 45,332. Smoke Consuming Furnace. (Fourneau fumivore.)



Granville White, Moreland, Victoria, Australia, 14th February, 1894; 6 years.

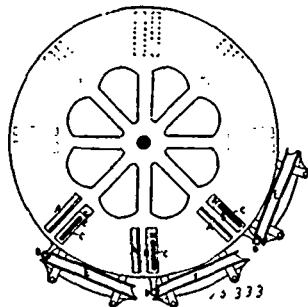
Claim.—1st. The combination and arrangement in parts of a furnace B, with inflected smoke discharge pipe E, a fan F, with inlet I, for a regulated supply of hot or cold air, impelling the unconsumed products through the hollow incandescent, perforated bridge D, to the vapour outlet pipe G, and damper H, substantially as described. 2nd. The combination and arrangement in parts of a furnace B, with inflected smoke discharge pipe E, an inlet I, admitting steam or hot or cold air under pressure and impelling the unconsumed incandescent products through the hollow incandescent bridge D, to the vapour outlet pipe G, and damper H, substantially as described. 3rd. The combination and arrangement in parts of a furnace B, with inflected smoke discharge pipe E, a fan F, with inlet I, for a regulated supply of hot or cold air impelling the unconsumed combustible products through one or more hollow incandescent perforated bridges D, to vapour outlet pipes G, and dampers H, as substantially described. 4th. The combination

and arrangement in parts of a furnace B, with inflected smoke discharge pipe E, an inlet I, admitting steam or hot or cold air under pressure and impelling the unconsumed incandescent products through one or more hollow incandescent perforated bridges D, to outlet pipes G, and dampers H, as substantially described. 5th. The combination and arrangement in parts of a furnace B, with inflected smoke discharge pipe E, said pipe either conveyed over or at the side of the boiler or beneath the same a fan F, with inlet I, for a regulated supply of hot or cold air, impelling the unconsumed combustible products through the hollow incandescent bridge or bridges D to the vapour outlet pipes G and dampers H, as substantially as described. 6th. The combination and arrangements in parts of a furnace B with inflected smoke discharge pipe E said pipe either conveyed over or at the side of the boiler or beneath the same, an inlet I admitting steam or hot or cold air under pressure and impelling the unconsumed combustible products through the hollow incandescent bridge or bridges D to the vapour outlet pipes G and dampers H, as substantially described. 7th. The combination and arrangements in parts of a furnace in portable marine or stationary boilers with a smoke discharge pipe in which the products of imperfect combustion are impelled with an admixture of hot or cold air by a fan or steam blast through one or more incandescent hollow perforated bridge or bridges placed in the said furnace and discharged past a regulator or damper into the atmosphere.

No. 45,333. Excelsior Manufacturing Machine.

(*Machine pour réduire le bois en fibres.*)

James A. Manning, Toronto, Ontario, Canada, 14th February, 1894; 6 years.



Claim.—The combing knives C, clamped or otherwise secured in a row in the frame B, sliding in and out from the centre of the revolving wheel, by means of a radial slot cut therein, and actuated by means of a projection D on the sliding frame carrying a friction roller, and, which entering the guides E, is thereby made to move in a straight line along the log being

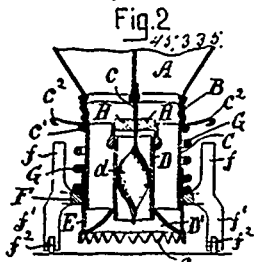
operated upon, the whole combined and operating as and for the purpose set forth, as herein before described and illustrated in the drawing.

No. 45,334. Table Sauce. (*Sauce de table.*)

Sophia McLaren, assignee of Anne Lister, both of Perth, Ontario, Canada, 15th February, 1894; 6 years.

Claim.—Is a compound composed of the ingredients vinegar, sugar, black pepper, white pepper, currie powder, salt, ginger, allspice, cloves, mustard, mace and nutmeg, substantially in the proportions and for the purposes set forth.

No. 45,335. Machine for Making Cakes and Confections. (*Machine pour faire des gâteaux et sucreries.*)



Richard Megson, Cambridge, Massachusetts, U.S.A., 15th February, 1894; 6 years.

Claim.—1st. A tube for bakers' and confectioners' use, consisting of an inner tube adapted at its upper end to be secured to a bag or hopper, a central tube or partition secured therein, to the lower end of which is secured a cut-off, and an outer tube mounted in a frame provided with legs, substantially as set forth. 2nd. A tube for bakers' and confectioners' use, consisting of an inner tube adapted at its upper end to be secured to a bag or hopper, a small tube secured in the centre thereof, a tube near its upper end passing through the wall of the inner tube to form a vent, a cut-off at the lower end of said small tube and an outer tube mounted in a frame provided with legs, said outer tube being straight at one end and serrated at the other end and capable of being reversed, substantially as and for the purposes set forth. 3rd. A tube for bakers' and confectioners' use, consisting of an inner tube C, a small central tube D, a tube communicating with the atmosphere to form a vent, a cut off D', at the end of the central tube D, and a partition in

said central tube, in combination with an outer tube E, mounted in a frame, having legs f, f', and a spiral spring G, around said tubes, all arranged and operated substantially as set forth. 4th. In a tube for bakers' and confectioners' use, consisting of an inner and an outer tube, means for causing the outer tube to turn as the inner tube is depressed, substantially as set forth. 5th. In combination, with a tube for bakers' and confectioners' use, a distributor and depositor serrated at its lower end and having a partition at its upper end whereby the contents of one compartment of a bag or hopper will be conducted to one series of openings, and the contents of the other compartment to another series of openings so that the colours will be alternating, as set forth. 6th. In combination, with a tube for bakers' and confectioners' use, a cut-off automatically operated by depressing and raising the said tube, substantially as set forth. 7th. A tube for bakers' and confectioners' use, having a cut-off at its lower end, said cut-off being lowered to deposit the dough around the tube and raised to cut-off same, substantially as set forth. 8th. In a depositing tube for bakers' and confectioners' use, a vent leading to the bottom of the tube, substantially as and for the purposes set forth. 9th. In a tube for bakers' and confectioners' use, a central tube having a spiral partition whereby the dough entering on one side of the partition will be deposited on the opposite side, substantially as set forth. 10th. In a tube for bakers' and confectioners' use, a central spring holder for preventing the cake being lifted when confection is deposited thereon, substantially as set forth. 11th. In combination with a depositing tube, a hopper for containing sugar or other material, and means for measuring and delivering said material, substantially as set forth. 12th. In a depositing apparatus consisting of an inner and outer tube, a conical hopper secured to the inner tube but extending around the outer tube, two rings or projections around the lower end of the outer tube, between which rings the lower end of the hopper works to measure and deposit sugar or other material from the hopper, substantially as set forth. 13th. In a depositing apparatus a dough receptacle having a series of tubes secured to its under side, each of said tubes being provided with a cut-off, and means for automatically operating said cut-off at one and the same time, substantially as set forth. 14th. In a depositing apparatus a dough receptacle having a series of inner tubes each fitted with a cut-off secured to its underside, a stationary outer casing or jacket supported by legs a plate held by said legs and carrying a series of tubes for the inner tubes to work in, substantially as set forth. 15th. In a depositing apparatus, a dough receptacle, a series of tubes secured to bottom of same, an outer casing or jacket, legs supporting same, a plate carried by said legs, outer tubes secured to said plate in combination with a plate free to work up and down in the dough receptacle, said plate being provided with slots or openings and flaps for covering same and mechanism for raising and lowering said plate as the dough box is operated, substantially as set forth. 16th. In combination with a dough box of a depositing apparatus a plate free to be moved up and down therein, slots or openings formed in said plate, flaps to cover said slots or openings, said flaps being hinged to open downwards, and mechanism for operating said plate, substantially as and for the purposes set forth. 17th. In combination with a dough box of a depositing apparatus a plate R, having slots or openings covered by flaps r, and rods S, T, U, forming a frame, levers V, pivoted on a rod W, the forward ends of said levers embracing the bar T, and the outer end embracing the fixed rod X, which forms a fulcrum for said levers as the dough box is operated, substantially as set forth. 18th. In combination with a dough box having a series of tubes secured to its bottom, a series of partitions arranged over the centre of said tubes whereby half the dough deposited by each tube will be taken from separate compartments, substantially as set forth. 19th. In a bakers' and confectioners' depositing apparatus, a dough box, a tube having a series of holes arranged at its lower edge and capable of being raised and lowered in combination with stationary cut-offs arranged on the outside of said dough box, substantially as set forth.

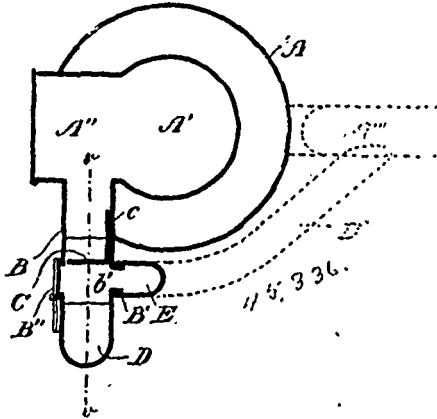
No. 45,336. Ventilator and Check for Furnaces.

(*Ventilateur et registre de fournaise.*)

John B. Watson, Toronto, and Joseph R. Douglas, Ottawa, Ontario, Canada, 15th February, 1894; 6 years.

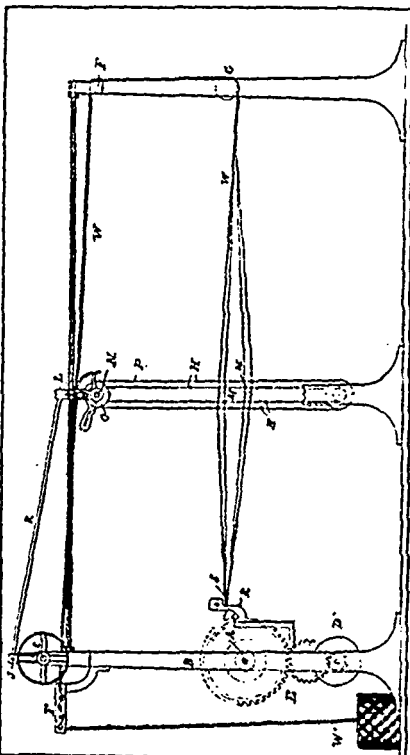
Claim.—1st. In a ventilating and furnace-checking device, the combination with the ashpit mouth of a furnace or boiler, of a valve-box connecting said ashpit with the room to be ventilated, a branch connection between said box and the smoke-stack, and a valve in said box adapted to allow or interrupt a current from the room to the ashpit or to the smoke-stack, substantially as set forth. 2nd. In a ventilating and furnace-checking device, the combination with the ashpit mouth of a furnace or boiler, of a valve-box connected with said mouth, a duct connecting said box with the room to be ventilated, a nozzle on the lower rear part of said box, a pipe connecting said nozzle with the smoke-stack of the furnace, a valve having a sector-shaped back at a right angle, and hung at the top of the box on an axle provided with a crank and said valve adapted to allow or interrupt a current passing through said box, and to cover or uncover with its back the opening in the said nozzle, and a chain or rod E adapted to operate said crank, substantially as set forth. 3rd. In a draught and check-valve for a furnace or boiler, the combination of a box rectangular in cross-section having part of its bottom segmental longitudinally, an opening in the lower part of one of the sides over the segmental bottom, a plate C hung at the top of the

box, and having a sector-shaped back plate *c*, at a right angle adapted to cover said opening, and a crank *c*¹ adapted to be operated by a cord, chain or rod, substantially as set forth. 4th. In a draught



and check-valve for a furnace or boiler, the combination of a box *B*, rectangular in cross-section and having part of its bottom segmental longitudinally, an opening *b*¹ in the lower part of one of the sides over the segmental bottom, a plate *C* hung at the top of the box adapted to sweep the segmental bottom, and having a sector-shaped back *c* at a right angle adapted to cover said opening, and a slide *B*¹ in the side of the box opposite to that in which the opening *b*¹ is located, and on the same side longitudinally of the valve *C* as said opening, substantially as set forth.

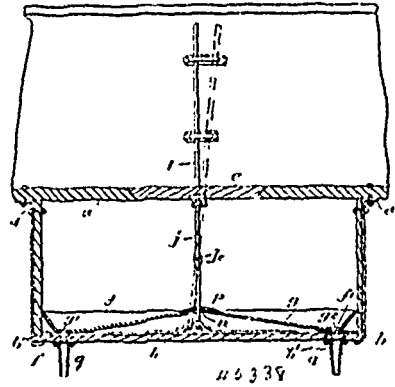
No. 45,337. Method of Preparing Warps for Looms.
(Méthode de préparer la chaîne pour métiers.)



James Lister and Richard Lister, of Aireworth Mills, Keighley, County of York, England, 15th February, 1894; 6 years.

Claim.—The hereinbefore described method of dressing or preparing warps for weaving the essential novelty consisting in conducting the partly divided warp threads to the roller *G* and passing the threads through mails or the like in the reciprocating heads *M*, and through a reed *R* to a rotating beam *A*, substantially in the manner indicated.

No. 45,338. Sand Sprinkler for Electric Cars.
(Appareil à saupoudrer le sable pour chars électriques.)

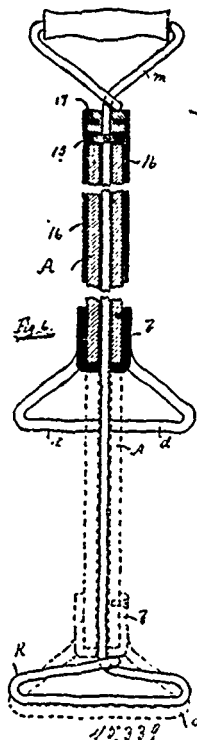


John Beaumont Hopkins, of Montreal, Quebec, Canada, 15th February, 1894; 6 years.

Claim.—1st. In an electric car, the combination with the car flooring, of an oblong receptacle for sand suspended from the bottom thereof in advance of the wheels sufficiently long to extend over both tracks upon which the car travels, and having discharge passages to direct the sand upon such tracks, a suitably covered inlet of trap form to said receptacle, and a vertical oscillating lever and reciprocal cut-off mechanism for controlling the flow of sand through said passages, for the purpose set forth. 2nd. In an electric car, the combination with the car flooring, having a movable section, of a receptacle for sand suspended from the bottom of the flooring beneath said movable section, in advance of the wheels and having discharge passages to direct the sand upon the tracks upon which the car travels, a reciprocal slide located at the bottom of said receptacle to control said discharge passages, and a pivoted lever connection directed at one end with said slide and the other end extending to within handy reach of the motorman, as and for the purpose set forth. 3rd. In an electric car, the combination with the car flooring *c*, having movable section *a*, receptacle *a*, suitably suspended beneath said flooring, and having inclined false bottoms *g*, *g*, slide *h*, having registering opening *h*¹, at one end, and operating lever connection *j*, *l*, all substantially as and for the purpose set forth.

No. 45,339. Mop. (Guipon.)

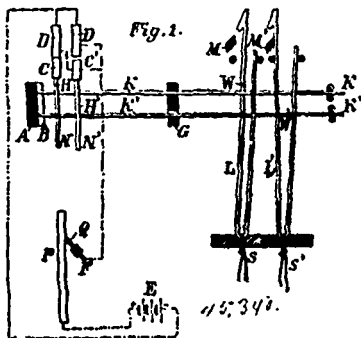
Florentine K. Bradman, Boston, Massachusetts, U.S.A., 15th February, 1894; 6 years.



Claim.—1st. In a mop, a hollow handle provided at one end with an eccentrically arranged cloth loop or holder, a rod fitted to slide and rotate in said handle and provided with a cloth holder adapted to register with said eccentric holder and a mop cloth having its ends respectively attached to said holder, substantially as and for the purpose set forth. 2nd. In a mop, the handle *A*, provided with the eccentric loop *d*, in combination with the rod *h*, provided with the loop *k*, and tube *p*, fitted to slide and rotate in said handle, substantially as described. 3rd. The handle *A*, in combination with the cap *b*, provided with the eccentric-loop *d*, the rod *h*, provided with the loop *k*, and fitted to slide in an opening in said cap, and the tube *p*, secured to said rod, substantially as and for the purpose set forth. 4th. In a mop, the combination of the handle *A*, provided with the eccentric cloth-loop *d*, in combination with the rod *h*, disposed in said handle and provided with the handle proper *m*, and cloth-loop *k*, and the tube *p*, secured on said rod and fitted to slide in said handle, substantially as described. 5th. In a mop, the handle *A*, provided with a cloth-loop, in combination with the rod *h*, provided with a cloth-loop at one end and a handle at the opposite end, said rod being fitted to slide in the handle *A*, a tube fast on said rod and enclosing the said handle. 6th. In a mop, the combination of a rod provided with a cloth-loop at one end and a

handle at the opposite end, a wooden handle fitted to slide on said rod and provided with a cloth loop, a collar 15, on said rod, and the tube 16, held by said collar, all being arranged to operate, substantially as described.

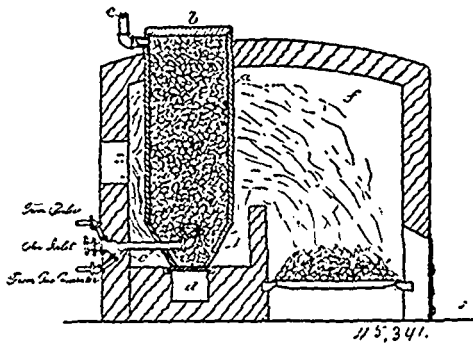
No. 45,340. Jacquard Card Punching Machine.
(*Machine Jacquard à piquer les cartes.*)



Valentine Lacasse, Chemnitz, Kingdom of Saxony, Germany, 15th February, 1894; 12 years.

Claim.—1st. In apparatus for punching jacquard cards, a conducting plates on which the design is produced in insulating material, a series of conducting styles and electro-magnets, armatures and lifting wires operated by the electro-magnets, horizontal needles, and a reciprocating perforated plate, all constructed, arranged and co-operating, substantially as and for the purpose hereinbefore described and illustrated by the accompanying drawings. 2nd. In a jacquard punching machine, horizontal needles selectively lifted by electro-magnets, and each having a hook or projection formed thereon for the purpose of moving the lifting wires out of contact with the lifting rails, such of the needles as are not lifted remaining stationary whilst those which are lifted are pushed backward against the lifting wires, substantially as hereinbefore described and illustrated by the accompanying drawings.

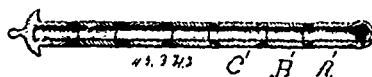
No. 45,341. Process of Treating Ores, etc.
(*Procédé pour le traitement des minerais, etc.*)



William Rattray, Richmond, Quebec, Canada, 15th February, 1894; 6 years.

Claim.—1st. The process of treating ores, mattes, etc., of nickel, copper, pyrites or other ores or metals containing sulphur, arsenic, etc., consisting in the combination with the charge of hydrogen gas or the like, for the purpose herein set forth. 2nd. The process of treating ores, mattes, etc., of nickel, copper, pyrites, or other ores or metals containing sulphur, arsenic, etc., consisting in the introduction into the charge (before, during or after the process of roasting), of an inflammable gas, having hydrogen as a base, in combination with and assisted by an injected auxiliary body or stream such as air, steam or the like, or a combination thereof, for the purpose herein set forth. 3rd. The process of treating ores, mattes, etc., of nickel, copper, pyrites or other ores or metals containing sulphur, arsenic, etc., consisting in the combination with the charge of hydrogen gas effected by the admixture of charcoal with the charge and the introduction of steam therein, whereby such gas is evolved, as and for the purpose set forth. 4th. The process of treating ores, mattes, etc., of nickel, copper, pyrites or other ores or metals, containing sulphur, arsenic, etc., by the injection into the charge before, during or after the process of roasting, of carburated hydrogen, as herein set forth, or natural gas, steam or superheated steam, either gas or steam being injected singly or together with air, for the purposes required and herein set forth.

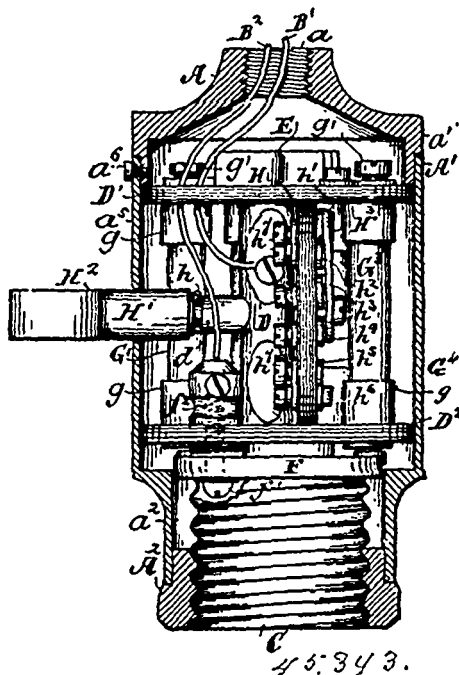
No. 45,342. Medical Electric Instrument.
(*Instrument médical électrique.*)



Doctor Benjamin Y. Boyd, Wichita, Kansas, U.S.A., 15th February, 1894; 6 years.

Claim.—An electric instrument for medical purposes, composed of cylinders of negative and positive elements separated by an electrical non-conducting cylinder.

No. 45,343. Incandescant Lamp.
(*Lampe à incandescence.*)



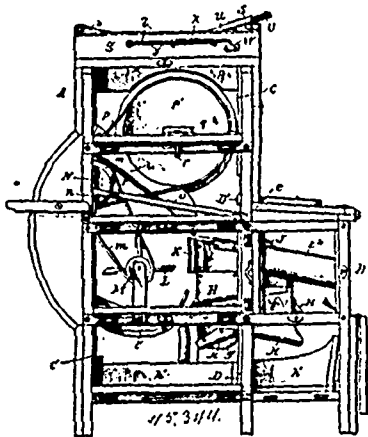
Charles A. Hussey, New York City, New York, U.S.A., 15th February, 1894; 6 years.

Claim.—1st. In an electric lamp holder, the combination of a socket or receptacle for a lamp, two electrodes for connection with the electrodes of the lamp, connections for leading in wires or conductors, a number of resistance devices made in the form of pencils or rods and each having a different resistance from the others, a number of stationary contact-pieces, and an adjustable contact-piece for switching in and out the resistance devices, substantially as specified. 2nd. In an electric lamp holder, the combination of a socket or receptacle for a lamp, two electrodes for connection with the electrodes of the lamp, connections for leading in wires or conductors, a number of resistance devices made in the form of pencils or rods, of a composition produced by mixing materials of high and low resistance together, and each of said pencils or rods having a different resistance from the others, a number of stationary contact-pieces, and an adjustable contact-piece for switching in and out the resistance devices, substantially as specified. 3rd. In an electric lamp holder, the combination of a socket or receptacle, two electrodes, connections for leading in wires or conductors, two discs of non-conducting material, pencils or rods of different resistances fitted in metal cups connected with said discs, a piece of non-conducting material, such as mica, arranged intermediately of the said discs, a row of contact-pieces mounted thereon and separated from each other, and an oscillating finger co-acting with said contact-piece, substantially as specified.

No. 45,344. Fanning-Mill. (*Tarare-cribleur.*)
Levi Staley, Alcony, Ohio, U.S.A., 15th February, 1894; 6 years.

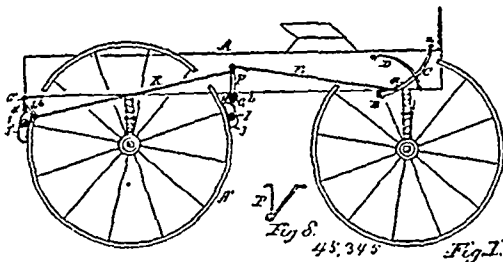
Claim.—1st. In a fanning-mill, the combination with the inclosed casing and the fan therein, of a vertical oscillating screen shaft mounted within the casing, a rectangular side inclosed screen box mounted on said vertical shaft and disposed spirally there-around, separated transverse screen supports arranged in each corner of the screen box, a descending step series of different-mesh grading screens each having rectangular frames registering in the corners of the screen box, and adapted to removably rest on top of said transverse

screen supports, said grading screens each slightly overlapping the next lower screen, inclosed chutes attached to the screen box under



each screen, and separate receptacles or compartments located under each chute, substantially as set forth. 2nd. In a fanning-mill, the combination of the inclosed casing having door inclosed side openings, compartment grain boxes removably located in the bottom of the casing, an inclined chute block removably arranged in the bottom of the casing next to one of the grain boxes, an oscillating screen grading device mounted within the casing and having a lower discharge pan working over said inclined block and a number of separate screen chutes working over said compartment grain boxes, said oscillating screen grading device being further provided at the receiving end with flared blast plates, a partial bottom fan casing arranged within the main casing at one side of the grading device, the fan arranged over the partial casing, the feed chute, the bucket power wheel arranged over the feed chute and geared with the fan, and the feed hopper, substantially as set forth. 3rd. A feed hopper having opposite inclined converging bottom boards one of which is provided with a feed opening, guides attached to one of said bottom boards, an adjustable slide mounted to move in said guides and work over said feed opening, a bell crank connection with said feed slide, one of the arms of which projects beyond one side of the hopper, a wire eye strip attached to one side of the hopper, and provided with a series of eyes and an adjusting hook adjustably attached at one end to the bell crank connection and adapted to engage at its other end the said eyes in said eye strip, substantially as set forth.

No. 45,345. Wagon Brake. (Frein de wagon.)

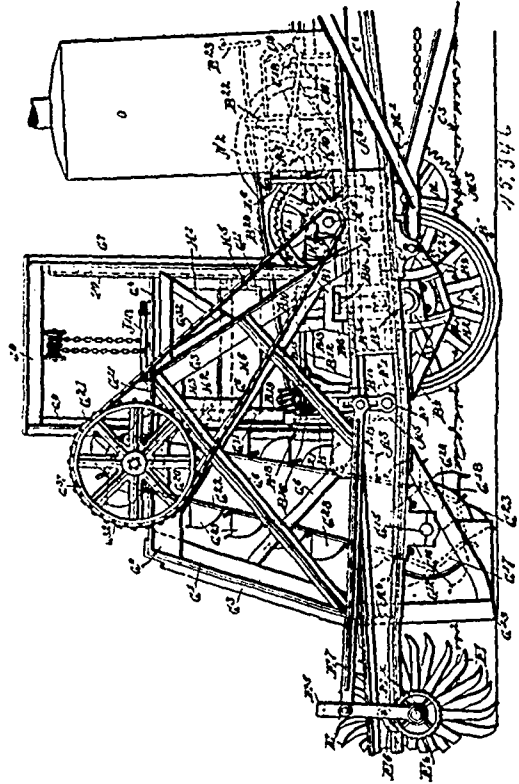


William Hannon Brand, Winona, Ontario, Canada, 15th February, 1894; 6 years

Claim.—1st. In a wagon brake, a rod attached at the forward end to a lever fastened to a double crank rod carrying the brake shoes for the front section of the rear wheels, and the rear end of said rod attached to a downward lever secured to a double crank rod carrying brake shoes for the rear portion of the hind wheel, operated by a front foot lever and its connecting rod, substantially as specified. 2nd. The combination of two crank rods, carrying four brakes for the rear wheels of a wagon, two levers attached to crank rods, the levers connected with a connecting rod, and devices for operating the brakes on front and rear portions of the hind wheels, simultaneously, substantially as specified. 3rd. The combination of the foot lever C, connecting rod E, upright lever F, rear connecting rod K, crank rods G, G¹, lever L, brake shoes J, J¹, substantially as and for the purpose specified. 4th. The combination, of the foot lever C, bearing B, connecting rod E, lever F, brake rod G, bearings b, b, connecting rod K, lever L, rear crank rod G¹, bearings b¹, b¹, brake shoes J, J¹, all constructed substantially as and for the purpose specified. 5th. In combination with the operating devices of the brake shoes J, J¹, having their crank rod openings h, off the line of the centre of the shoe, above and below, substantially as and

for the purpose specified. 6th. In combination with the brake shoes and their operating devices, of the collars d, d, d, secured to the crank rods G, and G¹, a spring f attached to each collar and the outer end made to enter a brake shoe, substantially as and for the purpose specified. 7th. The combination of the lever C, connecting rod E, upward lever F, crank rod G, bearings b, b, forward brake J, connecting rod K, downward lever L, crank rod G¹, bearings b¹, b¹, rear brakes J¹, collars d, springs f, all constructed substantially as and for the purpose specified.

No. 45,346. Earth Excavator. (Machine à creuser.)

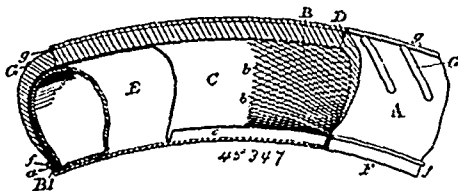


William Henry Finlayson, Sydney, New South Wales, Australia, 16th February, 1894; 6 years.

Claim.—1st. In earth excavators of the class set forth, the combination and arrangement with the other main parts of revolving picks such as E, on a shaft or spindle such as E², ratchet wheels such as E⁴, pawl such as E⁶, lever such as E⁶, connecting rod such as E⁷, crank such as E⁸, and a rocking shaft receiving motion from a main revolving shaft, substantially as herein described and explained and as illustrated in the drawings. 2nd. In earth excavators of the class set forth, the combination and arrangement with the other main parts of buckets such as G²², on links such as G²², roller such as G¹⁷, on shaft such as G¹⁵, tumbler such as G²⁰, on shaft such as G⁵, pulley such as G³¹, chain belt such as G²², and pulley such as K⁶ on main or other revolving shaft, substantially as herein described and explained and as illustrated in the drawings. 3rd. In earth excavators of the class set forth, the combination and arrangement with a bucket such as G²², on link such as G²², and having a mouth-piece such as G²⁷, of a flap such as G²⁹, hinged as at G³⁰, substantially as herein described and explained and as illustrated in the drawings. 4th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of a hopper formed of sides such as H¹ and H², end such as H³, and mouth such as H⁴, and endless travelling belt such as H, rollers such as H⁶, H⁹ and H⁸, toothed wheels such as H¹⁰, J²² and J²¹, spindle such as J³, and gearing for imparting the revolving motion of a main shaft to said spindle such as J³, substantially as herein described and explained and as illustrated in the drawings. 5th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of an endless travelling apron such as J, having inclined guards or sides such as J^x, side beams such as J⁴, rollers such as J⁹ and J⁷, spindle such as J⁹, and end spindle in bearings such as J⁶, mitre gearing such as J¹⁰ and J¹¹, spindle such as J³, and gearing for imparting the revolving motion of a main shaft to said latter spindle such as J³, substantially as herein described and explained and as illustrated in the drawings. 6th. In earth excavators of the class set forth, the combination and arrangement with discharge frame, consisting of beams such as J⁴, having travelling apron such as J, of directing board such as J²² on pivots such as J²⁴, in bracket such as J¹², lever such as J¹², chains such

as J¹⁰ and J¹¹, guide rollers and winding roller such as J¹², substantially as herein described and explained and as illustrated in the drawings. 7th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of a main shaft such as K, receiving motion from engine shaft such as N¹, say by toothed wheels such as N² and K², eccentric such as K¹², rod such as K¹⁰, crank such as F², and rocking shaft such as F, substantially as herein described and explained and as illustrated in the drawings. 8th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of a main shafts such as K, a rocking shaft such as F, crank such as F² connecting rod such as F³, pivoted lever such as F⁴, having pawl such as B⁷, ratchet wheel such as L, tooth wheel such as L², clutches such as L¹ and L⁴, having devices for simultaneously operating them, toothed wheel such as M³, and toothed wheel such as M¹ on main axle such as B², substantially as herein described and explained and as illustrated in the drawings. 9th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of a main axle such as B², axle boxes such as B³, brackets such as B⁴, radial horn plates such as B⁵, square pieces such as B⁶, having a female screw therein, bridge pieces such as B⁷, male screws such as B⁸, having collars such as B⁹, and devices for simultaneously revolving the screws such as B⁹, of both axle bearings, substantially as herein described and explained and as illustrated in my drawings. 10th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of a main axle such as B², axle box such as B³, link such as M⁵, to shaft such as M, side beam such as T, bolt such as T³, link such as T¹, bracket such as T², nut such as T⁴, with trunnions such as T⁵, screw such as B⁹, with collar such as B⁹, worm wheel such as B¹⁰, and devices for revolving such worm wheel, substantially as herein described and explained and as illustrated in the drawings. 11th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of main draught wheels such as B, on axle such as B², pivots such as C², a frame consisting of two legs such as C³ and C⁴, and cross girder such as C⁵ holding chains or ropes such as D, with devices on the main frame for winding or unwinding same base posts such as C⁶, fifth wheel or quadrant piece such as C⁷, king bolt such as C⁸, bogie frame consisting of boss such as C⁹, and chain or sprocket pulley such as C¹⁰, wheels such as C on axle such as C¹, with devices for revolving pulley such as C¹⁰, substantially as herein described and explained and as illustrated in the drawings. 12th. In earth excavators of the class set forth, the combination and arrangement with the other main parts of main draught wheel such as B¹, axle such as B², pivot such as C² in a frame having legs such as C³, king bolt such as C⁴, bogie frame sprocket pulley such as C¹⁰, wheels such as C on axle such as C¹, frames such as S², S³ and S⁴, brackets such as R, female screw such as R¹, screw such as S and S¹, worm wheel such as S², worm such as S⁵, spindle such as S⁷, worm wheel such as S⁸, and devices for revolving such worm wheel, substantially as herein described and explained and as illustrated in the drawings. 13th. An improved earth excavator, consisting of a revolving set of picks or excavating implements, a bucket elevator transverse hopper with travelling bottom or apron, with or without an extending discharging frame with second travelling bottom or apron, a steam engine, a steam boiler, a water tank and a fuel bunker, all combined and arranged with operating mechanism in the manner and for the purposes, substantially as herein described and explained and as illustrated in the drawings. 14th. The particular combination and arrangement of mechanical parts, all together forming an improved earth excavator, substantially as herein described and explained and as illustrated in the drawings.

No. 45,347. Wheel Tire. (Bandage de roue.)



Hippolyte J. La Force, Toronto, Ontario, Canada, 16th February, 1894; 6 years.

Claim.—1st. In a vehicle wheel, in combination with an inner inflatable core, a tire sheath having an inner circumference which contracts and secures itself automatically upon the rim or felloe of the wheel by the enlarging radially, i.e., from the axis of the wheel, of the outer circumference of the tire sheath on the expansion of the inner inflatable core, substantially as described. 2nd. In a vehicle wheel, a tire sheath having a longitudinal band or longitudinal bands tightened upon the wheel rim by the filling out and enlarging radially, i.e., from the axis of the wheel, of the outer circumference of the tire sheath, to which outer circumference the longitudinal band or bands are in a manner connected so as to be drawn and

tightened thereby upon the rim, in combination with an inner inflatable core which fills out the tire sheath and radially enlarges such outer circumference, substantially as described. 3rd. In a vehicle wheel, a tire sheath having along each edge thereof a longitudinal band or longitudinal bands crossing or each crossing at intervals the tire sheath to and along the opposite edge thereof, regularly and in a uniform manner, in combination with an inner inflatable core, which fills out and radially enlarges the outer circumference of the tire sheath, thus drawing and tightening the longitudinal band or bands and contracting or tightening the inner circumference or edges to the rim, substantially as described. 4th. For a tire sheath, an arrangement or fabric of bands or threads with bands or threads running longitudinally along its edges (or inner circumference in a tire sheath), each of such longitudinal bands or threads being so connected with the middle of the fabric, or outer circumference in a tire sheath, that when the middle of such fabric (in a tire sheath, the outer circumference) is stretched and lengthened, the edges or inner circumference is thereby drawn or contracted, substantially as and for the purpose set forth. 5th. For a tire sheath, a fabric or arrangement of bands or threads with bands or threads running along its edges, each thread at intervals crossing such fabric laterally or diagonally to and then along its opposite edge and so on uniformly and in a regular manner, substantially as and for the purpose specified. 6th. In a wheel-tire, a longitudinal band or longitudinal bands tightened upon the wheel rim by the enlarging radially of the outer circumference to which such band or bands are in a manner connected, so as to be drawn and tightened thereby, in combination with an inner inflatable core, substantially as described. 7th. In a wheel-tire, a longitudinal band or longitudinal bands tightened upon the wheel rim by the enlarging radially of the outer circumference to which such band or bands are in a manner connected so as to be drawn and tightened thereby in combination with an inner inflatable core and an outer tread or shoe of rubber or other suitable material, substantially as described. 8th. In a wheel-tire, a longitudinal band or longitudinal bands tightened upon the wheel rim by the enlarging radially of the outer circumference to which such band or bands are in a manner connected so as to be drawn and tightened thereby, in combination with an inner inflatable core, an outer tread or shoe of rubber or other suitable material and an inner lining of canvas or other suitable material, substantially as described. 9th. In a wheel-tire, a longitudinal band or longitudinal bands running along the edges of the tire sheath and crossing the tire sheath at intervals to and along the opposite edge thereof uniformly and in a regular manner, in combination with an inner inflatable core, substantially as described. 10th. In a wheel-tire, a longitudinal band or longitudinal bands running along the edges of the tire sheath and crossing the tire sheath at intervals to and along the opposite edge thereof uniformly and in a regular manner in combination with an inner inflatable core and an outer tread or shoe of rubber or other suitable material, substantially as described. 11th. In a wheel-tire, a longitudinal band or longitudinal bands running along the edges of the tire sheath and crossing the tire sheath at intervals to and along the opposite edge thereof, uniformly and in a regular manner, in combination with an inner inflatable core, an outer tread or shoe of rubber or other suitable material and an inner lining of canvas or other suitable material, substantially as described. 12th. A wheel-tire to the outer circumference of which are attached circumferential bands or threads, which circumferential bands or threads, on the enlarging radially of the outer circumference, are tightened upon the rim. 13th. A wheel-tire with ribs or projections on the tread branching out from the middle line of the tread at an acute angle thereto on each side thereof, substantially as described.

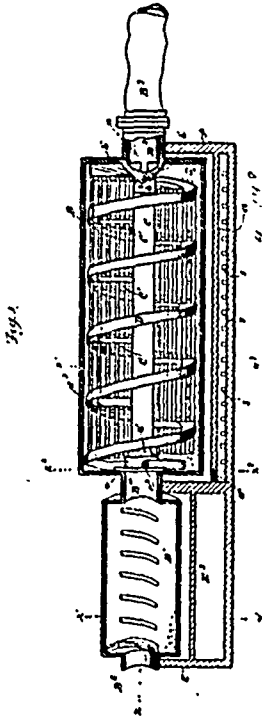
No. 45,348. Sulphite Fibre Separator.

(Séparateur de fibre de sulfite.)

Edward Ferris Millard, Jackson, Michigan, U.S.A., 16th February, 1894; 6 years.

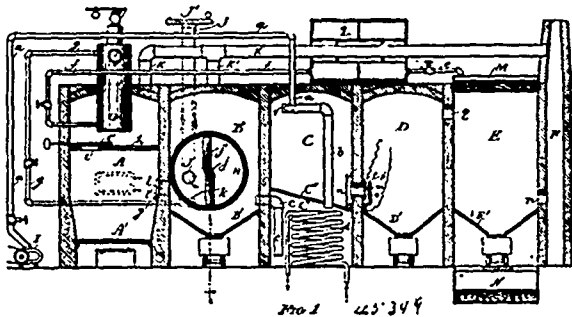
Claim.—1st. In combination, with a rotary screen drum carried upon tubular journals, an angular conveyer therein and rotating therewith, simultaneously giving a forward impulse to the pulp liquor within the screen towards the tail, a vat in which the rotary screen is partially submerged, and elevator which lifts the tailings and delivers them into the discharge opening, and slatted wings moving simultaneously with the screen drum, the slats thereof being so arranged with reference to the direction of motion that the enclosed material is continually being worked towards the axial centre of the drum, substantially as described. 2nd. In combination with a rotary and partially submerged screen drum, a rotating internal spiral conveyer, and rotating wings consisting of a series of slats parallel with reference to the tangents of their described circles, substantially as described. 3rd. In combination with a rotary and partially submerged screen drum, a rotating internal spiral conveyer, rotating wings consisting of a series of slats parallel with the axis of the drum, the plans of which are angular with reference to the tangents of their described circles and a settling basin interposed between the vat and an overflow, substantially as described. 4th. In combination with a rotary and partially submerged screen drum, a rotating internal spiral conveyer, rotating wings consisting of a series of slats parallel with the axis of the drum, the plans of

which are angular with reference to the tangents of their described circles, and a settling basin interposed between the vat and an



overflow, said settling basin having therein a series of longitudinal slats abutting alternately on opposite sides thereof and leaving each alternate end free, whereby a zigzag passage is created in the bottom of said settling basin, substantially as described.

No. 45,349. Process of Roasting Ores.
(Procédé de grillage des minerais.)

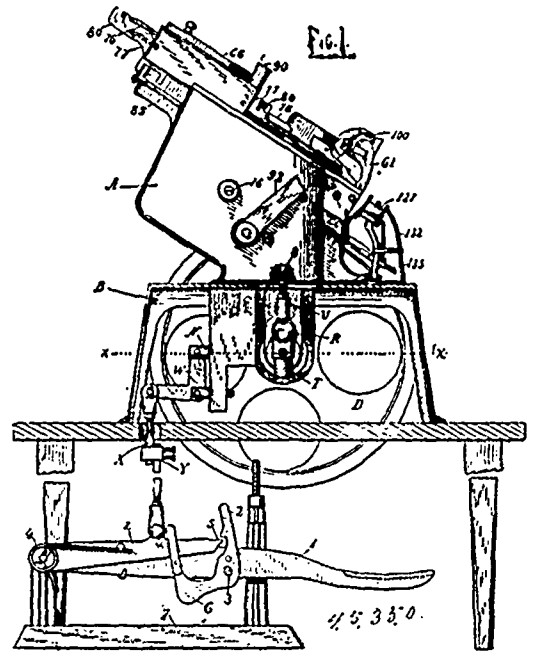


Charles W. Stickney, Ketchum, Idaho, U.S.A., 16th February, 1894; 6 years.

Claim.—1st. The process of roasting ores and depositing the sulphur in a solid form by bringing steam in contact with the ore at a red or higher heat, agitating the ore, reducing the temperature of the gases, mixing them with a quantity of air sufficient for the oxidation of the hydrogen, but not sufficient for the oxidation of the sulphur combining the oxygen of the air with the hydrogen of the gases by subjecting the mixture to the action of heat or an electric current, substantially as described. 2nd. The process of roasting ores and depositing the sulphur in a solid form by bringing steam in contact with the ore at a red or higher heat, agitating the ore, reducing the temperature of the gases, mixing them with a quantity of air sufficient for the oxidation of the hydrogen, but insufficient for the oxidation of the sulphur combining the oxygen of the air with the hydrogen of the gases by bringing the mixture to a red heat, substantially as described. 3rd. The process of roasting ore and depositing the sulphur in a solid form by bringing steam in contact with the ore at a red or higher heat, agitating the ore, reducing the temperature of the gases, mixing them with a quantity of air sufficient for the oxidation of the hydrogen, but insufficient for the oxidation of the sulphur combining the oxygen of the air with the hydrogen of the gases and spraying the residual gases with a sulphate solution, substantially as described. 4th. In an apparatus for roasting ore and depositing the sulphur in a solid form at one

operation the following elements in combination, a steam generator, and steam pipes connecting it with an ore receptacle, means for agitating the ore while roasting, a dust and cooling chamber, and a mixing chamber for mingling air with the gases from the roasting ore, means for raising the temperature of the mixture, and a sulphur collecting chamber, substantially as described. 5th. In an apparatus for roasting ore and depositing the sulphur in a solid form at one operation, the following elements in combination, a steam generator and steam pipes connecting it with an ore receptacle, means for agitating the ore while roasting, a dust and cooling chamber, a chamber for mingling the air with the gases from the roasting ore, means for raising the temperature of the mixture, a sulphur collecting chamber, and a chamber for spraying residual gases, substantially as described. 6th. In an apparatus for roasting ore and depositing the sulphur in a solid form at one operation, the following elements in combination, a steam generator, and steam pipes connecting it with an ore receptacle, and terminating in tuyeres leading into said receptacle, a furnace for keeping the steam and ore at a red heat, means for agitating the roasting ore, a dust chamber provided with means for reducing the temperature of the gases, a mixing chamber and air blower with suitable connecting pipes, means for heating the mixture of air and gases to an incandescent temperature and a sulphur collecting chamber, substantially as described.

No. 45,350. Button Attaching Machine.
(Appareil pour assujétir les boutons.)



William E. Elliott, Grand Rapids, Michigan, U.S.A., 16th February, 1894; 6 years.

Claim.—1st. In the button fastening machine, the combination of the automatic feeding mechanism, adapted to feed the button singly to the wire threading mechanism, the wire feed adapted to feed wire through the eye of the button from continuous wire, a staple mechanism adapted to sever a section of the wire to form a staple, a staple bending mechanism, a mechanism for clinching a staple and button to the fabric by a single stroke of the button-setting mechanism. 2nd. In combination, with the button race-way, a feed finger adapted to receive the button from the button race-way and convey the same to the point to receive the wire feed, a wire feeding mechanism adapted to feed the wire to the button eye, a staple cutting and bending mechanism, a yielding pressure upon said feed finger, a staple mechanism for attaching the staple and button to the fabric. 3rd. The combination, with the button race-way and feed finger, provided with a yielding pressure thrust, a wire feeding mechanism, a staple former and mechanism for attaching the staple and button upon the fabric. 4th. The combination of the button lever a button race-way, a feed finger, a yielding button pressure thrust upon said finger, a staple former provided with a groove to receive the button eye, an automatic wire feed, staple cutter and bender, staple setting plunger moving within the button cutter and a yielding pressure device acting upon said staple cutting bar. 5th. The combination, with the staple cutting and bending bar, a yielding pressure spring, a staple setting bar moving within the staple bending and cutting bar, a button feed finger and an anvil receiving the staple-cutting bar with a yielding pressure, substantially as described. 6th. The combination of an automatic adjustable button feed finger adapted to receive the button from the button race-way,

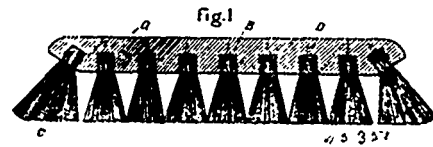
a button race-way adapted to deliver the buttons singly to said feed finger, a wire feeding mechanism, a staple cutting and bending bar and a plunger or setting bar adapted to attach the staple and button to the fabric, substantially as described. 7th. The combination of the automatically adjustable button feed finger and button race-way, a staple former, a staple cutting and bending bar, a yielding pressure wire feeding mechanism, substantially as described. 8th. In combination with a staple cutting and bending bar, staple provided bar, staple former, and an automatic trip dog operated by the button setting bar, substantially as described. 9th. The combination with the button feed finger and staple-cutting and bending bar of a staple setting bar and trip dog, substantially as described. 10th. The combination of a staple cutting and bending bar, staple driving bar, a double tripping dog, a cam mechanism for operating said button driving bar and said staple cutting and bending bar, substantially as described. 11th. The combination of a button hopper and button race-way, a button feed finger adapted to receive the button from the race-way and deliver the same in position to receive the wire from the wire-feeding mechanism, a yielding button pressure upon said button feed finger adapted to adjust the feed finger to the button, and suitable mechanism for bending and setting the staples with the button to the fabric. 12th. In the button attaching machine, the combination of button feeding mechanism, wire feeding mechanism, and a stop adapted to cut out the wire feed whenever the button is not fed into position to receive the staple wire through the eye of the button. 13th. The combination of a staple registering mechanism, wire feeding mechanism, a button feeding mechanism, and a stop operating from the button feeding mechanism and adapted to stop the advance of the wire feeding and registering mechanism whenever the button is not fed. 14th. The combination with a button feeding mechanism, a wire and staple feeding mechanism, staple making and setting mechanism, and a staple register mechanism, whereby every staple cut from the wire coil is correctly registered. 15th. In combination with a button feed finger, a button race-way, a lever and a yielding spring operating said lever to return the same to normal position after said lever has carried the feed finger over the button, substantially as described. 16th. The combination of the button race-way and a button feed finger, a staple former adapted to stop the button brought down by the button feed finger, a button held by the finger and a staple in such a manner as to prevent the button feed finger from cutting off the wire feed, substantially as described. 17th. In combination with the button feed finger, a forked lever as 102, provided with the pins as 104, 104, a spring arm as 105, and an operating spring for the purpose specified. 18th. In combination with a driving bar, a staple bender, and an anvil of the fabric feeding foot adapted to move forward or advance the fabric a predetermined distance after the attachment of each button, substantially as described. 19th. In a button attaching machine, a combination of a button feeding mechanism, a staple cutter and bender, a staple former, a staple driver and anvil, a fabric feed foot, connecting mechanism between the fabric feed foot, and the staple making and driving mechanism. 20th. The combination of a button hopper, a brush within said hopper having a shaft, a ratchet-wheel on said shaft, a pair of pawls supported on arms, a reciprocating slide connected to the pawl-arms and operating said pawl-arms, ratchet-wheel and brush for giving the reciprocating movement of the slide, substantially as described. 21st. The combination of a reciprocating sliding frame, a cam surface thereon, a lever having a pin or projection at one end and engaging with said cam surface of the sliding frame in its downward movement whereby the lever is carried through its backward movement turning on a pivot intermediate its ends, a wire grip adapted to grip the wire to be fed, and a spring adapted to carry the wire gripping end of the lever forward in feeding the wire to the staple cutter and bender. 22nd. In combination with a staple bending mechanism, a yielding wire feeding grip jaw, a lever carrying said yielding grip jaw, and a sliding frame with the cam adapted to give the backward stroke to the lever, a wire grip jaw and a spring adapted to give the forward or feeding movement to the jaw, substantially as described. 23rd. In combination with the staple cutting and bending bar, a yielding wire grip jaw having a reciprocating motion, a staple mechanism for closing said jaw upon the wire in its forward movement in feeding the wire and loosening the grip of the jaws on the backward stroke, and a spring for producing the yielding grip, substantially as described. 24th. The combination of a reciprocating slide, a cam thereon, a lever having a pivot intermediate its ends, a pin with which said cam surface engages in giving the backward stroke to the lever, a wire grip at the outer end of said lever, a locking lever turning on a pivot, a stop on one end of said lever, and a button feed finger adapted to engage with said stop on the locking lever, and to cut out the wire feed when no button is fed, to receive the wire, substantially as described. 25th. In combination with a reciprocating slide, a wire feeding mechanism operated from said slide, a button hopper and revolving brush, suitable connecting mechanism between brush and slide for operating the same, a button race-way, a button feed finger, a staple driver, a staple cutting and bending bar, a cam giving movement to said staple cutting and bending bar operated from suitable cam surfaces on said slide, a wire feeding mechanism, a staple former provided with a notch or groove for the reception of the eye of the button, cam surfaces for presenting the staple former in position to receive and bend the wire into a staple, and for retracting said staple former as the

driver descends in setting the staple, and an anvil or die for clinching said staple, substantially as described. 26th. The combination of a sliding cam, a wire feed lever having a post or projection and a registering mechanism, said register being advanced one notch by each forward movement of the wire feed lever, substantially as described. 27th. In a button attaching machine, the combination of a button driver, a staple cutting and bending bar, and a tripping-dog adapted to arrest and prevent a partial stroke of the driving-bar in either direction. 28th. The combination of the button feed finger, staple driver, and suitable mechanism for attaching the staple and button to the fabric. 29th. In a button attaching machine, the combination of automatic mechanism for feeding the buttons, automatic wire feeding mechanism, a suitable mechanism for preventing partial stroke of the machine. 30th. In a button attaching machine, the combination of a button feed finger, a button race-way and mechanism for lifting the feed finger over the button on its return stroke. 31st. The combination of a hopper, a brush with a hopper, and mechanism for giving the brush a rotary movement in one direction. 32nd. In a button attaching machine, the combination of a button hopper, and a race-way provided with a yielding button retaining stop, substantially as described. 33rd. The combination of a button hopper, a race-way and suitable automatic feeding mechanism whereby the buttons are fed in column. 34th. The combination of button hopper, a button feed mechanism provided with an automatic adjustment for different sizes of buttons and adapted to feed the button to a pre-determined position and to hold the button in position to receive the wire. 35th. In a button attaching machine, the combination of a button hopper, a button race-way or chute and an automatic adjustable button feed for feeding the buttons from the race-way to the pre-determined position, substantially as described. 36th. In a button attaching machine, the combination of a button hopper, a button race-way provided with a button retaining stop, automatic feed for feeding the buttons in the race-way, and mechanism for carrying the buttons from the race-way to a pre-determined position, substantially as described. 37th. In a button attaching machine, the combination of a button hopper, a button race-way provided with a button retaining stop, automatic feed for feeding the buttons in race-way, and mechanism for carrying the buttons from the race-way to a pre-determined position and an automatic wire feeding mechanism. 38th. In a button attaching machine, the combination of a button hopper provided with a groove for the reception of the button eye, a brush within said hopper and a race-way provided with a button retaining stop, substantially as described. 39th. In a button attaching machine, the combination of a button hopper provided with a groove for the reception of the button eye, a brush within said hopper, a race-way provided with a sliding blade adapted to carry the buttons forward in a column. 40th. In a button attaching machine, the combination of a button hopper provided with a groove for the reception of the button eye, a brush within said hopper and a depression whereby the buttons are prevented from clogging, substantially as described. 41st. In a button attaching machine, the combination of the button hopper, a race-way provided with button retaining stop, an automatic feeder for feeding the buttons in the race-way, a feed finger adapted to carry the buttons from said race-way, substantially as described. 42nd. In a button attaching machine, the combination of a button hopper, an automatic adjustable button feeding mechanism and an automatic wire feeding mechanism, substantially as described. 43rd. In a button attaching machine, the combination of a race-way provided with button retaining stops, a feed finger provided with means for automatic adjustment of different sizes of buttons, substantially as described. 44th. In a button attaching machine, the combination of a race-way provided with button retaining stop and yielding feed finger for feeding the buttons from said race-way, substantially as described. 45th. In a button attaching machine, the combination of a race-way provided with retaining stop and an automatic feed mechanism for feeding the buttons in the race-way to the stop, substantially as described. 46th. In a button attaching machine, the combination of a button race-way, provided with an automatic feeding mechanism and a yielding feed finger for feeding the buttons to a pre-determined position. 47th. In a button attaching machine, the combination of a button race-way, a button feed provided with automatic means for adjusting the different sizes of buttons and adapted to feed the buttons from the race-way, a former provided with a notch for the reception of the button eye when fed by the button feeding mechanism, substantially as described. 48th. In a button attaching machine, the combination of a button race-way, a button feed finger adapted to feed the buttons from the race-way, and an automatic staple making and clinching mechanism, substantially as described. 49th. In a button attaching machine, the combination of an automatic wire feed mechanism and mechanism for feeding buttons in the race-way. 50th. In a button attaching machine, the combination of a button hopper, a race-way provided with automatic feed mechanism, a feed finger adapted to feed the buttons from the race-way, and an automatic feeding mechanism, substantially as described. 51st. In a button attaching machine, the combination of a race-way provided with a feed blade, an automatic wire feeding mechanism, an automatic button feeding mechanism, and an automatic staple making and clinching mechanism. 52nd. In a button attaching machine, the combination of a race-way provided with an automatic feed mechanism, and automatic wire and button feeding

mechanism, substantially as described. 53rd. In a button attaching machine, the combination of a yielding feed finger, a yielding button feed, a former to receive the button feed, and an automatic wire feed mechanism, substantially as described. 54th. In a button attaching machine, the combination of an automatic staple making mechanism, and an automatic button feed, whereby the buttons are fed singly to a point to receive the wire. 55th. In a button attaching machine, the combination of a yielding button feed, an automatic staple making and clinching mechanism, and a wire feeding mechanism operated by a yielding feed pressure. 56th. In a button attaching machine, provided with an automatic wire feeding mechanism and rocking former, provided with a slot for the reception of a button eye, and an automatic yielding button feed, substantially as described. 57th. In a button attaching machine, the combination of an automatic button and wire feeding mechanism, and a former provided with a wire guide, substantially as described. 58th. In a button attaching machine, the combination of an automatic button and wire feeding mechanism, and a rocking former provided with a groove for the reception of the button eye, a wire guide operated by a staple making and clinching mechanism. 59th. In a button attaching machine, the combination of an automatic button and wire feeding mechanism and a plunger or staple driver provided with a notch for the reception of a button shank, substantially as described. 60th. In a button attaching machine, the combination of an automatic button, and wire feeding mechanism, and a staple bender and cutter provided with grooves for the reception of staple legs and button shanks. 61st. In a button attaching machine the combination of an automatic button and wire feed mechanism, an automatic staple making and clinching mechanism and an angle frame, substantially as described. 62nd. In a button attaching machine the combination of wire feeding mechanism operated by yielding pressure feed and a yielding button feed, substantially as described. 63rd. In a button attaching machine the combination of an automatic staple making and clinching mechanism, and a wire feed operated by a yielding feed, substantially as described. 64th. In a button attaching machine the combination of a button attaching mechanism provided with an automatic button and wire feeding mechanism, an automatic staple making and clinching mechanism and an automatic stop or clutch for regulating the full stroke of the machine. 65th. In a button attaching machine the combination of an automatic button feed and a stop or clutch for regulating the full stroke of the machine. 66th. In a button attaching machine the combination of an automatic button feed provided with mechanism for regulating and feeding different sizes of buttons and adapted to feed the buttons to a predetermined position and hold them in said position to receive the wire. 67th. In a button attaching machine the combination of an automatic staple making and clinching mechanism, automatic wire feeding mechanism operated by yielding pressure feed and a former over which the wire is bent provided with a groove for the reception of the button eye, substantially as described. 68th. In a button attaching machine the combination of an automatic button and wire feeding mechanism and mechanism whereby the wire is automatically arrested when the button feed mechanism fails to feed the button. 69th. In a button attaching machine the combination of a rocking former, a staple driver or plunger adapted to operate the former and automatic button feeding mechanism, substantially as described. 70th. In a button attaching machine the combination of a former or anvil, a staple driver or plunger provided with a groove for the button eye and a staple bender and cutter provided with grooves for the reception of the staple legs, and button shank. 71st. In a button attaching machine the combination of a former or anvil provided with a slot adapted to receive eye shanked buttons. 72nd. In a button attaching machine, an anvil or former provided with a slot adapted to receive eye-shanked buttons and also a wire guide, substantially as described. 73rd. In a button attaching machine the combination of a plunger or staple driver provided with a notch for the reception of the button shank and a former for the reception of the button eye, substantially as described. 74th. In a button attaching machine the combination of a staple driver or plunger provided with a notch for the reception of the button shank and a staple bender or plunger provided with grooves for the reception of the staple legs and the button shanks, substantially as described. 75th. In a button attaching machine, the combination of a plunger or staple driver provided with a notch for the reception of the button shank, a staple bender and cutter provided with grooves for the reception of the staple legs and button shanks, and a former over which the wire is bent, substantially as described. 76th. In a button attaching machine, the combination of button setting mechanism and a gauge adapted to indicate the location or the point where the machine will attach the button. 77th. In a button attaching machine, the combination of automatic button and wire feeding mechanism, automatic staple making and clinching mechanism and means for regulating the full stroke of the machine, substantially as described. 78th. In a button attaching machine, the combination of an automatic wire feeding mechanism and a double acting trip dog adapted to compel the full stroke of the machine in either direction, substantially as described. 79th. In a button attaching machine, the combination of a button hopper and a brush within said hopper, and mechanism for giving a continuous motion in one direction to the brush, substantially as described. 80th. In a button attaching machine, the combination of an automatic button and wire feeding mechanism, an automatic fabric feed provided with

an adjustment for regulating the space of the button, substantially as described. 81st. In a button attaching machine, the combination of a plunger or staple driver, a cutting or bending bar, and a yielding adjustment for different thicknesses of fabric, substantially as described. 82nd. In a button attaching machine, the combination of an automatic wire feeding mechanism operated by a yielding feed pressure and a lever 59, adapted to cut out or stop the feeding of the wire, substantially as described. 83rd. In a button attaching machine, the combination of a yielding button feed finger, an automatic wire feeding mechanism and a lever for stopping the wire feeding mechanism. 84th. In a button attaching machine, the combination of an automatic button and wire feeding mechanism, automatic staple making and clinching mechanism, the pulley D, and the sliding sleeve H, adapted to connect the machine with the pulley and provided with an automatic trip whereby the sleeve is connected and disconnected at the option of the operator. 85th. In a power machine, the combination of a sliding sleeve H, provided with a cam operated by the pin N, substantially as described. 86th. In a power machine, the combination of a sliding sleeve H, provided with a cam and the spring O, operated by the pin N, substantially as described. 87th. In a power machine, a sliding sleeve H, provided with a cam and friction depression, the pin N, and the brake pin I, substantially as described.

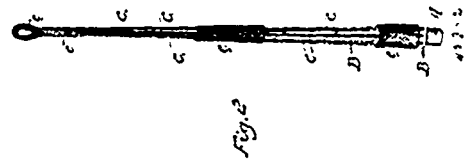
No. 45,351. Brush. (Brosse.)



Ephraim Huber, Berlin, Ontario, Canada, 16th February, 1894; 6 years.

Claim.—A brush composed of a block of wood A, with several grooves or round holes B, and wire steeples D, barbed at point F, as at Fig. 4, secured at opposite ends of grooves B, at E, substantially as and for the purpose hereinbefore set forth.

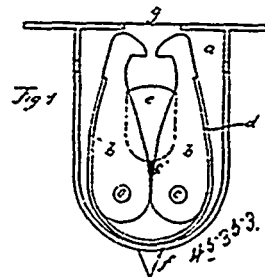
No. 45,352. Whip. (Fouet.)



Leonard W. Steimer and George T. Moore, both of Westfield, Massachusetts, U.S.A., 16th February, 1894; 6 years.

Claim.—1st. A whip comprising a core, an outer plaited covering, and parallel threads united by sizing to form a flat fabric, said fabric being interposed between the core and outer cover to serve as an inner lining, and extending the full length of the whip and woven into the loop, substantially as herein described. 2nd. A whip comprising a core, a surrounding filu or sheet of rubber, parallel threads united by sizing to form a flat fabric applied the full length of the whip and extending beyond and through the loop, and an outer plaited covering for the whip, substantially as herein described.

No. 45,353. Sash-Lock. (Arrête-croisette.)

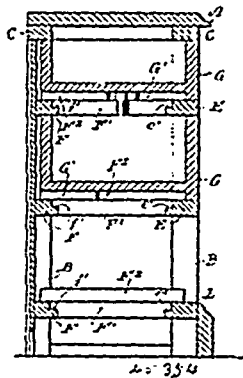


Samuel E. St. Onge Chaplean, Ottawa, Ontario, Canada, 16th February, 1894; 6 years.

Claim.—1st. In a sash-lock, the casing (or base-plate provided with a rim) jaw-pins, rest and spur integrally cast, and having spring-jaws and a spring common to both jaws. 2nd. In a sash-lock with integral rim having under notches, a back-plate with corresponding shoulders, spring-jaw pin holes and projection. 3rd. In a sash-lock with base-plate, and jaw-pins integrally cast, a rim and

a rest common to both jaws. 4th. In a sash-lock, a pair of spring-jaws with a stud on one of its sides, and a spring common to both jaws. 5th. In a sash-lock, spring-jaws with inside bevelled edges to allow a key to actuate them. 6th. In a sash-lock with base and back-plates, an opening or key-hole cut through one or both of them to receive the key. 7th. In a sash-lock, a sash-lift provided with a lift-plate made V-shape at its base, in combination with spring-jaws having a small stud on one side for the purposes set forth. 8th. In a sash-lock, a sash-lift actuating a key and a lift-plate with posts or studs cast integrally. 9th. In a sash-lock, a sash-lift a key and studs in combination with a lift-plate. 10th. In a sash-lock, the combination of a base-plate having integral-rim, jaw-pins, spring-jaws, rest, spring, spur, and back-plate, with a striking plate bolt. 11th. In a sash-lock, the combination with a base-plate with oblong apertures, integral-rim, jaw-pins, rest and spring. 12th. In a sash-lock, a sash-lift provided with a key on a lift-plate. 13th. In a sash-lock, a sash-lift provided with a key on a lift-plate, in combination with spring-jaws, spring and base-plate. 14th. In a sash-lock, a sash-lift provided with a lift-plate and studs. 15th. In a sash-lock, a key and a sash-lift combined with studs and lift-plate. 16th. In a sash-lock, spring-jaws actuated by a key, in combination with a lift-plate and integral studs, and a sash-lift, substantially as described and shown.

No. 45,354. Dresser. (Dressoir.)



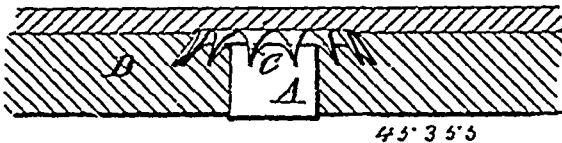
Axel Kundsén, Hattberg, Marshfield, Wisconsin, U.S.A., 16th February, 1894; 6 years.

Claim.—A dresser, commode or analagous device, comprising vertical corner posts, horizontally disposed parallel transverse strips extended between said posts at the front and rear of the device, with drawer supports connecting said front and rear strips, extend between them and secured therewith, bevelled guides secured upon said supports and arranged parallel with each other, rectangular drawers having raised bottoms, slidingly engaged with said supports and made slightly narrower at their rear than at their front ends, and adapted to slide from front to rear, and bevelled parallel guide strips secured to the bottom of said drawers, and arranged to engage with the guides on the drawer supports by means of their respective bevels, all combined and operating substantially as described.

No. 45,355. Metal Studs for Boots and Shoes.

(Clous métallique pour chaussures.)

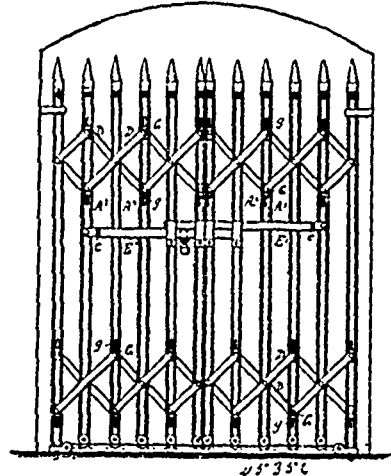
Fig. 4.



Hugh Thomson, Studley Park Road, Kew, in the Colony of Victoria, Australia, 16th February, 1894; 6 years.

Claim.—1st. A metal hob or stud for boots and shoes, having a projecting flange at its upper end, provided with downwardly projecting pins or prongs, substantially as and for the purpose herein described and explained and illustrated. 2nd. A metal hob or stud for boots and shoes, made more or less hollow, and having a projecting flange around its upper end, said flange having a series of prongs or pins projecting downwardly from it, substantially as and for the purposes herein described and explained and illustrated.

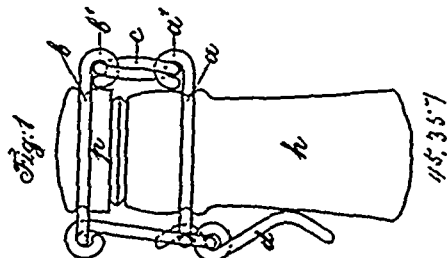
No. 45,356. Folding Gate. (Barrière pliante.)



William Rafford Pitt, New Rochelle, New York, U.S.A., 16th February, 1894; 6 years.

Claim.—1st. A folding gate consisting of a series of pickets, having secured thereto one or more series of pairs of folding arms or links, the arms secured to an intermediate picket being located on opposite sides of the picket, and extending in opposite directions from the picket, and having their ends pivotally secured to similar arms projecting from the adjacent picket, substantially as set forth. 2nd. In combination, suitable guideways at the top and bottom of the gate for the reception of the ends of the pickets forming the gate, a series of pickets having their ends mounted in the guideways to move back and forth along said guideways, one or more series of folding arms for connecting the pickets together, locking bars extending from the edge pickets to a point intermediate of the edges of the gate and a fastening device connecting said locking bars with each other and with a joint between two folding arms, substantially as set forth. 3rd. A folding gate comprising several pickets free to move toward and away from each other, one or more series of pairs of arms or links pivotally secured to the pickets upon opposite sides thereof and to each other intermediate of the pickets, and vertically movable pickets suspended from said folding arms intermediate of the pickets which support the arms, substantially as set forth. 4th. The folding gate, comprising a series of pickets and rigid arms or links connecting an intermediate picket with adjacent pickets, the said arms or links being arranged in pairs, the members of a pair being pivoted to the opposite sides of the intermediate picket, and having sliding connections with the adjacent pickets, substantially as set forth. 5th. The folding gate, comprising a series of pickets channelled upon their opposite sides, each alternate picket being provided with a pair of elongated slots, arms or links arranged in pairs, the members of a pair being located upon opposite sides of the pickets and having their ends pivotally secured in said elongated slots, the said arms or links being secured intermediate of their ends to an intermediate picket, substantially as set forth. 6th. The combination with the series of folding pickets and their swinging supports, of a grooved track pivotally secured to swing laterally and jointed to fold vertically, a portion of one of the flanges of the track being cut away to permit it to swing laterally independently of the pickets, substantially as set forth. 7th. The combination with the series of folding pickets and the brackets or guards secured thereto for the reception of a locking bar, of a locking bar pivotally secured to the gate and jointed to swing in a plane transverse to the plane of the gate, substantially as set forth.

No. 45,357. Device for Closing Bottles, etc. (Bouchon de bouteilles, etc.)



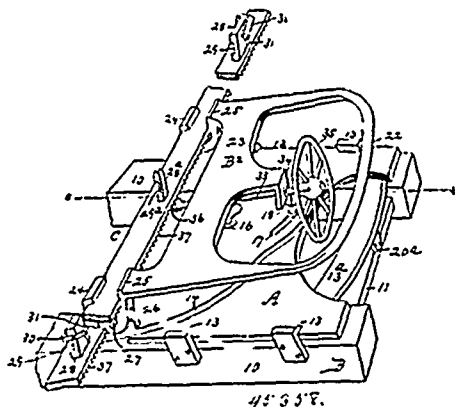
Albin Laseh, Penzig, Silesia, Germany, 16th February, 1894; 6 years.

Claim. 1st. A closing device for bottles and jars, characterized by having the ring α , embracing the stopper or lid, also serving to

transmit pressure to such stopper or lid connected by the shackle *c*, the shackle *c* forcing the said rings against the stopper or lid, and the vessel, respectively, by reason of the pressure exerted by the curves of said part *c*, against the loops *b*¹, *b*¹, on ring *b*, and by the crossed arms of said piece *c*, exerting an inward pressure upon the loops *a*¹, *a*¹, on ring *a*, being hooked-shaped for this purpose, so that by such an arrangement the manipulation of the closing device is simplified and the changing of the stopper or lid or of the bottle or jar, as well as the tightening of the rings *a* and *b* is facilitated.

No. 45,358. Sickle Grinder.

(Remouleur des lames de faucheuse.)

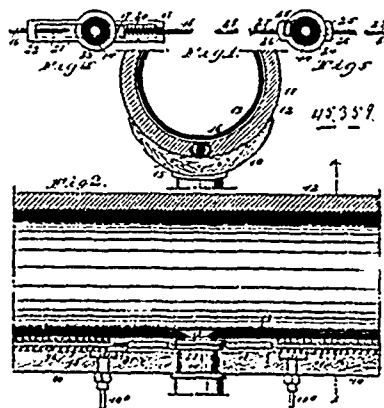


Thomas Gordon, South Bend, Wyoming, U.S.A., 16th February, 1891; 6 years.

Claim.—1st. In a sickle grinder or like machine, the combination with a base, of a bed plate adapted to support the sickle-carrying bar, the said bed plate being pivotally connected with the base and provided with a sealed opening, and a clamping device engaging with the bed at the said opening, substantially as and for the purpose set forth. 2nd. In a sickle grinder or like machine, the combination with the base, of a bed adapted to support the sickle-carrying bar, a screw pivotally connecting the bed with the base, the base being provided with a segmental slot, and a scale adjacent to a wall of the slot, and a set screw passed through the slot and having engagement with its walls, the set screw entering a fixed support beneath the bed, as and for the purpose specified. 3rd. In a sickle grinding machine, a sliding sickle-carrying bar, devices for locking the bar in a predetermined position, a base laterally adjustable, and a rocking frame provided with guides for the sickle-carrying bar, as and for the purpose specified. 4th. In a sickle grinder, an adjustable bed, a rocking frame carried by the bed, a sickle-carrying bar held to slide in the rocking frame, locking devices adapted for engagement with the sickle and located upon the sickle-carrying bar, and mechanism for locking the sickle-carrying bar in a fixed position, as and for the purpose specified. 5th. In a sickle grinder or like machine, the combination with a laterally adjustable bed, and a rocking frame supported by the bed, of a sickle-carrying bar having sliding movement in the rocking frame, an adjusting device carried by the frame and engaging with the bar, and clamps located upon the bar and adapted as supports for the sickle, as and for the purpose specified. 6th. In a sickle grinder or like machine, an adjustable bed, a rocking frame supported by the bed, a sickle-carrying bar having sliding movement in the sliding frame, an adjusting mechanism carried by the frame and engaging with the bar, and a clamping mechanism located upon the sickle-carrying bar, and adapted to receive and hold a sickle in engagement with said bar, and means, substantially as shown and described, for laterally adjusting the rocking frame, as and for the purpose set forth. 7th. In a sickle grinder or like machine, the combination with a sliding spring-controlled base, a bed plate adjustably pivoted upon the base, and a rocking frame supported by the bed plate, of a sickle-carrying bar provided with clamps and having sliding movement in the rocking frame, an adjusting shaft located in the rocking frame, and a rack and pinion connection between the sickle-carrying bar and the adjusting shaft, as and for the purpose set forth. 8th. In a sickle grinder or like machine, the combination with a movable base, a bed adjustably located upon the base, a rocking frame carried by the bed, and a sickle-carrying bar having sliding movement in the frame, of a hand shaft located in the rocking frame and having a driving connection with the sickle-carrying bar, sockets located upon the sickle-carrying bar and adapted to receive the sickle, and clamps connected with sundry of the sockets, as and for the purpose specified. 9th. In a sickle grinding machine, a sickle bar provided with clamps to receive the sickles, links or yokes pivoted upon the clamps, and locking devices connected with the links or yokes, as and for the purpose specified.

No. 45,359. Pneumatic Tire.

(Bandage pneumatique.)



William Richard Barrett, Passaic, New Jersey, U.S.A., 17th February, 1894; 6 years.

Claim.—1st. In a pneumatic tire, the outer tube or cover split longitudinally on its inner side, and means, as the interlocking coils and the fastening rod, for holding the meeting edges of the cover together, substantially as described. 2nd. In a pneumatic tire, the outer tube or cover split on its inner side, the interlocking coils at the meeting edges of the cover, and the fastening rod extending longitudinally through the coils, substantially as described. 3rd. A pneumatic tire, comprising an inner inflatable tube of the usual kind, an outer cover for the tube, the cover being split longitudinally on its inner side, interlocking coils fastened to the meeting edges of the cover, and a flexible fastening rod adapted to extend through the coils and provided at one end with a washer to encircle the valve of the inner tube, substantially as described. 4th. The combination, with the inner inflatable tube having the usual valve, the outer tube or cover, split longitudinally on its inner side, and the interlocking coils at the meeting edges of the cover, of the washers adapted to encircle the valve of the inner tube, and the flexible fastening rod having one end held to one washer and the other end screw-threaded and adapted to engage the other washer, substantially as described.

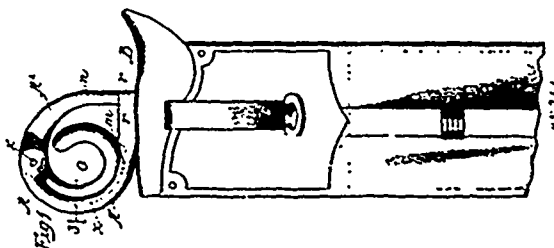
No. 45,360. Manufacture of Artificial Stone.

(Fabrication de pierre artificielle.)

Alexander McLean and Christopher W. Wilson, both of London, England, 17th February, 1894; 6 years.

Claim.—1st. The process of manufacturing artificial stone which consists in grinding to a coarse powder refuse destructor clinker, mixing it with a suitable binding material to make a concrete and submitting the same to great pressure in porous moulds, substantially as herein set forth. 2nd. An artificial stone composed of refuse destructor clinker reduced to the state of a coarse powder, and a binding material proportioned and consolidated by great pressure in suitable moulds, as herein set forth. 3rd. As an ingredient to be used in the manufacture of artificial stone, of a waste product which I call "refuse destructor clinker," as set forth.

No. 45,361. Check Hook. (Crochet de selle.)

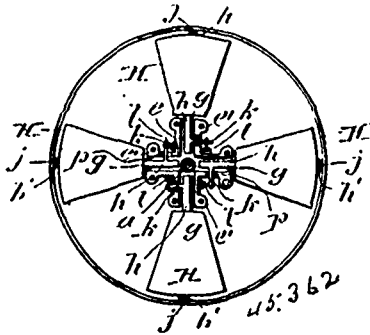


Wesley Eckert and Charles Howard Freeman, both of Elk Point, South Dakota, U.S.A., 17th February, 1894; 6 years.

Claim.—1st. A check-hook, formed with a curved hook portion *A*¹, on a base *r*, and a spiral hook portion *A*², pivoted between its extremities to the upper end of the hook portion *A*¹, and having the part forming the back of the check-hook, when closed, inclined in an upward and forward direction from the base and presenting therefrom an unobstructed continuous surface over the hook, substantially as and for the purpose set forth. 2nd. A check hook *A*, comprising, in combination, a curved hook portion *A*¹, grooved on its inner side and provided with a flat base *r*, terminating in a socket *r*¹, at one end, and having a tongue *q*, and a protuberance *m*, and a spiral hook portion *A*², pivoted, as at *l*, to the upper end of

the hook portion A¹, and having the overlapping leg n, straight toward its end and extending to the socket r¹, when the device is closed, substantially as and for the purpose set forth.

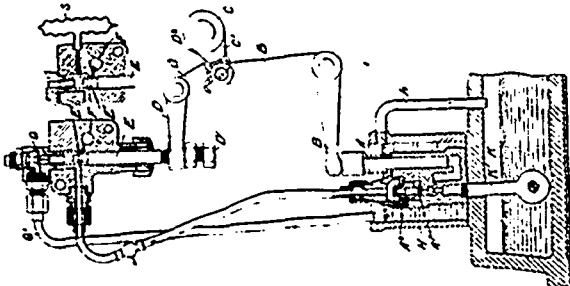
No. 45,362. Propellor. (Propulseur.)



Charles Pagé and Leonard Fortier, both of Montreal, Quebec, Canada, 17th February, 1894; 6 years.

Claim.—1st. In a propellor, the combination of a hub, adjustable blades and a band or annulus concentric with the hub and encircling the whole, as set forth. 2nd. In a propellor, the combination of a sectional hub, adjustable blades, provided with inner and outer journal ends, a band or annulus concentric with the hub and encircling the whole, bearings for said journal ends in said hub and band and controlling or adjusting mechanism, as set forth. 3rd. In a propellor, the combination of a hub formed in two parts, set on the driving shaft and secured together by bolting adjustable blades provided with inner and outer journal ends, the former having crank arms, a band or annulus concentric with the hub and encircling the whole, bearings for said journal ends in said hub and band, a movable collar on said driving shaft, with connections between it and said crank arms and means for moving said collar, as set forth. 4th. A propellor hub, made in detachable parts, with means for securing them together, as set forth.

No. 45,363. Combustion Chamber and Oil Supplying Apparatus for Liquid Fuel Engines. (Chambre à combustion et appareil alimentateur d'huile pour machines.)

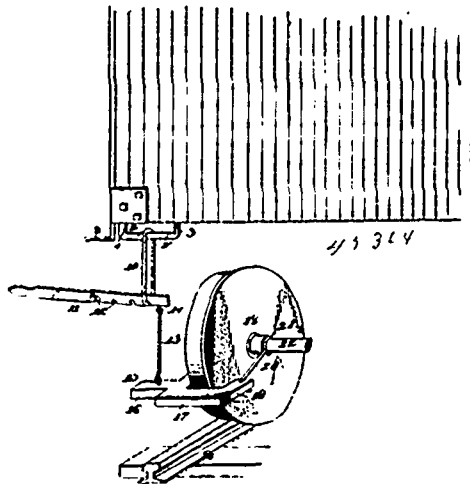


John Richardson and William Norris, both of Lincoln, Lincoln County, England, 17th February, 1894; 6 years.

Claim.—1st. In a petroleum or other liquid fuel engine, oil supply or feed arrangements comprising a pump forcing oil in excess of the charge required, a return valve adjusted to return excess oil at a constant or nearly constant pressure, and a feed valve actuated from the engine and discharging an oil charge into the engine cylinder, substantially as shown and described. 2nd. In a petroleum or other liquid fuel engine, oil supply or feed arrangements comprising a pump forcing oil in excess of the charge required, a return valve adjusted to return excess oil at a constant or nearly constant pressure, a feed valve actuated from the engine and discharging an oil charge into the engine cylinder or combustion chamber, and a conical plug cock having a small aperture, the said cock being capable of ready withdrawal and connecting between the oil feed valve and the cylinder or combustion space, substantially as shown and as before described. 3rd. In a petroleum or other liquid fuel engine, oil supply arrangements in which the oil pump and its valves are immersed in a small oil tank which first receives the excess oil, in combination with the casting bolted to the combustion chamber carrying the feed valve and return valve, substantially as shown and described. 4th. In a petroleum or other liquid fuel engine, oil supply arrangements in which the oil pump and its valves together with the feed valve, excess valve and rotating plug are all combined in one casting, substantially as shown and described. 5th. In a petroleum engine or other liquid fuel engine, a pump forcing oil in excess of the charge required, a return piston valve adjusted to return oil at a constant or nearly constant pressure, and a slide trip or feed valve actuated from the engine and discharging an oil charge into the engine cylinder, substantially as shown and described. 6th. In a petroleum or

hydro-carbon engine in which the liquid fuel is evaporated and the explosive mixture is ignited by the hot walls of a combustion chamber, the arrangement and construction of a combustion chamber which is inserted from behind into a casing affixed to the end of the engine cylinder and made to receive it, said chamber capable of being readily and easily withdrawn when required and of being readily heated for starting and maintained at the necessary temperature during the working of the engine, substantially as shown and described. 7th. In a petroleum or hydro-carbon engine in which the liquid fuel is evaporated and the explosive mixture is ignited by the hot walls of the combustion chamber, the arrangement and construction of a combustion chamber, the said chamber being inserted in a casing and secured by two joints, and the air admitted at the back end while the oil charge is injected into the interior of the inserted chamber, substantially as shown and described. 8th. A petroleum engine combustion chamber in which the inserted chamber is secured by one joint and forms an annular space between its external and the internal surface of the casing, substantially as shown and described. 9th. A petroleum engine combustion chamber having a partition to divide the chamber into two parts, substantially as shown and described.

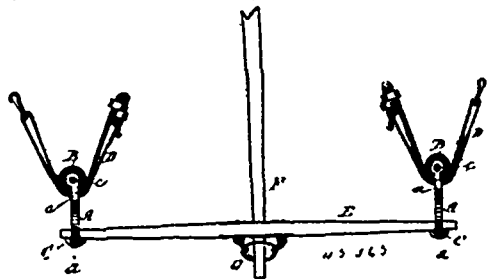
No. 45,364. Car Mover. (Impulseur de char.)



William L. Carr, Blanchard, Iowa, U.S.A., 17th February, 1894; 6 years.

Claim.—1st. In a car starter or mover, the combination of a substantially U-shaped clevis adapted to embrace the rim of a wheel, and loosely supported at its inner side from a stationary portion of the car, and an operating lever suspended from the car and connected at its inner end to the other side of said clevis, substantially as specified. 2nd. In a car-starter or mover, the combination of a clevis consisting of a flat plate having its innermost arm suspended from the car-axle and located beyond the inner side of the car-wheel, a loosely suspended adjustable operating lever above said clevis extending outwardly from the car, and having its inner end loosely connected to one side of said clevis, and a loosely mounted freely movable link by which said lever is suspended, substantially as specified. 3rd. In a car-starter or mover, the combination of a clamp depending from the lower side of a car, and consisting of a horizontal bar with upturned ends, a link loosely mounted from said horizontal bar of the clamp, a lever having notches in the under edge thereof and adjustably and loosely mounted in said link, a clevis embracing the wheel and to which said link is also secured, and consisting of a main body, an outer arm projecting from the main body at a right angle, and an inner arm, and a rod attached to the inner arm of said clevis and having its free end loosely engaging the axle of the car-wheel, substantially as described.

No. 45,365. Neck Yoke. (Volée d'avant.)

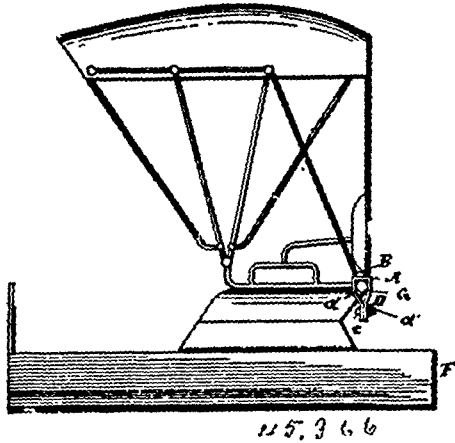


William Hardy, Dundas, Ontario, Canada, 17th February, 1894; 6 years.

Claim.—1st. In combination with a team neck yoke, of the ring A formed with shanks and carrying a rotating roller between them

to reducing the friction of the breast-strap which passes through the ring, substantially as described. 2nd. The ring A formed with a recess c, and lugs d, d, substantially as and for the purpose specified. 3rd. The combination of the ring A, friction roller B, staple C, and yoke E, all constructed substantially as and for the purpose specified.

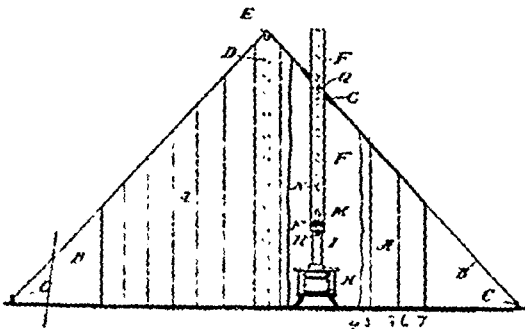
No. 45,366. Top Props for Carriages.
(*Etai pour couvertures de voiture.*)



Hattie L. Philips, Quinciassee, Michigan, U.S.A., 17th February 1894; 6 years.

Claim.—1st. As a new article of manufacture, a top-prop comprising a base-plate, a cushion-block secured on said base-plate, and a clasp connected with the base-plate and having its yielding members connected by devices which serve to clamp the members on a suitable prop-arm, as and for the purposes described. 2nd. A cushioned top-prop comprising a bed-plate provided on one side with the spaced sockets, a cushion-block resting against said bed-plate and having its ends fitted in the sockets thereon, and a clasp joined with the bed-plate and provided with means for compressing its yielding members around a fixed prop-arm, substantially as and for the purpose described. 3rd. A cushioned top-prop, comprising the bed-plate A, provided with the spaced sockets B, on its exposed side, an exposed cushion block C, having its ends fitted in the sockets B, and thereby confined laterally against the bed-plate, and the yielding clasps D joined with the bed-plate and each provided with a set screw or bolt which passes through the free ends of its yielding members, substantially as described.

No. 45,367. Stove Pipe. (*Tuyau de poêle.*)

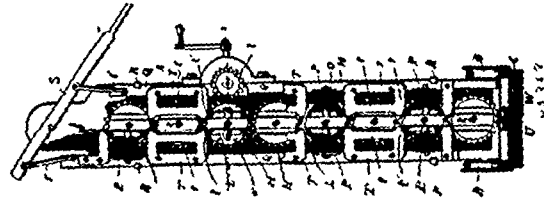


Robert Hargrave Martin, Brooklyn, New York, U.S.A., 17th February, 1894; 6 years.

Claim.—1st. A stove or furnace pipe made of non-inflammable cloth, and a ring or spider attached to the pipe, and a staying-rod adapted to pass through the pipe and engage with rings or spiders, substantially as set forth. 2nd. A stove or furnace pipe made of non-inflammable cloth, attached to the structure by an interposed non-inflammable piece of material, a ring or spider at or near each end of the stovepipe, and a distending-rod, which engages with them, to put the pipe under tension, substantially as set forth. 3rd. A stove or furnace pipe made of non-inflammable cloth, a ring or spider at or near each end of the stove pipe, and a distending-rod, adapted to engage with them, and a disc or plate which engages with the rod and is supported by it on the interior of the pipe between the rings or spiders, substantially as set forth. 4th. A stove or furnace pipe made of asbestos cloth, having a distending-ring, spider or similar device at or near its end, and a distending-rod which engages with the ring, spider or like device, substantially as set forth. 5th. A stove pipe made of flexible asbestos cloth and a rigid-rod supplied with devices to distend the pipe, substantially as set forth.

No. 45,368. Wire Fabric Machine.

(*Machine pour la fabrication de tissus métalliques.*)



Kitselman Brothers, Ridgville, Indiana, assignees of John C. Pope, of Fox, Illinois, U.S.A., 17th February, 1894; 6 years.

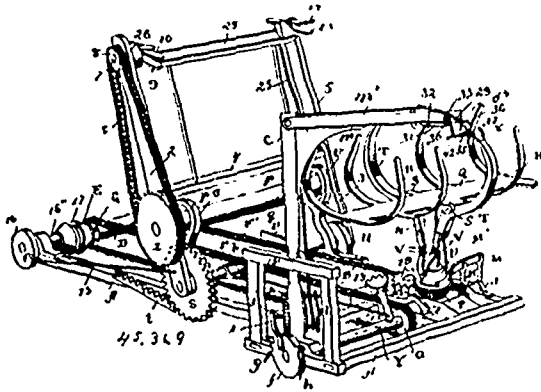
Claim.—1st. In a wire fabric machine, the upright frame piece, having a series of regularly spaced openings, stationary elongated warp wire tubes fitted at one end in said openings, a vertically aligned series of intergearing twister-wheels loosely journaled on said stationary tubes and having parallel face grooves, shiftable spool carriers having tongues registering with the grooves in said wheels, and shifting devices for sliding the spool carriers from one wheel to the other, substantially as set forth. 2nd. In a wire fabric machine, a vertically aligned series of intergearing twister-wheels having parallel rabbeted grooves, and shiftable spool carriers having flanged slide tongues adapted to fit in the rabbeted grooves of said twister-wheels, substantially as set forth. 3rd. In a wire fabric machine, the upright movable frame, having a longitudinal series of wire openings, elongated wire tubes secured at their inner ends in said openings, and provided near the frame with reduced spindle portions, grooved twister-wheels journaled on the spindle portions of said tubes and having cog-gears intermeshing and shiftable spool carriers having tongues fitting the grooves of said twister-wheels, substantially as set forth. 4th. In a wire fabric machine, a frame, a vertical series of elongated warp wire tubes fitted at their inner ends into the frame, a vertically aligned series of intergearing twister-wheels journaled on said tubes of the frame and having parallel rabbeted grooves in their outer faces at each side of said tubes, and shiftable spool carriers having flanged slide tongues adapted to fit in said rabbeted grooves, substantially as set forth. 5th. In a wire fabric machine, the combination of vertically aligned intergearing twister-wheels having rabbeted grooves in their outer faces adapted to be aligned, and shiftable spool carriers having flanged slide tongues adapted to fit in the rabbeted grooves of the wheels, laterally extended guide flanges overlapping the outer faces of the wheels, off-standing spool spindles and perforated wire guide lugs at their outer extremities, substantially as set forth. 6th. In a wire fabric machine, the combination of a series of intergearing twister-wheels having parallel grooves in their outer faces, shiftable spool carriers having tongues fitting the grooves of the wheels, and laterally extended curved guide flanges N, overlapping the outer faces of the wheels at one side of the grooves therein, and oppositely and vertically moving shifting plates having curved shifting edges adapted to fit the curved flanges of the carriers, substantially as set forth. 7th. In a wire fabric machine, the upright movable frame, a vertically aligned series of intergearing twister-wheels mounted on said frame and having parallel rabbeted grooves in their outer faces adapted to be aligned, shiftable spool carriers having flanged slide tongues fitting the face grooves of the wheels, and off-standing curved guide flanges N, overlapping the outer faces of such wheels, oppositely moving slide-bars arranged at opposite sides of the frame, and oppositely arranged shifting plates attached to each of said slide-bars, and having adjacent inner side portions, and curved shifting edges (1) at the extremity of said side portions adapted to fit the curved guide flanges of the carriers, substantially as set forth. 8th. In a machine of the class described, the combination of the stationary ground track having a longitudinal ratchet flange, and longitudinal guide grooves at the base of such flange, the travelling machine frame carrying flanged traveller-wheels adapted to move on the opposite side edges of said track, combined brace and guide-rods attached to the machine frame, and having lower flanged ends fitting said longitudinal guide grooves, and a vertical dog lever pivoted between said arms and carrying a gravity dog adapted to engage said ratchet flange. 9th. In a wire fabric machine, the upright frame having openings, stationary warp wire tubes secured to said frame and aligning with the openings therein, a series of aligned twister-wheels loosely journaled on said stationary tubes, and shiftable spool carriers mounted to slide on said wheels, substantially as set forth. 10th. In a wire fabric machine, the upright frame having openings, stationary warp wire tubes fitted at one end in said openings, a series of aligned twister-wheels loosely journaled on said stationary tubes, and shiftable spool carriers having a sliding tongue and groove connection with the twister-wheels, substantially as set forth.

No. 45,369. Self-binder. (*Licuse.*)

Joseph M. Lawrence, Los Angeles, California, and Adolph Eggarth, New Whatcomb, Washington, U.S.A., 19th February, 1894; 6 years.

Claim.—1st. A self-binder comprising a cradle frame carrying compression arms, a frame carrying a twisting mechanism, the

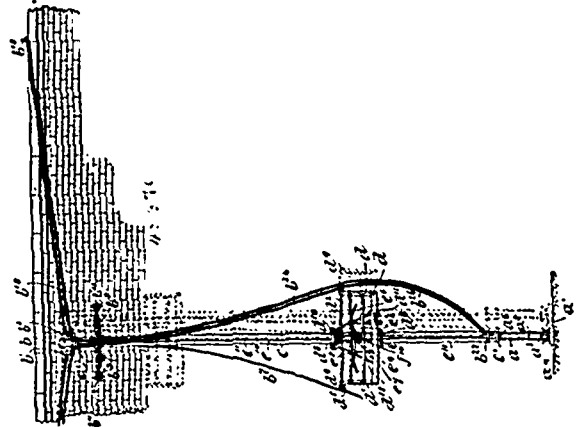
frame and twisting mechanism swinging over and delivering the twisted band to the compression arms, and a tucker for receiving



and tucking the ends of the band. 2nd. A self-binder comprising a rotating cradle frame, a band twisting and delivering frame for delivering the band to the cradle, and a tucker receiving the ends of the band, and holding the same while the cradle is being rotated. 3rd. A self-binder comprising a rotating cradle to receive the bundles being bound, a swinging band twisting and delivering frame delivering the band to the said cradle, and a tucker adapted to receive and hold the ends of the twisted band while the cradle is being revolved. 4th. A self-binder comprising a rotating cradle, a band twisting and delivering mechanism for delivering the band to the cradle, the cradle having compression arms to receive the said band and compressing it around the bundle, a swinging arm carrying a tucker adapted to receive and fold the ends of the twisted band while the cradle is being rotated. 5th. A self-binder comprising a rotating cradle to receive the grain to be bound, a band twisting and delivering mechanism to deliver the band to the said cradle, compression arms carried by the said cradle, a revolving shaft, a lever engaging a collar, one end of the lever being operated by the said shaft, and connections between the collar and compression arms and a tucker. 6th. A self-binder comprising a rotating vertical shaft, carrying a horizontal cradle at its upper end, compression arms pivoted to the said cradle, carrying at their upper ends forms to receive the twisted band, a mechanism connected with the lower ends of the said compression arms for moving their upper ends inward, a band-twisting and delivering mechanism, and a tucker. 7th. A self-binder comprising a rotating cradle, receiving the grain to be bound, a swinging band, twisting and delivering frame operatively connected with the said cradle frame for rotating it, and a tucker. 8th. A self-binder comprising a rotating cradle for receiving the grain to be bound, carrying a pinion at its lower end, a swinging, band-twisting and delivering frame, and a lever having one end operatively connected with the rotating cradle for rotating it, and its opposite end connected with the said band-twisting frame. 9th. A self-binder, comprising a rotating cradle, a swinging frame carrying a tucker, and a swinging band-twisting and delivering mechanism for delivering the band to the said rotating cradle. 10th. A self-binder comprising a rotating cradle, a swinging frame carrying twisters at its upper end, one end of the said frame being endwise movable, for the purpose described, and a tucker. 11th. A relief-binder comprising a rotating cradle, receiving the grain to be bound, a swinging band-twisting and delivering frame, a rotating shaft operatively connected with one end of the said swinging frame for oscillating it, a cog-wheel upon the said frame, a stationary rack engaged by the cog-wheel, and an operating connection between the cog-wheel and the twisters of the twisting-frame. 12th. A self-binder comprising a rotating cradle to receive the grain to be bound, a band-twisting and delivering mechanism for delivering the band to the cradle, a shaft carrying a segmental cog-wheel, a pinion carried by the cradle and engaged by the said segmental cog-wheel, a swinging crane carrying a tucker, and arms carried by the said shaft for swinging the crane in opposite directions. 13th. A self-binder comprising a rotating cradle, a band-twisting and delivering mechanism, an oscillating crane carrying depending tucker lips at its outer end, a shaft carrying a segmental cog-wheel, a shaft journaled within the crane, carrying a pinion engaged by the cog-wheel, and a drum, a connection having one end connected with the drum, and its other end extending to the outer end of the crane, a tucker pivoted in one of the depending lips, and connected with the opposite end of the said drum connection. 14th. A self-binder comprising a rotating cradle, a band-twisting and delivering mechanism, a tucker consisting of two depending tucker-lips, and a swinging tucker-plate, carried by one of the depending tucker-lips, a shaft, and an operating connection between the shaft and the tucker-plate, substantially as described. 15th. A self-binder comprising a rotating cradle, a band twisting and delivering mechanism, and a tucker consisting of two depending lips, one being spring actuated, a latch for holding the same outward against the pressure of the spring, a trigger for the said latch, a tucker, an operating shaft, a connection between the tucker and the operating-shaft, and the said connection engaging the said trigger,

whereby the swinging-lip of the tucker is released, for the purpose set forth. 16th. A self-binder comprising a rotating cradle, a tucker, a swinging band-twisting and delivering mechanism comprising a swinging-frame, a hollow shaft journaled therein the said shaft being screw-threaded internally, a rod extending within the said shaft, and carrying a nut engaging the screw-thread, one end of the said twisting-frame being connected with the rod, and an operating mechanism for revolving the hollow shaft whereby one end of the frame is moved endwise, and twisters at the outer end of the said swinging-frame for holding and twisting the material.

No. 45,370. Movable Scaffold. (Echafaudage mobile.)

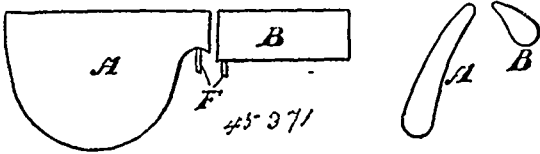


Karl Albert Frosell, and Frederick J. Lancaster, both of New York, State of New York, U.S.A., 19th February, 1894; 6 years.

Claim.—1st. The combination of a scaffold-pole, a movable scaffold and a number of engaging devices for alternately engaging with said pole for the purpose of raising and lowering the scaffold, substantially as described. 2nd. The combination of a pole, tackle connected with a building or support, and also with the pole, so that the pole may be adjusted transversely in a plane parallel or substantially parallel with the wall of the building and a movable scaffold, adapted to travel lengthwise of the pole, substantially as specified. 3rd. The combination of a pole, a supporting-block adjustable parallel or substantially parallel with the wall of a building, tackle connected with the building or support, and also with the pole, so that the pole may be adjusted transversely in a plane parallel or substantially parallel with the wall of the building, and a movable scaffold adapted to travel lengthwise of the pole, substantially as specified. 4th. The combination of a pole, a wheeled bearing piece resting against the wall of a building, tackle connected with the building or support, and also with the pole, so that the wheeled bearing piece will be held against the building, and the pole may be adjusted parallel or substantially parallel with the wall of the building, a movable scaffold adapted to travel lengthwise of the said pole, substantially as specified. 5th. The combination of movable scaffold, scaffold-pole or poles, a vertical series of equidistant holes or detents on the face of the pole, a claw pivoted upon a block movable vertically with reference to the scaffold by levers connected with the scaffold, and a second claw pivoted on a fixed attachment to the scaffold, spring devices adapted to drive the claws into the holes or notches against which they may respectively be, and a detachable connection between the two claws consisting of a spiral spring held within a cylinder, thimbles projecting from the ends thereof, a rod releasably connected to one claw and adapted to move through the said thimbles, and spring and collars on the said rod whereby the motion of the rod is communicated to the said cylinder. 6th. The combination of scaffold pole, or poles, movable scaffold, vertical series of holes or detents on the face of the pole, a duplex lever and claw gear on the scaffold and a claw disengaging mechanism all co-operating together as heretofore set forth with reference to the lowering of the scaffold. 7th. The combination, substantially as heretofore specified, of the vertical pole or poles provided with holes or detents in vertical series, the movable scaffold sliding upon said pole or poles, the vertical guide-rods *c, c*, carried by said scaffold, the slider *c²* guided by said rods and provided with the fulcrum pin *c⁴*, a lever or levers fulcrumed on said pin and connected with the floor of the scaffold by a link, the claw *f⁴* carried by a bell-crank lever *f* pivoted to said slider, the claw *f²* carried by a sub-jac nt bell-crank lever *f¹*, the crutch *f³* connecting said bell-crank lever *f¹*, with the floor of the scaffold, and devices for forcing said claws into mesh with said holes or detents, for raising the scaffold in the manner set forth. 8th. The combination, substantially as heretofore specified, of the movable scaffold, the scaffold pole or poles, a rearwardly projecting shifting strut carried by said pole or poles and having the horizontal rollers *b¹¹* at its extremities, shifting ropes applied to the top of the pole, a base-block in which the pole is pivotally stepped, and means for moving said base-block laterally to complete its adjustment.

9th. The combination, substantially as hereinbefore specified, of the movable scaffold, the scaffold pole or poles, the shifting strut projecting rearwardly from said pole or poles and having the horizontal rollers B¹¹ and horizontal pivots b¹⁰, shifting ropes applied to the top of the pole, a base-block in which the pole is pivotally stepped, and means for moving said base-block laterally to complete its adjustment. 10th. The combination, substantially as hereinbefore specified, of the movable scaffold, the scaffold pole or poles, the safety rope b¹² fixedly held at both ends, rope-clamping devices attaching the top of the pole to said safety-rope, and the rope b⁷ connected with said clamping devices for releasing the top of the pole from said safety-rope.

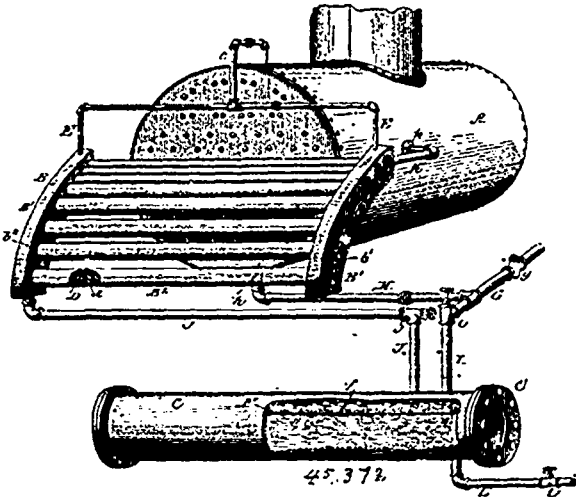
No. 45,371. Air Cushion for Riding Saddle.
(*Coussin à air pour selles.*)



Robert Latta, Catlins River, New Zealand, 19th February, 1894; 6 years.

Claim.—1st. A riding saddle having air cushions arranged therein, substantially as and for the purpose specified. 2nd. A riding saddle, having one or more air cushions arranged therein on each side, substantially as and for the purpose specified.

No. 45,372. Arch Support, Water Purifier and Heater.
(*Support d'arche, chauffeur et purificateur d'eau d'alimentation.*)



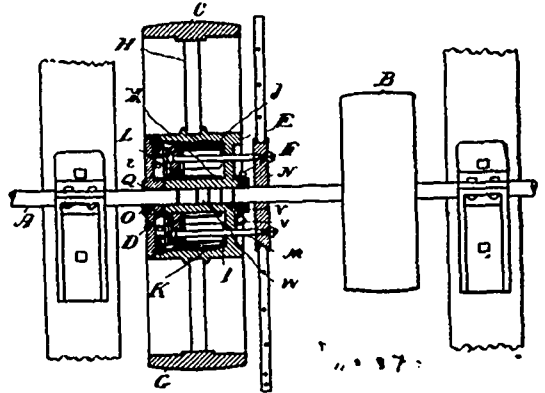
George Wolverton Collin and John Walter Bullar, both of Atlanta, Georgia, U.S.A., 19th February, 1894; 6 years.

Claim.—1st. A water heater and arch support for boilers, consisting of the curved and reservoir columns, extended practically from base to crown of the arch, and the pipes extending between and communicating at their ends with the said columns, substantially as set forth. 2nd. A water heater and arch support for boilers, consisting of the end reservoir columns curved longitudinally and provided in their outer sides with hand openings, closures for such openings and the tubes connecting said columns and opening into the inner side thereof opposite the hand openings, substantially as set forth. 3rd. An improved arch support for boiler furnaces, which consists of hollow end reservoir columns curved longitudinally, and pipes connecting and opening at their opposite ends into said end columns, in combination with the boiler, and connections between said arch support and boiler, substantially as set forth. 4th. A combined water heater and arch support for boilers, which consists of the separate end reservoir column, extended practically from base to crown of the arch, curved longitudinally and provided with water and steam connections, and the pipes extending between and communicating at their ends with the said end columns, all substantially as and for the purposes set forth. 5th. The combination with the boiler and the mud drum, of the heater having longitudinally curved end columns, and cross or connecting tubes opening at their ends into said columns, the water connections, and the steam connections between the upper end of the heater, and the steam space of the boiler, all substantially as and for the purposes set forth. 6th. In combination, substantially as described, the mud-drum and the heater, the feed pipe branched in advance of the mud-drum, and having separate

branches leading to the mud-drum and to the boiler, the water pipe connecting the drum and heater, a water pipe connecting the heater and boiler, and a steam connection between the upper end of the heater and the steam space of the boiler, substantially as set forth. 7th. The combination of the boiler, the heater, the mud drum, the pipe G, having branch H, and branch I, provided with a valve i, the pipe J connecting the drum and heater and having a valve j, and the pipe K connecting the boiler and heater, all substantially as described, whereby the valves may be manipulated to blow off the top or bottom of the boiler, as and for the purposes specified. 8th. In an apparatus substantially as described, a sediment accumulating-plate formed of copper and having its opposite edges serrated, substantially as set forth. 9th. The combination substantially as described, of the boiler, the heater having curved end columns B¹, and connecting tubes B², the water pipe K, connecting the upper end of the heater with the boiler, the steam connections leading from the upper end of the heater to the steam space of the boiler, the drum, the pipe J connecting the drum and heater, and the pipe G, having branches H and I leading respectively to the boiler and to the drum, all substantially as set forth. 10th. The combination of the boiler, the side walls M of the furnace, the heater having curved end columns resting upon said side walls, and tubes B², connecting said end columns, and the arch built directly upon and supported by said heater, substantially as set forth.

No. 45,373. Clutch Pulley.

(*Poulie d'embrayage.*)

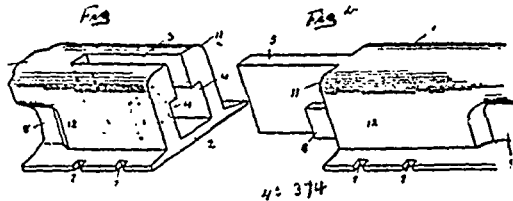


Herman Bunker, of Barrie, and Walter P. Chapman, Hamilton, both in Ontario, Canada, 19th February, 1894; 6 years.

Claim.—1st. In a clutch pulley, the combination of one clutch member, comprised of a disc or plate having a series of upwardly extending springs, substantially parallel with the hub of the same, and a drum-shaped clutch member provided with a seat for each of the springs on the other clutch member, and means for separably locking together the clutch members, substantially as set forth. 2nd. In a clutch pulley, the combination of a clutch member, consisting of a disc having a series of outwardly extending springs, substantially parallel with the hub of the same, a drum-shaped clutch member having a seat for each of said springs and a plunger adapted to expand the springs into the said seats, and means for moving the plunger into or out of engagement with the said springs substantially as set forth. 3rd. In a clutch pulley, the combination of a clutch member comprised of a disc having a series of outwardly extending springs, substantially parallel with the same, the hub having a key seat constructed to admit of the entrance of the key into the head and lock the key therein, the shaft having a recess formed therein, the key, a lug on said key adapted to enter the recess in the shaft to lock the said clutch member to the shaft, a hub for the clutch pulley loosely mounted on the shaft, a drum-shaped clutch member surrounding said hub and connected thereto by a plate, a seat formed in said drum for each of the springs on the other clutch member, a plunger loosely mounted and sliding on the said hub, adapted to force the springs into the said seats, and means for moving the plunger into or out of engagement with the said springs, substantially as set forth. 4th. In a clutch pulley, the combination of a clutch member, comprised of a disc having a series of outwardly extending springs, substantially parallel with the same, the hub having a key-seat constructed to admit of the entrance of the key into the head and lock the key therein, the shaft having a recess formed therein, the key, a lug on said key adapted to enter the recess in the shaft to lock the said clutch member to the shaft, a hub for the clutch pulley, loosely mounted on the shaft, a drum-shaped clutch member surrounding said hub and connected thereto by a plate, a seat formed in said drum for each of the springs on the other clutch member, a plunger loosely mounted and sliding on the said hub, adapted to force the springs into the said seats, a slide-head loosely mounted upon the said shaft and clear of the clutch pulley, rods connecting the plunger with the slide-head, and means for sliding the slide-head on the shaft to move the plunger into or out of engagement with the said springs, substantially as set forth. 5th. In a clutch pulley, the combination of a clutch member com-

prised of a series of outwardly extending springs, substantially parallel with the same, the hub having a key-seat constructed to admit of the entrance of the key into the head and lock the key therein, the shaft having a recess formed therein, the key, a lug on said key adapted to enter the recess in the shaft to lock the said clutch member to the shaft, a hub for the clutch pulley loosely mounted on the shaft, a drum-shaped clutch member surrounding said hub and connected thereto by a plate, a seat formed in said drum for each of the springs on the other clutch member, a plunger loosely mounted and sliding on the said hub, adapted to force the springs into the said seats, a slide-head loosely mounted upon the said shaft and clear of the clutch pulley, said slide-head having a circumferential groove formed therein, a ring encircling the slide-head and having lugs adapted to enter the groove, a hanger connected to said ring and pivotally connected to a framework and lever connected to said ring, by means of which the slide-head is slid on the shaft, substantially as set forth.

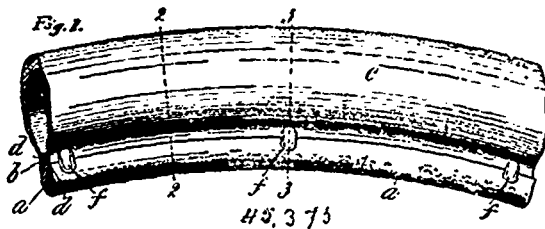
No. 45,374. Rail Joint. (Joint de rail.)



Robert Bloom Muehleith and Charles John Ibel, both of Fort Wayne, Indiana, U.S.A., 19th February, 1894; 6 years.

Claim.—1st. A rail-joint for railway rails consisting of two sections of rails adapted for an interlocking engagement, the interlocking end of one of said sections having a bifurcated web provided with internal lateral recesses and a vertically and longitudinally slotted tread, the abutting or interlocking end of the other section having a laterally enlarged web provided with a forwardly extending arm or tenon adapted for engagement with said slot and the interlocking shoulders as described, adapted to engage the said recesses, all substantially as set forth and described. 2nd. The combination with two abutting rails, one having one end longitudinally slotted and provided with a bifurcated web having internal recesses as described, the other rail having one end provided with a laterally shouldered web and a forwardly projecting and registering arm having upon both sides thereof an interlocking shoulder, the said arm and the said shoulder being adapted to engage the said slots and the said mortise, respectively, all substantially as described. 3rd. A railway rail provided at one end with a longitudinally slotted tread and a bifurcated web flush with the ball of the rail, and having internal lateral recesses as described, and provided at the other extremity with a laterally enlarged web flush with the ball of the rail and provided with an integral registering arm having the locking shoulders, as described, the said arm and the said shoulders being adapted for an interlocking engagement with the said slots and recesses of the said abutting rail, all substantially as hereinbefore set forth and described.

No. 45,375. Wheel. (Roue.)



The Pope Manufacturing Company, Portland, Maine, assignee of Sterling Elliott, Newton, Massachusetts, U.S.A., 19th February, 1894; 6 years.

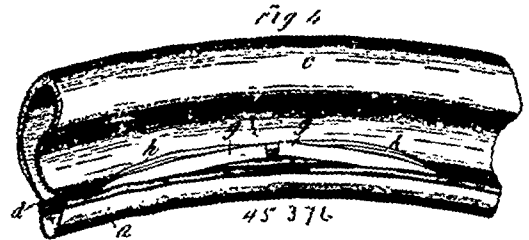
Claim.—1st. In a wheel the combination of a rim, a flexible cover or sheath, one edge of said cover or sheath being of suitable character and suitably held to the rim and the other edge being circumferentially inextensible and supported upon said rim, and means adapted to engage with said rim and with the inextensible edge of the cover or sheath to securely hold the said edge from moving laterally off the rim and to be moved out of engagement with said inextensible edge independently of the movement of the cover or sheath to enable the said edge to be displaced or removed, substantially as set forth. 2nd. In a wheel the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges supported upon said rim, and means adapted to engage with said rim and with the inextensible edges of the cover or sheath to securely hold the said edges from moving laterally off the rim, and to be moved out of engagement with said inextensible edges independently of the

movement of the tire, to enable the tire to be displaced or removed, substantially as set forth. 3rd. In a wheel the combination of a rim, and a flexible cover or sheath, one edge of said cover or sheath being of suitable character and suitably held to the rim and the other edge being circumferentially inextensible and supported upon said rim, and one or more retaining devices carried by one of said parts, to wit, the inextensible edge or the rim, and constructed to engage with the other part to hold said edge against moving laterally off the rim and adapted to be moved out of engagement independently of the movement of the cover or sheath to permit the separation of said parts, substantially as set forth. 4th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges supported upon said rim, and one or more retaining devices carried by one of said parts, to wit: the edges or the rim, and constructed to engage with the other part to hold said edges against moving laterally off the rim and adapted to be moved out of engagement independently of the movement of the tire to permit the separation of said parts, substantially as set forth. 5th. In a wheel, the combination of a rim and a flexible cover or sheath, one edge of said cover or sheath being of suitable character and suitably held to the rim, and the other edge being circumferentially inextensible and supported upon said rim, and one or more retaining devices carried by one of said parts, to wit, the inextensible edge or the rim, and having fixed circumferential locations upon said part, and constructed to engage with the other part to hold said cover or sheath from moving off the rim and adapted to be moved out of engagement to permit the separation of said parts, substantially as set forth. 6th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges supported upon said rim, and one or more retaining devices carried by one of said parts, to wit: the edges or the rim, and having fixed circumferential locations upon said part and constructed to engage with the other part to hold said tire against moving off the rim and adapted to be moved out of engagement to permit the separation of said parts, substantially as set forth. 7th. In a wheel, the combination of a rim and a flexible cover or sheath, one edge of said cover or sheath being of suitable character and suitably held to the rim, and the other edge being circumferentially inextensible and fitted and supported directly upon the outer periphery of said rim, and means adapted to engage with said tire and rim for holding said inextensible edge from moving off the rim, said holding means being adapted to be moved out of engagement to enable said edge to be displaced or removed, substantially as set forth. 8th. In a wheel, the combination of a rim, a flexible cover or sheath and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges fitted and supported directly upon the outer periphery of said rim, and means adapted to engage with said tire and rim for holding the inextensible edges from moving laterally off the rim, said holding means being adapted to be moved out of engagement to permit the tire to be displaced or removed, substantially as set forth. 9th. In a wheel, the combination of a rim and a flexible tire, said tire having a circumferentially inextensible portion fitted and supported directly upon the outer periphery of said rim, and pivoted latches mounted on one of said parts, and adapted in one position to engage with the other part to hold said tire from moving laterally off the rim, and to be moved out of engagement to permit the separation of said parts, substantially as set forth. 10th. In a wheel, the combination of a rim, and a flexible cover or sheath, one edge of said cover or sheath being of suitable character and suitably held upon said rim, and the other edge being circumferentially inextensible and supported upon the said rim, and pivoted latches mounted on one of said parts, to wit, the inextensible edge or the rim, and adapted in one position to engage with the other part to hold said cover or sheath from moving laterally off the rim, and to be moved out of engagement to permit the separation of said parts, substantially as set forth. 11th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges supported upon said rim, and pivoted latches mounted on one of said parts, to wit, the edges or the rim, and adapted in one position to engage with the other part to hold said tire from moving laterally off the rim, and to be moved out of engagement to permit the separation of said parts, substantially as set forth. 12th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath being opened circumferentially and having a circumferentially inextensible edge supported upon said rim, its other edge being of suitable character and suitably held upon said rim, the said rim having a ridge constructed so that it together with the said inextensible edge will form a substantially cylindrical or curved flat surface or bed for the inner tube, and means adapted to engage with said rim, and with the inextensible edge of the cover or sheath to securely hold the said inextensible edge from moving laterally off the rim, and to be moved out of engagement with said inextensible edge to enable the said edge to be displaced or removed, substantially as set forth. 13th. In a wheel, the combination of a rim, a flexible cover or sheath and an inner inflatable tube, said cover or sheath being opened circumferentially and having circumferentially inextensible edges supported upon said rim, and said rim having a ridge extending outward between said edges, so as to form with said edges a bed for the inner tube, and means adapted to engage with said rim, and

with the inextensible edges of the cover or sheath to securely hold said edges from moving laterally off the rim, and to be moved out of engagement with said edges to permit them to be displaced or removed, substantially as set forth. 14th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath being opened circumferentially and having circumferentially inextensible edges fitted and supported directly upon the outer periphery of said rim, and a medial band or ridge upon said rim between said edges having its outer periphery flush with the outer peripheries of said edges so that said edges and ridge form a substantially continuous bed for the inner tube, and means adapted to engage with said rim and with the extensible edges of the cover or sheath to securely hold said edges from moving laterally off the rim and to be moved out of engagement to permit the said edges to be displaced or removed, substantially as set forth. 15th. In a wheel the combination of a rim and a flexible cover or sheath, one edge of said cover or sheath being of suitable character and suitably held to the rim, and the other edge being circumferentially inextensible and supported upon said rim, and devices carried by one of said parts, to wit, the inextensible edge of the rim, and located in different fixed positions around its circumference and adapted to engage with the other part at different points around its circumference to hold said inextensible edge from moving laterally off the rim and adapted to be disengaged to permit the removal or displacement of said edge, substantially as set forth. 16th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges supported upon said rim, and devices carried by one of said parts, to wit, the inextensible edges or the rim, and located in different fixed positions around its circumference and adapted to engage with the other part at different points around its circumference to hold said edges from moving laterally off the rim, and adapted to be disengaged to permit the removal or displacement of said edges, substantially as set forth. 17th. In a wheel or rim for a flexible tire, provided with a medial band or ridge and having the portions of its outer periphery on each side of said medial band or ridge adapted to support said tire, and carrying devices located in different fixed positions around its circumference and adapted to engage with the tire at different points around its circumference to hold said tire from moving laterally off the rim without restricting the movement radially and to be disengaged from said tire to permit the removal from the rim, substantially as set forth. 18th. In a wheel or rim for a flexible tire having its periphery adapted to support said tire and provided with pivoted retaining devices mounted upon said rim, and located in different fixed positions around the circumference thereof, and adapted to hold said tire from moving laterally off the rim, substantially as set forth. 19th. In a wheel, a rim for a flexible tire having its periphery adapted to support said tire, and provided with disengageable retaining devices transversely mounted in or on said rim and constructed to engage with said tire at both sides of the rim to hold said tire from moving laterally off the rim without restricting its movement radially, substantially as set forth. 20th. In a wheel a rim for a flexible tire having a medial band or ridge, and suitable surfaces to receive the edges of said tire, and fastening devices each comprising a rod transversely mounted in said rim and held from outward movement by said medial band or ridge and having engaging parts mounted on or forming part of said rod, and adapted to hold one or both edges of said tire from moving off the rim, substantially as set forth. 21st. In a wheel, a rim for a flexible tire adapted to support said tire and provided with retaining devices each comprising a rod pivotally mounted on or in said rim and having hooks formed at its ends for laterally overlying portions of said tire, substantially as set forth. 22nd. In a wheel the combination of a flexible tire adapted to be supported on the rim of a wheel, an inextensible portion of said tire engaging with said rim, and retaining devices each comprising a rod pivotally mounted in or on said rim and having hooks formed at its end for laterally overlying the said inextensible portion of the tire, substantially as set forth. 23rd. In a wheel the combination of a rim, an outer cover or sheath, and an inner inflatable tube, said cover or sheath being opened circumferentially and having circumferentially inextensible edges supported upon said rim, and said rim having a medial band or ridge between said edges of the cover or sheath, and fastening devices each comprising a rod mounted in a groove in said rim and held from outward movement by the ridge or band of the rim, and each of said fastening devices also comprising an engaging part or parts mounted on or forming part of the said rod and constructed to prevent the lateral outward movement of one or both of said edges of the cover and to be moved out of engagement with said edge or edges to enable the tire to be displaced or removed, substantially as set forth. 24th. In a wheel the combination of a rim, a cover or sheath and an inner inflatable tube, said cover or sheath being opened circumferentially on its inner side and having inextensible bands inserted in or engaged with its edges and said bands being fitted and supported upon said rim, and said rim having a medial band or ridge extending outward so as to be flush with the outer periphery of the inextensible edges of the cover or sheath so that said bands of the cover and the band or ridge of the rim present a substantially cylindrical bed for the inflatable inner tube, and suitable fastening devices for preventing the bands of the cover from moving laterally off the rim, substantially as set forth. 25th. In a wheel the combination of a rim, a flexible cover or sheath and an

inner inflatable tube, said cover or sheath being opened circumferentially on its inner side, and having circumferentially inextensible bands inserted in or engaged with its edges and said bands being fitted and supported on said rim, and said rim having a medial band or ridge between said inextensible bands of the cover or sheath, said medial band or ridge having its outer periphery flush with the outer periphery of said bands of the cover or sheath so that a substantially continuous bed is formed for the inner tube, and fastening devices each comprising a rod mounted in a groove in rim and held from outward movement by the ridge or band of the rim, and each of said fastening devices also comprising an engaging part or parts mounted on or forming part of said rod and constructed to prevent the lateral disengagement of one or both of said edges of the cover or sheath and to be moved out of engagement with said edge or edges to enable the tire to be displaced or removed, substantially as set forth. 26th. In a wheel, a rim for a flexible tire adapted to support said tire, and provided with rods transversely mounted in said rim, and engaging devices mounted on or forming part of said rods, and adapted to hold one or both edges of the tire from moving laterally off the rim, substantially as set forth. 27th. In a wheel, the combination of a rim, and a flexible cover or sheath, said cover or sheath having circumferentially inextensible edges supported upon said rim, and rods transversely mounted in or on said rim, and engaging devices mounted on or forming part of said rods, and constructed to prevent the lateral outward movement of one or both said edges of the cover, and to be moved out of engagement with said edge or edges to enable the same to be displaced or removed, substantially as set forth. 28th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath being opened circumferentially on its inner side and having circumferentially inextensible bands inserted in or engaged with its edges, and said reinforced edges being supported upon the rim, and rods transversely mounted on or in said rim, and engaging devices mounted on or forming part of said rods and constructed to prevent the lateral movement off the rim of the edges of the cover or sheath, and to be moved out of engagement with said edges to permit the tire to be displaced or removed, substantially as set forth.

No. 45,376. Wheel. (Roue.)



The Pope Manufacturing Company, Portland, Maine, assignee of James S. Copeland, Hartford, Connecticut, both in the U.S.A., 19th February, 1894; 6 years.

Claim.—1st. In a wheel, the combination of a rim, a flexible cover or sheath, one edge of said cover or sheath being of suitable character and suitably held to the rim, and the other edge being circumferentially inextensible and supported upon said rim, and a retaining device seated in said rim, and rigid against lateral pressure when thus seated, and extending out beyond said seat to engage with the inextensible edge of the cover or sheath, and to hold the same from moving laterally off the rim, and adapted to be moved out of said seat, so as to permit said inextensible edge to be moved laterally off the rim, substantially as set forth. 2nd. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges supported upon said rim, and one of said edges being suitably held to the rim, and a retaining device seated in said rim, and rigid against lateral pressure when thus seated and extending out beyond said seat to engage with the other inextensible edge of the cover or sheath to hold the same from moving laterally off the rim, and adapted to be moved out of said seat, so as to permit the said edge to be moved laterally off the rim, substantially as set forth. 3rd. In a wheel, the combination of a rim and a flexible tire, said tire having a circumferentially inextensible portion supported upon said rim, and a retaining device consisting of a spring ring seated in said rim, and rigid against lateral pressure when thus seated and extending out beyond said seat to engage with the inextensible portion of the tire, and to hold the same from moving laterally off the rim and adapted to be moved out of said seat so as to permit the tire to be moved laterally off the rim, substantially as set forth. 4th. In a wheel, the combination of a rim, a flexible cover or sheath, one edge of said cover or sheath being of a suitable character and suitably held to the rim, and the other edge being circumferentially inextensible and supported upon said rim, and a spring ring seated in said rim and rigid against lateral pressure when thus seated and extending out beyond said seat to engage with the inextensible edge and to hold the same from moving laterally off the rim, and adapted to be moved out of said seat so as to permit the said inextensible edge to be moved laterally off the rim, substantially as set forth.

5th. In a wheel, the combination of a rim, a flexible cover or sheath and an inner inflatable tube, said cover or sheath having circumferentially inextensible edges supported upon said rim, and one of said edges being suitably held to the rim, and a spring ring seated in said rim and rigid against lateral pressure when thus seated, and extending out beyond said seat to engage with the other inextensible edge of the cover or sheath and to hold the same from moving laterally off the rim, and adapted to be moved out of said seat so as to permit the said edge to be moved laterally off the rim, substantially as set forth. 6th. In a wheel, the combination of a rim, a flexible cover or sheath, and an inner inflatable tube, said cover or sheath being opened circumferentially on its inner side, and one of the edges of said cover or sheath being of suitable character and suitably held to said rim and the other edge being circumferentially inextensible, and the split ring *g* disengageably seated in a groove at the edge of the rim and extending out beyond said seat to engage with the inextensible edge of the cover or sheath and to hold the same from moving laterally off the rim, and the lip or apron *h* extending from the cover or sheath and covering said ring, substantially as set forth. 7th. In a wheel, the combination of a rim, a flexible cover or sheath and an inner inflatable tube, said cover or sheath being opened circumferentially on its inner side, and both the edges of said cover or sheath being circumferentially inextensible, and the split ring *g* disengageably seated in the groove at the edge of the rim and extending out beyond said seat to engage with one of the inextensible edges of the cover or sheath, to hold the same from moving laterally off the rim, and the fixed projection *a*¹ extending out from the rim to engage with the other inextensible edge of the cover or sheath to hold the same from moving laterally off the rim, substantially as set forth.

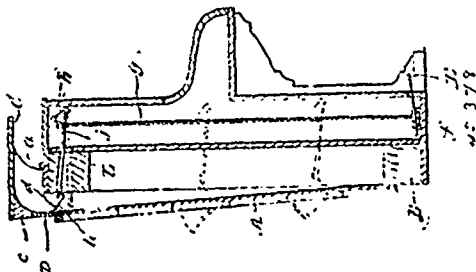
No. 45,377. Artificial Fuel.

(Combustible artificiel.)

Jean D. Olligny, St. Henri, and C. F. Beauchemin & Cie., Montreal, all of Quebec, Canada, 19th February, 1894; 6 years.

Claim.—1st. An artificial fuel, composed of garbage, ashes, sawdust, coal dust, manure and other refuse and peat, all or any of them in such quantity as will be completely absorbed in a composition consisting of two thousand five hundred gallons of petroleum, five gallons of benzine, one eighth of a gallon of sassafras oil, one-sixteenth of a gallon of aqua-ammonia and one bag of common salt or about the proportions named, the whole yielding about one hundred tons of fuel, substantially as set forth. 2nd. A composition for the preparation of artificial fuel, consisting of two thousand five hundred gallons of petroleum, five gallons of benzine, one-eighth of a gallon of sassafras oil, one-sixteenth of a gallon of aqua-ammonia and one bag of common salt, or in or about the proportions named, substantially as set forth.

No. 45,378. Piano. (Piano.)



Roland Montague Squire, Montreal, Quebec, Canada, 19th February, 1894; 6 years.

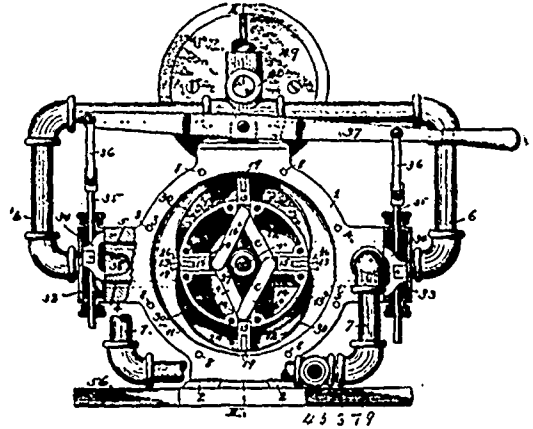
Claim.—1st. The combination, with a piano, of an external or secondary sounding board located at the back of the instrument and adapted to convey or direct the sound upward, as set forth. 2nd. The combination, with a piano, of an external or secondary sounding board located at the back of the instrument having its bottom and side edges attached to same, and a top section constituting a part of said sounding board, the whole adapted to convey the sound upward and frontward over the piano, as set forth. 3rd. The combination, with a piano, of an external or secondary sounding board located at the back of the instrument, having its bottom and side edges attached to same, and a movable shutter at the upper end of said board, with means for operating same, as and for the purpose set forth. 4th. The combination, with a piano, of an external or secondary sounding board, comprising a back piece, top piece and intermediate movable section, with means for operating such section, the whole as and for the purposes set forth.

No. 45,379. Rotary Engine. (Machine rotative.)

Thomas Harding, San Jose, California, U.S.A., 19th February, 1894; 6 years.

Claim.—1st. In a rotary engine, comprising a motor, pump or meter the combination, with the cylinder or casing, of a rotary piston head mounted therein and provided with two or more radially movable piston plates, and links extending obliquely from one plate to the next

and directly connecting with each other the two contiguous plates which are situated at angle to each other, whereby their movements are mutually controlled, substantially as set forth. 2nd. In a rotary



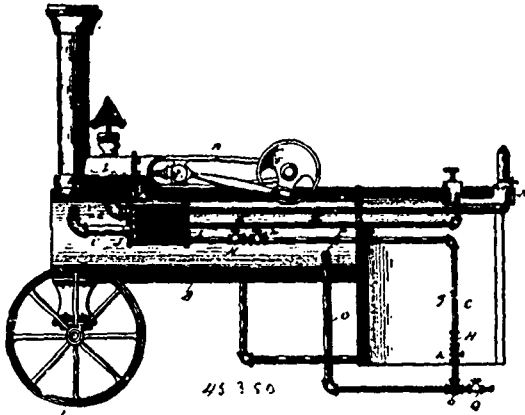
engine, the combination of a cylinder or casing having a cavity formed of two portions, each of which is substantially circular, and which portions intersect each other, as set forth, a rotary piston head therein, radially movable piston plates mounted in said head, and a pivoted or hinged connection between said plates, whereby they mutually control each other in their movement by their contact with the interior walls of said cavity, substantially as set forth. 3rd. The combination with a casing having an oblong cavity, of a rotary head therein provided with radially movable slides, and a link or links connecting said slides, and provided with pins 16, and sleeves 18, substantially as set forth. 4th. In a rotary engine, the combination of a casing having an oblong cavity, a rotary head therein provided with four oppositely situated radially movable plates, and four links arranged in the form of a parallelogram connecting said plates for mutually controlling their movements, substantially as set forth. 5th. In a rotary engine, the combination of a cylinder or casing having an oblong cavity as described, a rotary piston head mounted thereon, radially movable piston plates mounted in said head, spring actuated plungers carried by the latter, and oblique links connecting directly with each other the neighbouring plates, which are at an angle to each other for mutually controlling their movements, substantially as set forth. 6th. The combination with the engine casing having the ports 4 and 5, and the rotary piston provided with the piston plates connected by links, of the slide valves connected with each other and adapted to co-operate with said ports and with the exhaust passages for reversing the engine. 7th. The combination with the engine, of the slide valve 39, the sliding weights 48, having means for operating said valve, the pulley casing 49, in which said weights are adapted to slide, and the pulley 50, as set forth. 8th. The combination with the engine shaft, having the piston mounted thereon, and the engine casing, of the shaft bearings 51, having the screw shanks 52, and the screw-threaded stands 54, as described. 9th. In a rotary engine, the herein described casing, having a cavity consisting of two substantially circular portions intersecting each other, as described, the walls of said cavity being lined by the lunes 30, substantially as set forth. 10th. In a rotary engine, the combination of the cylinder or casing provided with a cavity and with the lateral recess or rabbet 11, a rotary piston head mounted in said cavity, and a plate 10, secured to and rotary with said piston head and fitting in said rabbet, substantially as set forth.

No. 45,380. Steam Boiler. (Chaudière à vapeur.)

David Risley, Colfax, Washington, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. In a steam boiler attachment, the combination with the boiler fire-box, a false crown coil of horizontal pipes, adapted to be arranged within said fire-box intermediate of the top and bottom thereof and below the line of flues, an imperforate asbestos and fire-clay top covering arranged on top of said coil, an end curved baffle-plate snugly embracing the front ends of the coil pipes and their asbestos and fire-clay covering, and circulating pipe connections with said coil and the sides of the boiler, substantially as set forth. 2nd. In a steam boiler attachment, the combination with the boiler having a fire-box at one end, of a covered false crown coil arranged within said fire-box intermediate of the top and bottom thereof, pipe connections with the crown coil of the boiler, an auxiliary steam heated coil, suitably arranged and connected with a feed pump and valved pipe connection connecting said steam heated coil with the connections of the crown coil and a feed-pump, substantially as set forth. 3rd. In a steam boiler attachment, a covered false crown coil adapted to be arranged within a steam boiler fire-box below the flue ends therein, an end baffle plate snugly embracing the front ends of the coil and its covering and arranged adjacent to the front wall of the fire-box to leave a front circulating space, and suitable circulating connections with said coil, substantially as set forth. 4th.

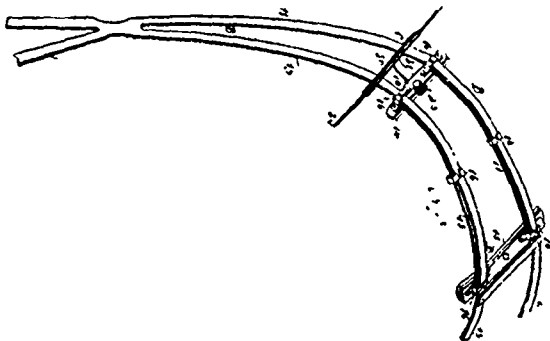
In a steam boiler attachment, the combination of a crown coil adapted to be arranged within a steam boiler fire-box, pipe connections with the crown coil and the boiler, a suitably arranged steam-



box, an auxiliary heating coil located inside of the steam-box and connected with a feed-pump, a circulating feed-pipe connected with said heating coil and one of the pipe connections of the crown-coil, a valved nipple connection from said circulating feed-pipe, to one side of the boiler, and a valved circulating pipe from one side of the boiler to one of the pipe connections of the crown-coil, substantially as set forth. 5th. In a steam boiler attachment, the combination with a locomotive boiler and the engine cylinder, of a suitably arranged steam box, connected with the exhaust of the cylinder, a heating coil arranged inside of said box, a pipe connection from the coil to feed-pump, and a similar connection from the coil to one side of the boiler, substantially as set forth.

No. 45,381. Check Rein Support.

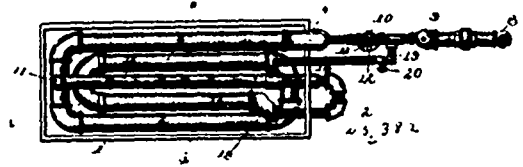
(Support de fauaises-rênes.)



Joseph Carter, Blyth, Ontario, Canada, 20th February, 1894; 6 years.

Claim.—1st. As an improved article of manufacture, a support for an over-draw check, the same consisting of a face bar, and a side bar connected with the face bar, the said bar being provided with sockets to receive the check, and adapted also for attachment to the crown strap of the bridle, as and for the purpose set forth. 2nd. A support for an over-draw check, the same consisting of a face bar provided with a cushioned under surface, arched side bars secured to the face bar, sockets carried by the side bars, friction rollers located in the sockets, and means for attaching one end of the side bars to a bridle, substantially as and for the purpose set forth. 3rd. The combination with a crown strap of a bridle, and a bar adapted to bear against an animal's face, of side bars connecting the face bar with the crown strap of a bridle, and guides located upon the side bars, adapted to receive the straps of an over-draw check rein, substantially as shown and described. 4th. The combination with the crown strap of a bridle, and a bar adapted to rest upon the face of an animal, the crown strap and the bar being provided respectively with a cushioned under face, of side bars attached to the crown strap of the bridle and the face bar, which side bars diverge at the crown strap and are arched, sockets carried by the side bars, and friction rollers located in the caskets, substantially as shown and described. 5th. The combination with a support adapted for attachment to a bridle, of a winker stay comprising a body bar having removable and adjustable engagement with the said support, and rods having screw connection with the stay bar, one bar having a right hand and the other a left hand thread, the rods being adapted for permanent attachment to the winkers of a bridle, as specified.

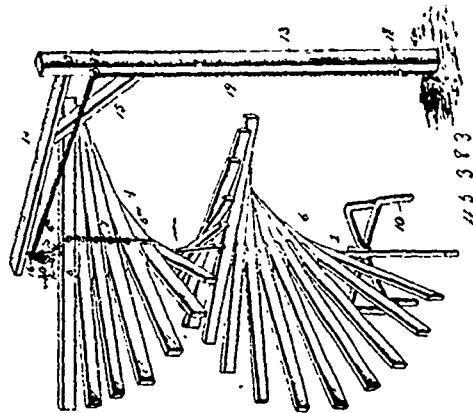
No. 45,382. Generator for Gas. (Générateur à gaz.)



Abner C. Erskine, Bowling Green, Ohio, U.S.A., 20th February, 1894; 6 years.

Claim.—A hydrocarbon gas generator and burner, having an igniting pan provided at its longitudinal centre with a series of air inlet tubes arranged vertically, with their terminals above the plane of the bottom of the pan, a generator disposed within the pan below the plane of its upper edge, and consisting of a series of horizontal connected parallel sided loops, the sides of which are arranged in a common plane and are parallel with the series of inlet tubes, a horizontal burner tube provided in its upper side with apertures, and arranged parallel with and vertically above the series of inlet tubes, and above the plane of the generator, a conductor connected to one end of the generator pipe and provided with a conical reducer which is fixed axially in the end of the burner tube whereby the vapour is projected the entire length of the latter, and a supply pipe connected to the other end of the generator pipe, and provided with suitable controlling valves and a connected tube to supply oil to the igniting pan, substantially as specified.

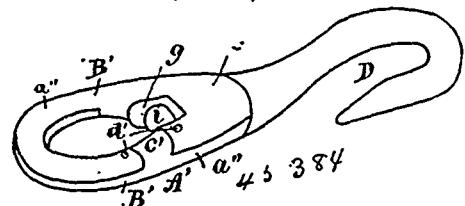
No. 45,383. Rack. (Râtelier.)



Ambro J. Northcraft, St. Louis, Missouri, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. In a rack, the combination with a vertical standard, of a series of arms swivelled thereon, and a connecting-rope throughout the series for limiting the swing thereof, substantially as specified. 2nd. In a rack, the combination with a vertical standard, of a series of arms swivelled thereon, and a rope connecting loosely a plurality of said arms for limiting their separating, substantially as specified. 3rd. In a rack, the combination with a standard terminating at its lower end in legs and at its upper end in a hook, of a series of intermediate swivelled arms arranged thereon, and a hoisting device for the rack, substantially as specified. 4th. The combination with the post having an arm, guide-eyes, and the operating-rope passed through the guide-eyes, of a standard having an upper bent end, a ring arranged on the rope for engaging the standard, a series of arms swivelled on the standard, and feet at the lower end of the standard, substantially as specified.

No. 45,384. Chain. (Chains.)

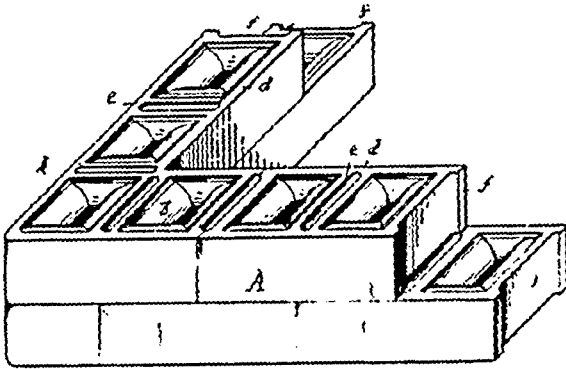


David M. Williams, Edwardsdale, Pennsylvania, U.S.A., 20th February, 1894; 6 years.

Claim.—In a chain substantially as described, the combination with a link consisting of two sections respectively, comprising the body of a general loop form having an opening, the transverse apertures formed in the body adjacent to the opening therein, the shoulder extending from the inner side of the body, the studs extending from the inner side of the body on opposite sides of the

shoulder, and adapted to take through the transverse apertures of the other section and be rivetted, and the extended portion *c* having a groove *f*, of semi-circular form in cross section in its inner side, and the seat *g* at the inner end of said groove, of the hook having its shank journalled in the bearing formed by the grooves *f*, of the extended portion *c*, and reduced to form the shoulder *h* and the head *i*, substantially as specified.

No. 45,385. Brick. (Brique.)

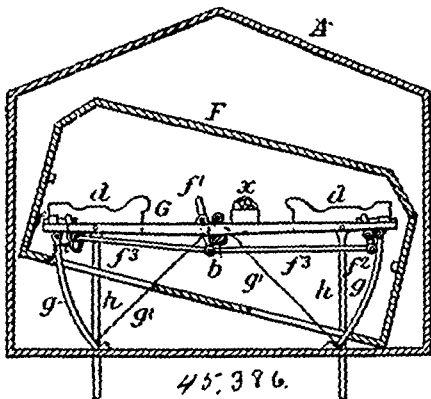


45,385

John Mohlberg, of New York, New York State, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. A hollow brick, having a transverse partition, provided with depressions on its upper and lower edges, the openings on opposite sides of said partition being enlarged toward the top and bottom of the brick, said brick being provided on a vertical face with a recess adapted to register with the partition depressions of adjacent bricks above and below. 2nd. A hollow brick having a transverse partition provided with depressions on its upper and lower edges, the openings on opposite sides of said partition being enlarged toward the top and bottom of the brick, said brick being provided on two vertical faces with recesses adapted to register with the partition depressions on adjacent bricks above and below. 3rd. A hollow corner brick for interior work, having a transverse partition provided with depressions on its upper and lower edges, the openings on opposite sides of said partition being enlarged toward the top and bottom of the brick, said brick being provided at one end and along one half of one side, with recesses adapted to register with the partition depressions of adjoining bricks above and below, substantially as set forth.

No. 45,386. Illusion Apparatus. (Appareil illusoire.)



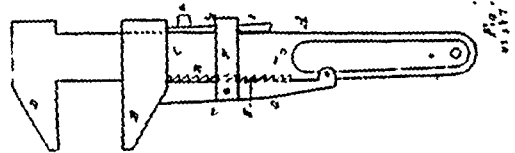
45,386

Amariah Lake, Pleasantville, New Jersey, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. An illusion apparatus, in which a teeter-board is combined with an enclosing box or casing mounted so as to be free to vibrate in respect to said teeter-board, substantially as specified. 2nd. An illusion apparatus, in which a teeter-board mounted so as to be free to vibrate on a suitable axis, is combined with an enclosing box or casing also mounted so as to be free to vibrate in respect to the teeter-board, substantially as specified. 3rd. An illusion apparatus in which are combined an outer enclosure, a teeter-board and a box or casing enclosing said teeter-board and mounted within said outer enclosure so as to be free to vibrate in respect to the teeter-board, substantially as specified. 4th. The combination, in an illusion apparatus, of a teeter-board, a box or casing enclosing said teeter-board, and mounted so as to be free to vibrate in respect thereto, and means for locking the teeter-board to said enclosing box or casing, substantially as specified. 5th. The combination, in an illusion apparatus, of a teeter-board, a box or casing enclosing

the same and mounted so as to be free to vibrate in respect to said teeter-board, and means for locking said teeter-board in position so as to prevent it from vibrating with the enclosing box or casing, substantially as specified. 6th. The combination, in an illusion apparatus, of a teeter-board, a box or casing enclosing the same and mounted so as to be free to vibrate in respect to said teeter-board, and means for locking the teeter-board in position to prevent it from vibrating with the enclosing box or casing, said locking device being movable into and out of locking position, substantially as specified. 7th. The combination, in an illusion apparatus, of an outer enclosing structure, a teeter-board, a box or casing enclosing said teeter-board, and mounted within said outer enclosure so as to be free to vibrate therein and in respect to the teeter-board, doorways in said box or casing and in the outer enclosure, and means for bridging the space between said outer enclosure and the contained box or casing, substantially as specified.

No. 45,387. Wrench. (Clé à écrou.)

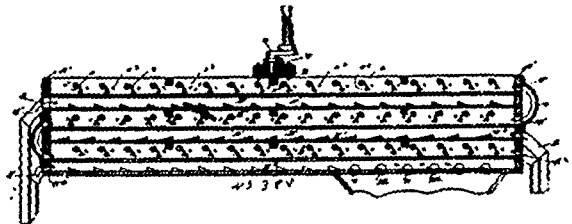


The Paris Tool Manufacturing Company, assignees of William Houghton, all of Paris, Ontario, Canada, 20th February, 1894; 6 years.

Claim.—1st. In a wrench, the stem having a number of ratchet-teeth cut on its inner face and a number of corresponding ratchet-teeth, cut in the frame of the back jaw, the frame having a tail-piece terminating in two lugs straddling the stem, and a wedged-shaped lock-key placed under the clip of the back-jaw and the rear of the back-jaw itself, the key having an interior spring, all constructed substantially as specified. 2nd. In a wrench, the stem *A*, having ratchet-teeth *B*, a sliding back-jaw *E*, and tail-piece *G*, with corresponding ratchet-teeth *H*, cut thereon, to mesh into the teeth *B*, of the stem, and lugs *a, n*, straddling the stem, and the lock key *I*, having a spring *c*, to lock the jaws in any desired position, substantially as specified. 3rd. In a wrench, the ratchet-teeth *f*, cut in the back-jaw frame, and the corresponding ratchet-teeth *g*, cut in the stem *A*, and the lock key *I*, with spring to hold the jaws at any desired distance apart, substantially as specified.

No. 45,388. Separating Machine.

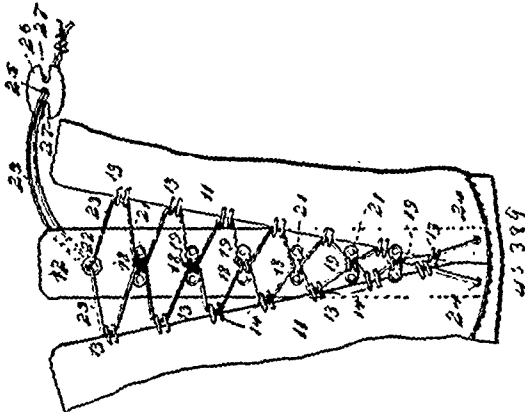
(Machine à séparer.)



Noah W. Holt, Manchester, Michigan, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. In an apparatus adapted to compel comminuted material located thereon, to move from one point to another, the combination of a movable surface, upon which such material is placed with reversible semi-rotative baffle strips, whereby the direction of the travel of the material can be reversed at will, substantially as described. 2nd. In an apparatus adapted to compel powdered material located thereon to move from one point to another, the combination of a movable surface, upon which such material is placed, said surface having located therein slit-like openings, rotative like slats located in said openings and turning upon central axes in such a manner that the edges thereof may be brought above the level of the surfaces in which they are located, and also adapted to alternately partly open and close said openings in the movable surface and permit the passage through said openings of the material on said surfaces, substantially as described and for the purpose set forth. 3rd. In a separating machine, in combination with a bolting surface thereon, pivoted slats located transversely to the line of travel of the material thereon, and wider than the perpendicular distance between their axes and the plane of the bolting surface, and adapted to resist the flow of material in one direction, and to raise at their lower edges and permit its travel in the other direction, substantially as described. 4th. In a separating machine, in combination with a bolting surface thereon, pivoted slats located transversely to the line of travel of the material thereon, and wider than the perpendicular distance between their axes and the plane of the bolting surface, and adapted to resist the flow of material in one direction, and to raise at their lower edges and permit its travel in the other direction, and means limiting the swing of the slats, substantially as described.

No. 45,389. Shoe Fastener. (Attache de soulier.)

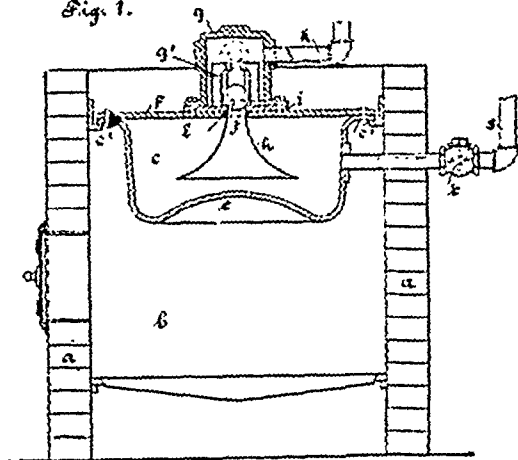


Henry Vachon, Golden, British Columbia, Canada, 20th February, 1894; 6 years.

Claim.—1st. A lace fastening for flies, comprising a series of hooks secured to opposite members of the fly, a tongue arranged to overlap the meeting edges of the fly, a row of eyes secured to the back of the tongue, an eyelet in the upper portion of the tongue, and a lacing extending through the lower portion of the fly and through the hooks, eyes and eyelet, substantially as described. 2nd. A fastening for lace shoe, comprising a plurality of hooks arranged on opposite sides of the shoe fly, a tongue to cover the fly, a row of eyes on the tongue, an eyelet in the upper portion of the tongue, a lacing threaded through the hooks, eyes and eyelets, and a fastening button mounted on the free ends of the lacing and provided with edge slots to engage the strands of the lacing, substantially as described. 3rd. A lace fastening comprising the hooks along the edges of the fly, a tongue separate at its edges from the edges of the fly and provided on its under side with a central longitudinal series of parallel transverse hooks, each hook comprising oppositely facing parallel members and the lacing rove back and forth through the fly and tongue hooks, substantially as set forth. 4th. A lace fastening, comprising the fly having hooks along the edges of the fly, and each formed of a single piece of wire, a spring tongue for each hook, the bases of the tongues being secured to the fly by the ends of the wires forming the hooks, the tongues having a central longitudinal series of transverse hooks on its under side, and the lacing rove back and forth through the fly and tongue hooks, substantially as set forth.

No. 45,390. Heater. (Calorifere.)

Fig. 1.



45390.

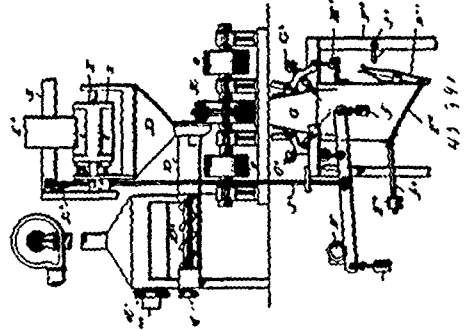
Frederick K. Caswell, Hartford, Connecticut, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. In combination, in a hot water heater, a boiler, an outlet communicating with a riser, a valve arranged in the outlet and normally closed against the return flow of water from the riser into the boiler, a circulator extending from the valve chamber to within the boiler, a return pipe connecting with the boiler, and the pipes and coils of the circulation, all substantially as described. 2nd. In a hot water heater, in combination with a boiler, the outlet communicating with a riser, a valve located in the outlet and normally closed against the return flow of water from the riser into the boiler and the funnel-shaped circulator extending from the outlet within the vessel with its smaller end adjacent to the outlet, all substan-

tially as described. 3rd. In a hot water heater, a valve automatically controlling the return flow of heated water into the boiler from the riser, and a funnel-shaped circulator having the flaring mouth arranged within and near the bottom of the boiler, all substantially as described.

No. 45,391. Fodder Machine.

(Machine à préparer le fourrage.)



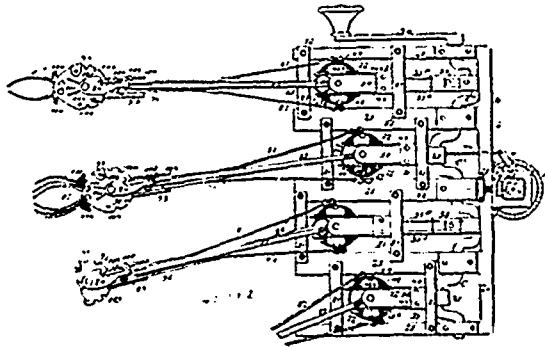
Albert F. Davis, Rutland, Vermont, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. In a fodder-preparing apparatus, the combination of a disintegrating device, a grain-supplying mechanism and a grinder, substantially as specified. 2nd. In a fodder-preparing apparatus, the combination of a disintegrating mechanism, grain-feeding devices, a grinder and a weighing receptacle, substantially as specified. 3rd. In a fodder-preparing apparatus, the combination of disintegrating mechanism, grain-supplying devices, a grinder, a weighing receptacle and operative connections whereby the same are rendered automatic in their action, substantially as specified. 4th. In a fodder-preparing apparatus, the combination of a disintegrating mechanism, grain-feeding devices and a suspended weighing receptacle operatively connected for automatic action, as set forth. 5th. In a fodder-preparing apparatus, the combination of grain-supplying devices, a suspended weight receptacle and an interposed chute with valves, all connected for joint automatic action, as set forth. 6th. The combination, with a disintegrating mechanism, of a grain-supplying device, a suspended weight box or receptacle and an interposed conveyor, grinding device and chute with hinged valve, substantially as specified. 7th. The combination, with a disintegrating mechanism, of a grain-supplying device, a suspended weight box or receptacle and an interposed conveyor, a grinding device, and chute with hinged valve and operative connections between the same for rendering them automatic in their action, substantially as specified. 8th. The combination with the grain-supplying drum, of a hopper beneath the same, disintegrating mechanism, a grinding mill and a conveyor for conveying the disintegrated material to be mixed with the grain before entering the mill, substantially as specified. 9th. The combination with the grain measuring device of a hopper beneath the same, a mill beneath the hopper, a chute beneath the mill, a suspended receptacle below the chute, and operative connection between the support of the receptacle and the measuring device, substantially as specified. 10th. The combination with the table, the rollers with teeth or hooks, the feed rollers and the cutter, of a hood over the same, and a fan operatively connected with said hood, substantially as specified. 11th. The combination with the counterbalance lever and the receptacle supported therefrom, of the measuring drum, its actuating devices and an interposed rod having limited loose connection with the counterbalance lever, substantially as specified. 12th. The combination with the counterbalance lever, and the receptacle supported therefrom, of the measuring drum, its actuating devices, an interposed rod having limited loose connection with the counterbalance lever, and a shifting weight adapted to travel upon said lever, substantially as specified. 13th. The combination with the counterbalance lever and the receptacle supported therefrom, of the chute above the receptacle, pivoted valves for said chute and valve-operating devices normally supported upon said receptacle, substantially as specified. 14th. The combination with the counterbalance lever, and the receptacle supported therefrom, of the chute above the receptacle, pivoted valves for said chute, counterbalance levers for said valves and valve-operating devices co-operating with said levers and normally supported by the receptacle, substantially as specified. 15th. The combination with the counterbalance lever, and the receptacle supported therefrom, of the hinged bottom to said receptacle, the pivoted latch for holding said bottom in its closed position, and the pivoted pawl arranged in the path of said latch, as set forth. 16th. The combination with the counterbalance lever, and the receptacle supported therefrom, and having brackets on its sides, of the chute, its hinged valves and weighted levers the pivoted latches co-operating with said levers, and the weights connected with the latches and normally supported by the brackets on the receptacle, as set forth. 17th. The combination with the counterbalance lever, and the receptacle, of the chute, its hinged valves and weighted levers, the pivoted latches co-operat-

ing with said levers and the rods carrying weights and having limited loose pivotal engagement with the latches, substantially as specified. 18th. The combination with the chute, and its pivoted valve with weighted levers having pins, of the pivoted latches having notches or projections to engage said pin, and the rods carrying weights and having a limited loose connection with the latches, substantially as specified. 19th. The combination with the chute and its pivoted valve with weighted levers having pins, of the pivoted latches having notches or projections to engage said pin, said pin and the rods carrying weights and having limited loose connection with the latches and a suspended receptacle having brackets to normally support said weights, substantially as specified. 20th. The combination, with the counterbalance lever and a receptacle supported thereon, of a measuring drum mounted for rotation and a rod connected with the lever and with a pivoted arm, a pawl mounted for engagement with said arm and intermediate pivotal connections between said pawl and drum, substantially as specified. 21st. The combination, with a counterbalance lever and a receptacle supported thereon, of a measuring drum having radial compartments and mounted for rotation, a rod connected with the lever and a pivoted arm, a pawl mounted for engagement with said arm and intermediate pivotal connections between said pawl and drum, substantially as specified. 22nd. The combination, with the measuring drum, mounted for rotation and provided with a ratchet and laterally-projecting pin, of a pawl mounted for engagement with said ratchet, an independent pawl for engagement with said pin, a movable receptacle, a rod mounted for actuation by the movement of the receptacle and intermediate operative connections whereby the movement of said rod actuates the pawls, substantially as specified. 23rd. The combination, with the measuring drum, having radial compartments and mounted for rotation and provided with a ratchet and pins at one end, of independent pawls for engaging said pins and ratchet, a pivoted lever connected with said pawl, a pawl pendant from one end of said lever and a rod actuated by the movement of the receptacle and connected with a pivoted arm mounted for engagement with the pendent pawl, substantially as specified. 24th. The combination, with the measuring drum, having ratchet and pins, of the counterbalance lever, the receptacle supported therefrom, the rod connected with said lever the pivoted arm to which the other end of said rod is attached, the lever pivoted above the measuring drum, the pawl pendent from the end thereof in the path of the pivoted arm, the independent pawls for engagement with said ratchet and pins, and the arm pendent from the other end of the lever and connected with and adapted to operate said pawls, substantially as specified.

No. 45,392. Cow Milking Machine.

(Appareil pour traire les vaches.)



William Burdine Bland, Maquon, Illinois, U.S.A., 20th February, 1894; 6 years.

Claim.—1st. In a cow milking machine, a series of fingers arranged in sets, a bed, a carriage having adjustable movement upon the bed, a driving connection with the carriage and the fingers, a drive shaft carried by the bed and connected with the driving mechanism of the carriage, and a harness connected with the bed and adapted to support the bed adjacent to the udder of a cow, as and for the purpose set forth. 2nd. A cow milking machine, the same consisting of fingers arranged in sets and having timed movement with reference with one another, a bed, a carriage having adjustable connection upon the bed, a driving mechanism carried by the bed and connected with the carriage, and a mechanism connecting the driving mechanism of the carriage with that of the fingers, as and for the purpose set forth. 3rd. In a milking machine, the combination with a bed, a carriage having adjustable movement upon the bed, arms projected from the carriage, and milking fingers carried by the arms, of a driving shaft located upon the bed, a driving shaft located in the carriage, an adjustable connection between the driving shaft of the bed and the driving shaft of the carriage, an actuating mechanism connecting the driving shaft of the carriage with the fingers, and a shifting lever having shifting connection with the carriage, the bed and the fingers, substantially as and for the purpose set forth. 4th. In a milking machine, the combina-

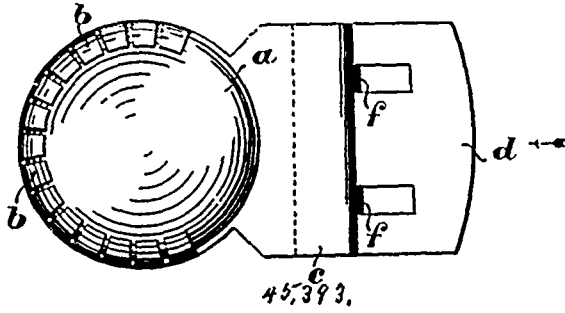
tion with a bed, a carriage having adjustable locking connection with the bed, a crank shaft carried by the bed, a driven shaft located within the carriage, and an adjustable pitman connection between the carriage shaft and the bed shaft, of a series of milking fingers arranged in sets, each set having timed movement, a series of connected cams, an adjustable connection between the cams and the sets of fingers, a driving mechanism connecting the carriage shaft with the cams, and a shifting lever having shifting connection with the fingers, the carriage and the bed, substantially as and for the purpose specified. 5th. In a milking machine, the combination with a milking apparatus, of a harness adapted to be adjusted upon an animal, a sleeve connection with the milking apparatus, a screw adjustably located within the sleeve and connected with the harness, a nut located upon the screw, having ratchet teeth formed upon one of its faces, a dog carried by the sleeve and engaging with the rack surface of the nut, and a connection between the dog and the driving mechanism of the machine, whereby the milking device will be elevated during the operation of the machine, as and for the purpose set forth. 6th. In a cow milking machine, the combination, with a bed, a harness, an adjustable connection between the harness and the bed, a drive shaft carried by the bed, and a pitman connected with the drive shaft, of carriages having sliding movement upon the bed, a pivot block located in the carriage and an adjustable block located beneath the pivot block and an adjustable screw shaft likewise carried by the adjusting and pivot blocks, slide-ways connected with the adjusting blocks receiving the pitman, a shifting lever, pawls normally engaging with the adjusting blocks and pitman and a connection between the pawls and the shifting lever, as and for the purpose specified. 7th. In a cow milking machine, the combination, with the bed, a harness, an adjustable connection between the harness and the bed, a crank shaft carried by the bed, pitmen connected with the cranks of the shaft and carriage having sliding movement upon the bed, of lock levers carried by the carriages and locking normally with the bed, a driven shaft, pivots and adjusting blocks journaling the shafts, adjusting shafts likewise carried by the pivot and adjusting blocks, pawls normally held in locking engagement with the pitman and the adjusting blocks, shifting levers connected one with each carriage, a connection between the shifting levers, the pawls and the levers locking with the bed, milking fingers connected with each carriage, and a driving mechanism connecting the milking fingers of each carriage with the driven shaft of the carriage, as and for the purpose specified. 8th. In a cow milking machine, the combination, with a bed, a harness, an adjustable connection between the bed and the harness, and a carriage having sliding movement upon the bed, of a frame constructed of a series of pivoted sections connected with the carriage, a second frame adjustably connected with the frame of sections, milking fingers located in the latter frame, a drive shaft carried by the bed, a driven shaft located in the carriage, and a connection between the driven and drive shafts, an adjustable connection between the driven shaft and the fingers, and a shifting lever having connection with the fingers and likewise with the locking mechanism of the carriage, and a locking mechanism connecting the driving shaft with the carriage, whereby through the manipulation of the shifting shaft all parts of the machine may be adjusted simultaneously or consecutively, as and for the purpose set forth. 9th. In a cow milking machine, the combination, with a bed, a harness, adjustable pads located upon the harness and an adjustable connection between the harness and the bed, the connection between the harness and the bed comprising a series of adjustable parts, an elevating mechanism forming a portion of the connecting medium between the frame and the harness, a drive shaft carried by the bed, a dog engaging with the said elevating mechanism and driven from the drive shaft, a carriage having sliding movement upon the bed, a driven shaft supported by the carriage, a pivot and an adjusting block journaling the driven shaft, a pitman connection between the drive shaft and the adjusting block of the driven shaft, and adjusting shaft carried by the adjusting block, and a locking lever located upon the carriage and engaging with the bed, of a pawl carried by the adjusting block locking said block to the pitman, a shifting lever connected with the carriage, a connection between the shifting lever, the lock lever of the carriage and the pawl of the adjusting block, cam-controlled milking fingers having timed movement, located in advance of the carriage and having pivotal connection therewith, a driving connection between the fingers and the driven shaft of the carriage, and an adjustable connection between the shifting shaft, the finger driving mechanism and the supports for the fingers, as and for the purpose specified.

No. 45,393. Detonator Holder. (Porte-détonateur.)

John G. Dixon, Birkly, York, England, 21st February, 1894; 6 years.

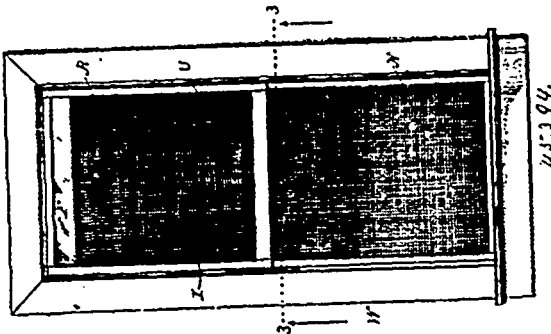
Claim.—1st. An improved form of detonator holder or clip for use with fog signalling apparatus on railways in which the clip consists of an upper and lower level the upper and lower levels being connected by the bent portion approximately at an angle of 45° to both, substantially as described and illustrated in the drawing annexed. 2nd. In detonator holders or clips employed in fog signalling apparatus on railways, arranged that while the detonator held by the upper level piece is in position on the rail the jaws, forceps or other equivalent are below rail level and out of point of contact with passing wheels, substantially as described. 3rd. In detonator clips

or holders employed in fog signalling apparatus on railways, the pieces *ff* preventing the angular portion of one clip from being



forced into the corresponding angular portion of the clip next below it. 4th. An improved form of detonator holder or clip for use in fog signalling apparatus on railways, substantially as described and illustrated in the drawing annexed.

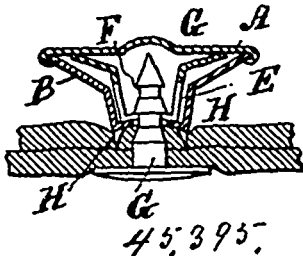
No. 45,394. Fly Screen. (*Chassis pour moustiquaires.*)



John West, Barnard, Missouri, U.S.A., 21st February, 1894; 6 years.

Claim.—A fly screen for window and similar openings, comprising a main frame *F*, corresponding in shape and size with and fitting snugly in the casement of the window, a cross-bar *C*, connecting and secured to the sides of said frame at or near their centres, and adapted to terminate at its outer edge contiguous to the inner surface of the sash-frame, a netting *A* secured to the outer edge of the main frame and covering the portion thereof above the said cross-bar, the main netting *N*, covering the entire frame and secured to the front edge thereof, an outlet *O*, being provided between the upper edge of said main netting and the top bar of the frame, an upwardly and inwardly inclined *U*-shaped frame *U*, having its sides secured to the facing surfaces of the sides of the main frame, its cross-bar arranged in contact with the cross-bar *C*, and its side arms terminating close to the plane of the main netting, and a screen secured to said *U*-shaped frame, in juxtaposition at its lower edge to the netting *A*, and terminating in a broken or ragged edge contiguous to the main netting whereby flies and other insects may travel upwardly upon the main netting, but are prevented from travelling in the opposite direction by the inclined rough edge of the screen *I*, all constructed and arranged as and for the purpose specified.

No. 45,395. Button. (*Bouton.*)

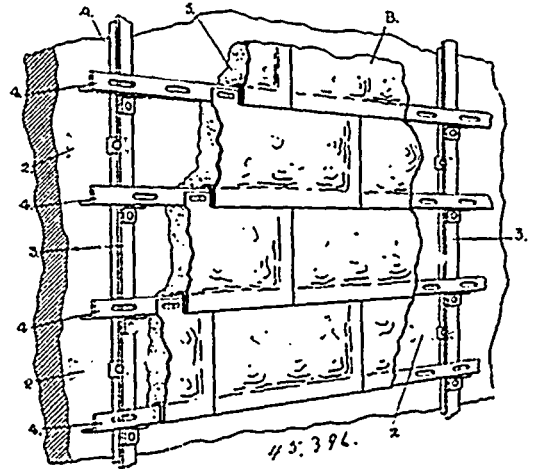


Joseph F. Platt, Waterbury, Connecticut, U.S.A., 21st February, 1894; 6 years.

Claim. 1st. In detachable or bachelor buttons, the combination of a face or cap-plate, the back or socket plate secured thereto and depending therefrom, the shell within the socket-plate, whose entire bottom is concaved or struck up and transversely slotted, having kerfs or slots extending from the lower edge to or nearly to the upper edge thereof, and having a central circular opening therein,

and a shank having head or heads adapted to engage the shell, in the manner described. 2nd. In a detachable or bachelor button, the combination of a face or cap-plate, the back or socket plate secured thereto and depending therefrom, and carrying points upon its lower edge which are adapted to enter into and engage the cloth, the shell within the socket-plate, whose entire bottom is concaved or struck, and transversely slotted, and has kerfs or slots extending from the lower edge to or nearly to the upper edge thereof, and a central circular opening therein, and the shank, having head or heads adapted to engage the shell, in the manner described. 3rd. In a detachable or bachelor button, the combination of a face or cap-plate, the back or socket-plate secured thereto and depending therefrom and carrying points upon its lower edge, which are adapted to enter into and engage the cloth, the shell within the socket plate, whose entire bottom is concaved or struck up and transversely slotted, and has kerfs or slots extending from the lower edge to or nearly to the upper edge thereof, and a central circular opening therein, an eyelet, adapted to be inserted and secured within the bottom of the depending cup of the socket-plate, said eyelet carrying points which enter the cloth and distribute the strain and hold the button firmly in place, and the shank having head or heads adapted to engage the shell, in the manner described.

No. 45,396. Sheet Metal Covered Wall.
(*Boisage en feuille métallique.*)

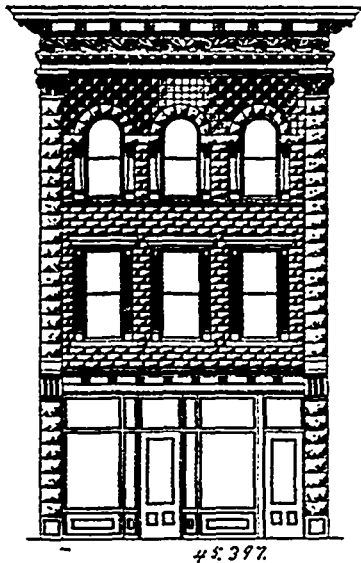


Philippe A. Deslauriers and Clarence D. Pruden, both of St. Paul, Minnesota, U.S.A., 21st February, 1894; 6 years.

Claim.—1st. A rectangular sheet metal wall section, having a right-angled notch in one of the lower corners, the edges of the notch being parallel with the edges of the section, the portion of the section above the notch being formed with a double fold near the edge to receive the edge of the adjacent section, the inner bend of the fold being approximately in line with the vertical edge of the notch, the fold serving as a water conduit. 2nd. In a sectional sheet metal wall covering, the combination of rectangular sections connected together by vertical and horizontal joints, consisting each of a double fold on one section securing the edge of the adjacent section, and a water conduit underneath the vertical joint entering the outer fold of the horizontal joint, substantially as described. 3rd. In a sectional sheet metal wall covering, the vertical and horizontal joints connecting the sections, each consisting of a double fold on one section engaged by the edge of the adjacent section, the inner bend of the vertical fold with the outturned edge of the section forming a water conduit entering the outer bend of the horizontal fold in the adjacent section, substantially as described. 4th. The combination with the wall, of the anchors secured thereto, the series of angle bars connected to said anchors and the sheet metal sections connected to said bars, substantially as described. 5th. The combination with the wall, of the anchors secured therein the series of vertical angle-bars secured to the said anchors, the series of horizontal angle-bars secured to said vertical angle-bars, and provided with longitudinal slots in their vertical webs, and the sheet metal sections, provided with lips hooked into said slots, substantially as described. 6th. The combination with the wall, of the horizontal bars supported upon the face thereof, and provided with openings therethrough, and the sheet metal sections provided with lips hooked into said openings, substantially as described. 7th. The combination with the wall, of the series of angle-bars supported thereon, having openings through their vertical webs, the sheet metal sections having lips engaging said openings, and interlocking devices upon the edges of adjacent sheets, substantially as described. 8th. The combination with the wall, of a series of angle-bars secured upon its face, and the sheet metal sections severally secured to said angle-bars, and interlocking with each other, substantially as described. 9th. The combination

with the wall, of the frame secured upon the face thereof, and the sheet metal sections severally secured to said frame and interlocking with each other, substantially as described. 10th. The method of constructing a building with a sheet metal front, consisting of first placing the front supporting frame in position, then building the wall behind and securing the frame anchors in said wall, and at the same time building up the front by securing the sections to said frame. 11th. The method of constructing a building with a sheet metal front, consisting of first placing the front supporting frame in position, then building the wall behind and securing the frame anchors in said wall, and at the same time building up the front by securing the sections to the said frame, and filling the space between with suitable material.

No. 45,397. Sheet Metal Covered Wall.
(Boisage en feuille métallique.)



Philippe A. Deslauriers, and Clarence D. Pruden, both of St. Paul, Minnesota, U.S.A., 21st February, 1894; 6 years.

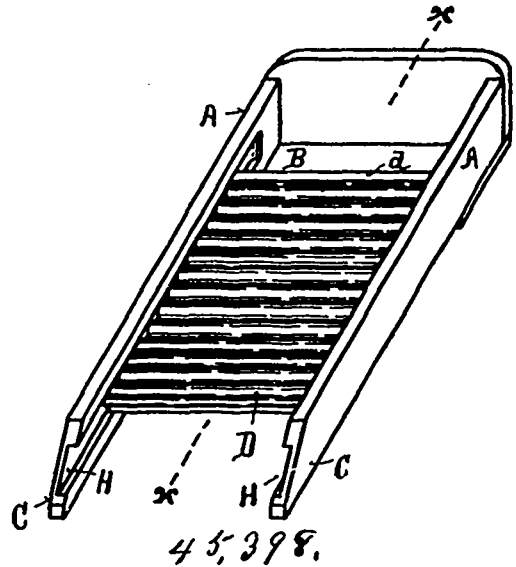
Claim.—1st. In a building wall, the combination of the studs, the lath or perforated sheathing upon the outside of said studs, siding plates secured outside said sheathing and a non-combustible filling between said sheathing and siding plates, substantially as described. 2nd. The combination of the frame, the corrugated sheet metal sheathing secured thereon, the projections upon said sheathing, and the siding plates secured to said projections, substantially as described. 3rd. The combination with the frame, of the perforated sections of corrugated sheet metal sheathing secured thereon with their upper edges overlapping the sections above, and the sheet metal siding plates interlocked with said edges, substantially as described. 4th. The combination with the frame, of the perforated sections of corrugated sheet metal secured to the face thereof with their upper edges overlapping the sections above, the interlocking siding plates engaging and supported by said edges, and the filling between said siding plates and sections of corrugated sheet metal, substantially as described. 5th. The combination of the studs, the perforated metallic sheathing or lath, the siding plates secured outside thereof, the non-combustible filling between, and the sheet metal lathing on the inner faces of said studs, substantially as described. 6th. The combination of the sheet metal studs, having ribs at right angles with each other, the corrugated sheet metal sheathing having grooves transversely of, and cutting the corrugations, adapted to fit over a rib on said stud, and means for securing the sheathing thereon, substantially as described. 7th. The combination of the sheet metal stud having radiating ribs, formed by folding the metal upon itself, the corrugated sheet metal sheathing having its corrugations notched to fit upon one of said ribs, and lips cut-turned from said rib engaging and securing said sheathing, substantially as described.

No. 45,398. Wash Board. (Planche à savonner.)

George W. Mickle, Cincinnati, Ohio, U.S.A., 21st February, 1894; 6 years.

Claim.—1st. A wash-board the stiles of which are provided with grooves H, with a detachable zinc B, provided with the hook b, flange c, secured to the brace, and means for clamping the flange c and brace E, substantially as specified. 2nd. In a wash-board provided with the groove H, interchangeable zinc D, provided with the flange c, and the clamp d, for securing the zinc firmly to the brace

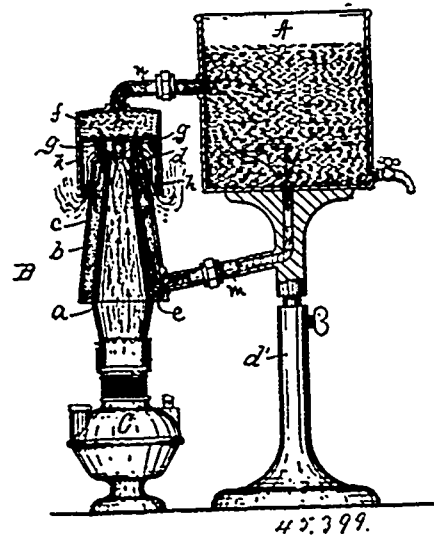
E, substantially as described. 3rd. In a wash-board provided with the groove H, interchangeable zinc D, provided with flange c, and



the clamp d, having one of its limbs prolonged, substantially as specified.

No. 45,399. Heater for Water.

(Appareil de chauffage pour l'eau.)



Job Thorp. Westerly, Rhode Island, U.S.A., 21st February, 1894; 6 years.

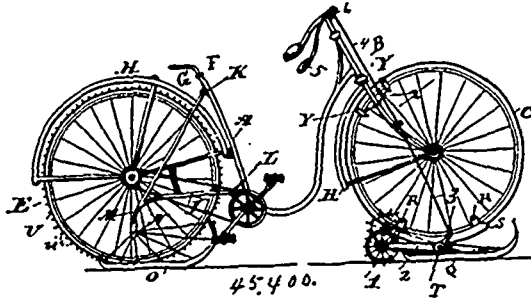
Claim.—In combination, a water tank, an annular water jacket, the inner wall of which is extended below the bottom of the jacket and forms a support and a chimney, a vessel above, and of a larger diameter than the jacket, the bottom of which vessel is provided with a depending cylindrical shell which is of the same diameter throughout its length as the vessel, and extends below the top of the jacket, a series of water legs connecting the top of the jacket with the bottom of the vessel, and two pipes for connecting the vessel and the jacket with the top and bottom respectively, of the tank, substantially as set forth.

No. 45,400. Ice Velocipede. (Vélocipède pour la glace.)

William G. Bouse, Loraine, Ohio, U.S.A., 21st February, 1894; 6 years.

Claim.—1st. In a bicycle, a detachable hind wheel and supporting frame therefor, in combination with a main frame provided with two points of attachment for the wheel supporting frame for general use, and a third point of attachment between the other points for special use, as and for the purpose specified. 2nd. In a bicycle, a

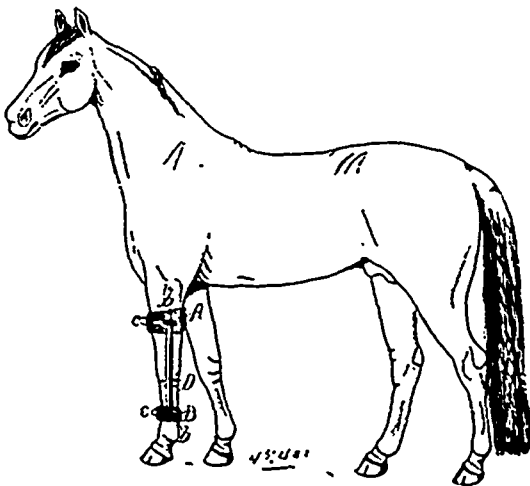
detachable hind wheel provided with a supporting frame, in combination with a main frame provided with a vertically arranged rear portion, and three points of attachment thereon for the hind



wheel support, adapted for use as described and substantially as set forth. 3rd. In a bicycle, the combination of a main frame, a hind wheel provided with a supporting frame, a forked runner frame adapted to stride over the hind wheel and its supporting frame, and provided with forked bearings for said runners, with three points of attachment upon the main frame, for said wheel and runner supports, whereby the wheel support can be secured thereto singly or both parts aforesaid attached at once, substantially as described. 4th. In a bicycle, the combination of a main frame provided with three points of attachment on its rear extension, a hind wheel and support therefore, provided with two points of attachment registering with two points of attachment on the frame, a connecting link between two points of attachment on the wheel support and frame, substantially as described. 5th. In a bicycle, the combination of a main frame, provided with an upwardly extending rear extension, a hind wheel and support therefor pivotally secured to said rear extension, and a double forked runner frame secured to the main frame at points above and below the said pivotal point, provided with forked bearings for pivoted runners, substantially as described. 6th. In a bicycle, the combination of a main frame, provided with two points of connection with a forked runner frame, a hind wheel support pivotally secured to the main frame between said points of attachment, detachable spur tire upon the hind wheel and pivoted runners upon the front wheel and rear runner fork, substantially as described. 7th. In combination with the front axle of a bicycle a forked lever pivoted thereon, provided with downwardly extending arms, spur wheels pivoted thereon, an upwardly extending arm, and operating rod and lever secured to the front fork of the bicycle the said rod being pivoted to the upward arm of the spur fork, substantially as described.

No. 45,401. Breaching Boot.

(Botte pour empêcher les chevaux de sauter.)

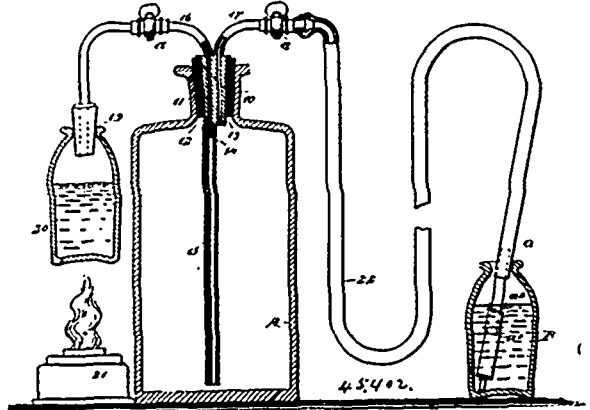


Henry McGuire and Gustavus Barton, both of Memphis, Michigan, U.S.A., 21st February, 1894; 6 years.

Claim.—1st. A device for the purpose set forth, consisting of the bands adapted to embrace the leg of the animal above and below the knee, the two oppositely disposed bars connecting said bands and adapted to extend vertically on each side of the leg. 2nd. A device for the purpose set forth, consisting of the bands adapted to embrace the leg of the animal above and below the knee and having straps and buckles to secure them in place, the bars adjustably secured at their ends to said bands and adapted to extend vertically on each side of the leg. 3rd. A device for the purpose set forth,

consisting of the bands adapted to embrace the leg of the animal and having means for securing them to said leg, the bars extending between said bands, the clips attached to said bands and adapted to receive the ends of said bars so as to permit of their adjustment therein.

No. 45,402. Vacuum Pump. (Pompe à vide.)

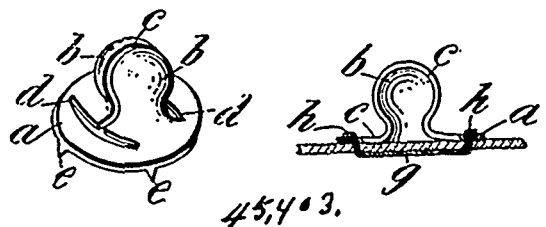


Lyman A. Cheney, assignee of William S. Moore, both of New York, State of New York, U.S.A., 21st of February, 1894; 6 years.

Claim.—1st. As an improved article of manufacture, a vacuum pump, the same consisting of a sealed vessel, a gas generating apparatus having a valved connection with the vessel, and a valved pipe adapted to establish communication between the interior of the vessel and the material to be drawn into the said vessel, substantially as shown and described. 2nd. As an improved article of manufacture, a vacuum pump, the same consisting of a vessel provided with a channeled stopper, a valved gas induction tube connected with one channel of the stopper, a gas-generating apparatus connected with the opposite end of the said gas-induction tube, and a valved tube having connection with a second channel in the stopper, the latter tube being adapted to communicate with the material to be drawn into the vessel, as and for the purpose set forth. 3rd. In a vacuum pump, a vessel, a stopper adapted to close the same, provided with two channels one of which has a tube attached at its lower end, extending to a point near the bottom of the vessel, a gas-supply pipe connected with one of the channels in the stopper and likewise connected with a gas-generating apparatus, a valved tube connected with the other channel in the stopper, and a flexible tube connected with the valved tube, the flexible tube being adapted to connect with the material to be drawn into the vessel, as and for the purpose specified. 4th. A vacuum pump, the same consisting of a vessel, a stopper closing the same, provided with two channels extending through from end to end, one of them being fitted to connect with a tube inside of the vessel, a gas-supply and air-discharge tube, fixedly connected with the channels in the stopper, the tubes connecting with independent channels, said tubes being also provided with valves, a gas-generating apparatus adapted for connection with one end of the gas-supply tube, and a flexible tube adapted for connection with the air-discharge pipe, and likewise for connection with the material to be drawn into the vessel, substantially as shown and described.

No. 45,403. Button Fastener.

(Attache pour boutons.)

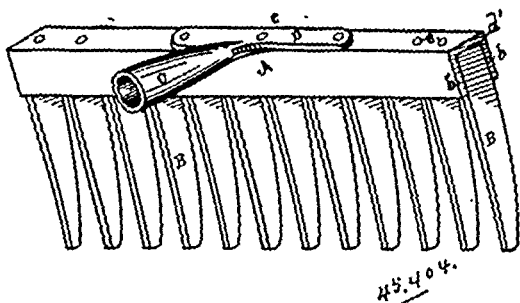


The Columbian Button and Fastener Company, New York, assignees of Frank E. Williams, of Alhambra, California, both in the U.S.A., 21st February, 1894; 6 years.

Claim.—1st. A spring-button fastener comprising a base-plate having apertures or slits therein terminating inside the perimeter thereof, and a head struck up therefrom between said apertures or slits, and of itself provided with a slit or slits extending entirely therethrough both in a vertical and a transverse direction and communicating with the said apertures or slits in the base-plate, substantially as set forth. 2nd. A spring-button fastener in one piece comprising a base-plate and spring-head, said spring-head being

divided by one or more vertical slits and the sections of said spring-head being carried on spring arms, said arms being in the same plane with the base-plate, and formed or divided therefrom by appropriate slits or cuts communicating with the slits in the head, substantially as set forth. 3rd. The combination of a spring-button fastener in one piece comprising a base plate and a spring-head, said spring-head being divided by one or more vertical slits, and the sections of said spring head being carried on spring-arms, said arms being in the same plane with the base-plate and formed or divided therefrom by appropriate slits or cuts communicating with the slits in the head, and securing plate having projections penetrating the article of apparel, and entering the slits in the base-plate, and bent over upon the rigid parts of the base-plate, substantially as set forth.

No. 45,404. Hand Rake. (Rateau)



The Cronk Hanger Company, Elmira, assignees of William Cronk, Havana, both of New York State, U.S.A., 21st February, 1894; 6 years.

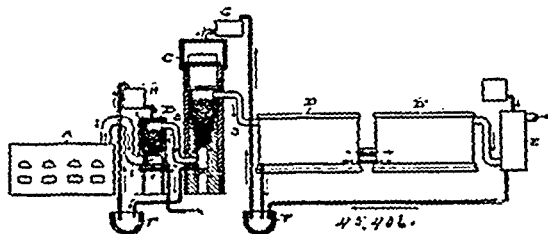
Claim.—1st. In a rake, the head constructed of a metal plate bent over to form a rectangularly hollow head, opening longitudinally from its underside and ends, transversely bent teeth inserted in said opening and secured to the bridge part, or upper wall of the head, substantially as described. 2nd. In a rake, the head constructed of a metal plate bent over to form a rectangularly hollow head, opening longitudinally from its underside and ends, the T-socket extended thereon, transversely bent teeth inserted in the opening of the head, and with the socket united to its bridge part substantially as described.

No. 45,405. Disinfectant. (Désinfectant.)

Patrick Molyneux, Bruce Road, Bow, Middlesex, England, 22nd February, 1894; 6 years.

Claim.—1st. The herein described manufacture, constituting a disinfectant either in the form of a liquid or a paste, consisting of black sea oil, creosote, caustic soda, resin and the substance commercially known as albo carbon mixed or blended in the proportions substantially as above described. 2nd. The hereinabove described manufacture, constituting a disinfectant in the form of a powder, consisting of black sea oil, creosote, caustic soda, resin and the substance commercially known as albo carbon, and fresh slacked lime, mixed or blended substantially in the proportions specified and then ground as above described.

No. 45,406. Method of and Apparatus for Concentrating Sulphuric Acid. (Méthode et appareil de concentration d'acide sulfurique.)

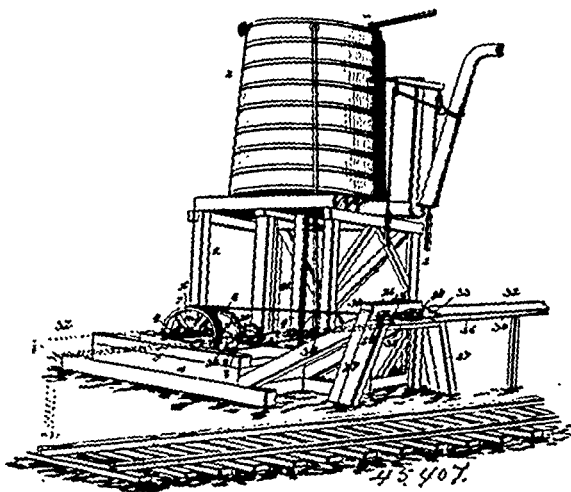


Frederic J. Falding, Cleveland, Ohio, U.S.A., 22nd February, 1894; 6 years.

Claim. 1st. The method of manufacturing sulphuric acid, which consists in conducting the gases from any number of ore burners through a denitrating apparatus and a concentrating apparatus, and thence through the lead chambers, and conducting the acid from such chambers back to the denitrating apparatus and finally thence through the concentrating apparatus, substantially as described. 2nd. The method of manufacturing sulphuric acid, which consists in conducting the hot gases from the ore burners directly into and through a concentrating apparatus and thence to the lead chambers, conveying the acid so obtained through a denitrating apparatus in the presence of gases from ore burners, and finally con-

centrating the acid in the concentrating apparatus in the presence of the hot gases from the ore burners, substantially as described. 3rd. The method of manufacturing sulphuric acid, which consists in passing gases from the ore burners through a denitrating apparatus, such as a Glover tower, and also through a concentrating apparatus and thence through lead chambers and gay lassic towers, conveying the acid through the denitrating apparatus and thence through the concentrating apparatus and exposing the acid to ore burner gases while it passes through the said denitrating and concentrating apparatus, substantially as described. 4th. The method of manufacturing sulphuric acid, which consists in conducting the hot gases from the ore burners directly into and through a concentrating apparatus, and thence through a denitrating apparatus, and finally through the lead chambers, then passing the acid from the lead chamber in reverse direction through the denitrating apparatus and concentrating apparatus under exposure to gases from the ore burners, substantially as described. 5th. An apparatus for manufacturing sulphuric acid consisting of ore burners, a concentrating apparatus and a denitrating apparatus into both which apparatuses the gases from the ore burners are supplied, lead chambers and means to convey the acid from such chambers to the denitrating apparatus and thence to the concentrating apparatus, the acid in its passage through the said apparatuses being exposed to the gases from the ore burners, substantially as described. 6th. An apparatus for manufacturing sulphuric acid, consisting of ore burners, a concentrating apparatus connected with and receiving the hot gases directly from the ore burners, a denitrating apparatus and lead chambers, the latter having an acid outlet into the denitrating apparatus, and the denitrating apparatus having an acid outlet into the concentrating apparatus, the acid passing through the said apparatuses in one direction under exposure to the ore burner gases flowing in the opposite direction, substantially as described. 7th. In an apparatus for the manufacture of sulphuric acid, a concentrating tower of substantially the construction set forth, having an external shell or jacket, and an air space between said shell or jacket and the lining, substantially as described. 8th. In an apparatus for the manufacture of sulphuric acid from sulphurous ores, a furnace or ore burner having its outer walls provided with air channels, substantially as described. 9th. In an apparatus for the manufacture of sulphuric acid from sulphurous ores, a furnace or ore burner having its outer walls provided with a number of air channels communicating with the external atmosphere, and having a suitable number of valvular or damped passages to the combustion chamber, substantially as described.

No. 45,407. Automatic Railway Pumping Mechanism. (Système de pompe automatique pour chemins de fer.)

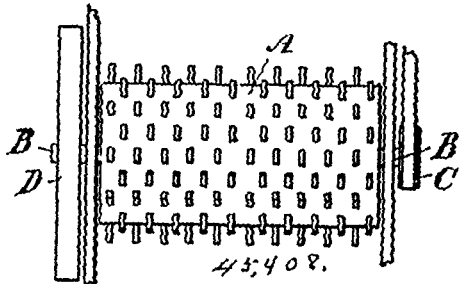


Hiram D Layman, Little Rock, Arkansas, U.S.A., 22nd February, 1894; 6 years.

Claim.—1st. In a mechanism of the class described, the combination with a water-supply, pumps leading therefrom, a shaft arranged above the pumps, a grooved pulley mounted on the shaft, a spur-gear mounted on the shaft, of opposite transverse shafts, gears located thereon engaging with and driven by the spur-gears, crank-arms at the ends of the shafts, pump-rods leading from the crank-arms to the cylinders of the pumps, a take-up pulley located below the first mentioned pulley and provided with grooves, a framework having a guide located at one side of the mechanism, and a cable passing about the two pulleys and having its two terminals extending forward from opposite sides of the upper pulley and passing through the guides, said cable being provided at its ends with engaging devices, substantially as specified. 2nd. In a mechanism of the class described, the combination with a water-supply, a pump, a cable-driven power for operating the pump, a cable connected with the

power and terminating in eyes, a guide-frame through which the terminals are passed, a trough at each side of the guide frame and provided with a slot, of a car a rock shaft journalled at each side of the car and provided with a rock-arm, a latch pivoted between its ends to the end of the rock-arm, and liberating-posts located at the ends of the guide-frame, substantially as specified. 3rd. In a mechanism of the class described, the combination with a water-supply, a pump, a cable-driven power for operating the pump, a cable connected with the power and terminating in eyes, a guide-frame through which the terminals are passed, a trough at each side of the guide-frame and provided with a slot, of a car, a rock-shaft journalled at each side of the car, rock-arms depending from the shafts, and latches pivoted between their ends to the outer ends of the rock-arms, the corresponding edges of the latches and arms being slightly recessed to engage the guide-eyes of the cable, substantially as specified. 4th. The combination with a water-supply, a cable-driven power, and a pump connected with the water-supply and operated by such power, of the guide-frame located at one side of the track and of the power, said guide-frame being provided with an opening, pulleys located in the guide-frame, a cable connected with the power and having its terminals provided with eyes and extending between the pulleys, and the trough for receiving the cables, said trough being provided with a bottom, a back wall arranged in rear of the bottom and combining therewith to form an opening, and an inclined top supported by the back wall and having its front edge projecting beyond that of the bottom, substantially as specified.

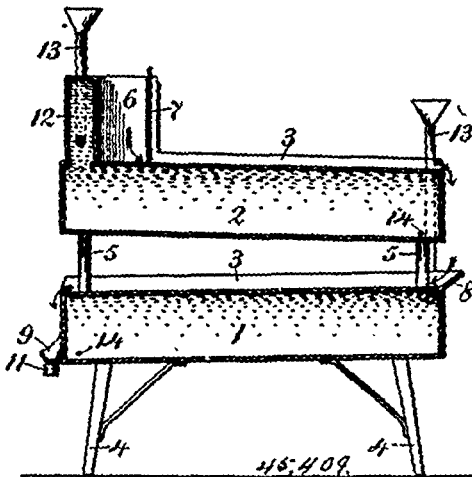
No. 45,408. Threshing Machine. (Machine à battre.)



Moïse Potvin, Angers, Quebec, Canada, 22nd February, 1894; 6 years.

Claim.—In a threshing machine the combination with the feed cylinder, of a fly-wheel having a heavy rim, the said fly-wheel being keyed upon the shaft of the said cylinder, substantially as set forth.

No. 45,409. Milk Cooler. Aérateur à lait.)

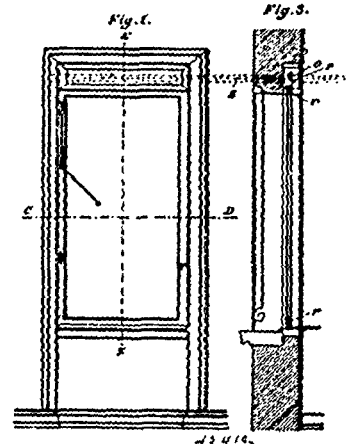


David Bell, Toronto, Ontario, Canada, 22nd February, 1894; 6 years.

Claim.—1st. In a milk-cooling device, the upper rectangular closed tank slightly inclined and having a vertical chamber on its higher end enclosing a reservoir provided at its front side by a sliding gate. 2nd. The combination of the upper closed tank having a vertical reservoir surrounded on three sides by a water chamber, a sliding gate in the front side of said reservoir, vertical margins along the upper side of said tank at its sides, supply and discharge pipes to the tank, and legs to support the tank higher at one end to incline it. 3rd. In combination, the lower tank having suitable legs to support it slightly inclined, a vertical margin along its sides, an inclined margin on the higher end, a trough having means, as specified, to attach bottles to be filled, and supply and discharge pipes to said tank. 4th. In combination, the lower tank supported

as specified, and having margins on its upper side and across the end, a trough having outlets, as specified, and supply and discharge pipes as provided, with the upper tank supported on adapted legs resting on said lower tank, a reservoir on the upper side of the upper tank, a water chamber on three sides of the reservoir, a sliding gate on the front of the reservoir, margins along the sides of the top, and supply and discharge pipes on the upper tank as on the lower one.

No. 45,410. Windows. (Fenêtre.)



Carl Summermann, Munster, Kingdom of Prussia, 23rd February, 1894; 6 years.

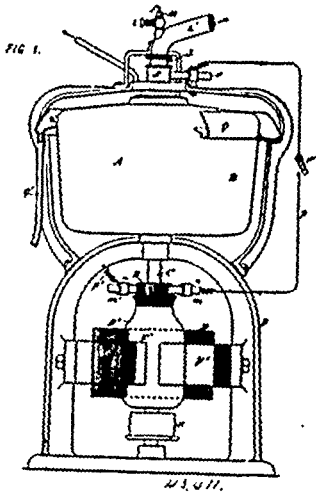
Claim.—1st. An arrangement for producing tight joints in horizontally sliding sashes, doors and the like for windows, doors and the like, consisting of means whereby the sliding sash, casement or door, when nearly in its closed position is either lifted or lowered through the difference in the level of the guide rail or rails on which the suspending rollers run, while at the same time a horizontal deviation of the rail in conjunction with inclined wedge-shaped surfaces at the top, bottom and sides of the sash, door and the like causes the sash, door or the like to be forced tightly against the frame, constructed and arranged, substantially as hereinbefore described. 2nd. In sliding sashes, doors and the like, the combination of inclines at the top, bottom and sides of the sash, door or the like, with co-acting parts of the frame and means for moving the sash door or the like in a vertical plane whereby at the moment of closing a tight joint is made, constructed and arranged substantially as hereinbefore described. 3rd. In sliding sashes, doors and the like, the combination therewith of suspension rollers and of carrying rails having a horizontal deviation for the purpose of forcing the sash, door or the like tightly against its frame, constructed and arranged substantially as hereinbefore described. 4th. In sliding sashes, doors and the like, the combination therewith of suspension rollers and of carrying rails having a vertical deviation for the purpose of forcing the sash, door or the like tightly against its frame, constructed and arranged, substantially as hereinbefore described.

No. 45,411. Electrolytic Decomposition. (Décomposition électrolytique.)

Henry Blackman, New York, State of New York, U.S.A., 23rd February, 1894; 6 years.

Claim.—1st. The improved electrolytic process, consisting in subjecting the electrolyte to centrifugal action during the electrolysis, whereby the resulting products of different specific gravities are separated. 2nd. The improved electrolytic process, consisting in subjecting a liquid simultaneously to electrolysis and centrifugal action and discharging the products thereby separated through distinct conduits. 3rd. The improved electrolytic process consisting in subjecting a liquid simultaneously to electrolysis and centrifugal action, whereby a gaseous product of the electrolysis is separated from the electrolyte, and discharging the separated gas. 4th. The improved electrolytic process, consisting in subjecting simultaneously to electrolysis and centrifugal action a liquid from which two gaseous products are liberated at the respective electrodes, and discharging said gases through distinct conduits to prevent their recombination. 5th. The improved electrolytic process consisting in subjecting a liquid simultaneously to electrolysis and centrifugal action, whereby the resulting gaseous products are directed inwardly and the resulting liquid product of greater specific gravity than the electrolyte is directed outwardly, and continuously discharging the respective products through distinct conduits. 6th. The improved process of making caustic soda and chlorine, which consists in subjecting brine to electrolysis and to centrifugal action. 7th. The improved process of making caustic

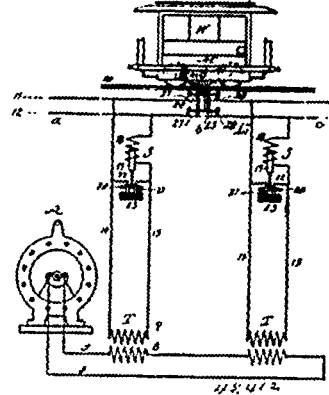
soda and chlorine, which consists in subjecting brine to electrolysis while under the influence of centrifugal action, whereby the resulting caustic soda is thrown outwardly and the chlorine gas directed



inwardly, so that both are separated from the electrolyte, and continuously conducting away the disengaged chlorine. 8th. The improved process of making caustic soda and chlorine, which consists in subjecting brine to electrolysis while under the influence of centrifugal action, whereby the resulting caustic soda is thrown outwardly and the chlorine gas directed inwardly, so that both are separated from the electrolyte, and continuously discharging the caustic soda and conducting away the chlorine. 9th. The improved process of making caustic soda and chlorine, which consists in subjecting brine to electrolysis while under the influence of centrifugal action, whereby chlorine and hydrogen are generated and thrown inwardly and caustic soda is generated and thrown outwardly, and maintaining the separation of the chlorine and hydrogen and conducting them away through distinct conduits. 10th. A centrifugal machine provided with an anode and cathode, and means for passing an electric current through them, whereby the contents of the machine may be subjected to electrolysis while whirling. 11th. A centrifugal electrolytic cell, consisting of a cylinder mounted to revolve, an anode and cathode therein arranged to be in contact with an electrolyte while revolving, and separate outlets for the liquid and gaseous products resulting from the electrolysis. 12th. A centrifugal electrolytic cell, consisting of a cylinder mounted to revolve, an anode and cathode therein arranged to be in contact with an electrolyte while revolving, and a gas-discharge conduit leading from the centre of the cylinder. 13th. A centrifugal electrolytic cell, consisting of a cylinder mounted to revolve, an anode and cathode therein arranged to be in contact with an electrolyte while revolving, and two distinct gas-discharge conduits leading from the centre of the cylinder, the one adapted to conduct away the gases liberated from the anode and the other those liberated from the cathode. 14th. A centrifugal electrolytic cell, consisting of a cylinder mounted to revolve and anode and cathode therein arranged to be in contact with an electrolyte while revolving whereby a liquid of greater specific gravity than the electrolyte is thrown to the outer portion of the cylinder, and an outlet for said liquid from said outer portion. 15th. A centrifugal electrolytic cell, consisting of a revolving cylinder provided with an anode and cathode, and a partition within said cylinder arranged to receive on its opposite sides the gases liberated from the anode and cathode respectively, and to prevent the commingling of said gases. 16th. A centrifugal electrolytic cell, consisting of a revolving cylinder provided with an anode and cathode, a partition within said cylinder arranged to receive on its opposite sides the gases liberated from the anode and cathode respectively, and to prevent the commingling of said gases, and two distinct gaseous outlets from said cylinder leading from the spaces on opposite sides of said partition. 17th. A centrifugal electrolytic cell, consisting of a revolving cylinder provided with an anode and cathode, outlets for continually discharging the products of electrolysis from said cell, and an inlet for continuously admitting the electrolyte thereto. 18th. The combination, with a centrifugal electrolytic cell, of a dynamo for generating the electric current passed through said cell, connected together to be driven from the same source of power at proportionate speeds. 19th. The combination, with a centrifugal electrolytic cell, of a dynamo for generating the electric current passed through said cell, having its armature mounted on the same revolving shaft as said cell, whereby the two are revolved at the same speed. 20th. The combination, with a centrifugal electrolytic cell, having terminal electric connections leading to its anode and cathode, of a dynamo the armature of which is mounted on the same revolving shaft as said cell, the stationary commutator brushes of said dynamo and electric connections joining the positive brush thereof to the terminal com-

municating with the anode and the negative brush thereof to the terminal communicating with the cathode.

No. 45,412. Electrical Tramway.
(Tramway Electrique.)

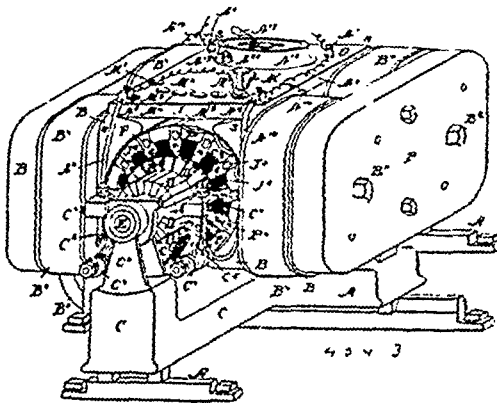


Alard E. du Bois Reymond, Berlin, Germany, 23rd February, 1894; 6 years.

Claim.—1st. The method of operating electric railway systems having working conductors sectionally fed from secondary circuits, the primaries of the transformers of which are supplied with an alternating current, the said method consisting in short-circuiting the secondary circuits of such sections as are not in operative relation to a moving motor, substantially as and for the purpose set forth. 2nd. In an electric railway system, the combination with an alternating current generator and feeder conductors therefrom, sectional working conductors, a plurality of transformers having their primary circuits connected to said feeder conductors, and their secondary circuits to independent sections of the working conductors, and means for automatically short-circuiting the secondaries of said transformers, substantially as set forth. 3rd. In an electric railway system, the combination with an alternating current circuit and generator therefor, working conductors including a series of independent insulated sections and connected with the secondary circuit of a transformer, together with a circuit-closing device in each secondary circuit for short-circuiting the current in said secondary circuit, as the vehicle passes from the end of the current charged section, substantially as described. 4th. In an electric railway system, the combination with an alternating current circuit and generator therefor, of a series of transformers, and working conductors including insulated sections, each connected with the secondary circuit of one of the transformers, together with circuit closing devices included in said secondary circuits, and each adapted to close and short-circuit the secondary circuit of the insulated section from which the vehicle is passing, and open the short-circuiting device of the secondary circuit of the insulated section to which the vehicle is passing, substantially as described. 5th. In an electric railway system, the combination with a plurality of transformers, of sectional working conductors connected to the secondaries of said transformers, and a circuit-closing device in said secondary conductors, adapted to short-circuit said secondary conductors when no current is required in the sections of the working conductors to which they are connected. 6th. In an electric railway system, the combination with a generator of alternating currents of electricity, of feeder conductors leading therefrom, a plurality of transformers having their primaries in series of said feeder conductors, working conductors divided into sections insulated from each other, and each of said sections connected to the secondary terminals of one transformer, a moving vehicle or vehicles and a propelling motor or motors located thereon, and means whereby the said sections are automatically cut into and out of circuit with the source of energy. 7th. In an electric railway system, the combination with a generator of alternating currents of electricity, of a plurality of transformers in operative relation with said generator of electricity, working conductors divided into sections insulated from each other and each of said sections connected to the secondary terminals of one transformer, a moving vehicle or vehicles and a propelling motor or motors thereon, a device upon the vehicle or vehicles for establishing electrical contact between said section or sections, vehicle or vehicles, and means whereby said section or sections are automatically energized or de-energized without making or breaking their mechanical connection with the source of energy. 8th. The combination with the secondary coils of two transformers, of two adjacent sections of working conductors insulated from each other, two transformers, two circuits of conductors connecting the secondary ends of said transformers with the respective sections of working conductors, a vehicle with a propelling electro-motor or motors mounted thereon, a device for bringing said electro-motor or motors into operative relation with one or both of said sections of working conductors, and short-circuiting devices in said secondary

circuits from said transformers, which act to open said normally closed short circuits, when the contact device on the vehicle closes the circuit between the adjacent sections of the working conductors, but which will automatically close said short circuits when the sections of the working conductors are no longer in circuit with the motor or motors upon the vehicle. 9th. An electric railway divided into a number of successive sections insulated from each other, each section comprising a current transformer, the primary coil of which is in series with the primary coils of the other transformers in the system, and connected to the source of energy, a pair of supply conductors fed from the secondary coil of the transformer, and a device for short-circuiting the said secondary coil when no current is required in the supply conductors. 10th. An electric railway divided into a number of successive sections insulated from each other, each section comprising a current transformer, the primary coil of which is in series with the primary coils of the other transformers in the system, and connected to the source of energy, and means for de-energizing the working conductors without rupturing their mechanical connection with the source of current. 11th. An electric railway divided into a number of successive sections insulated from each other, each section comprising a current transformer, the primary coil of which is in series with the primary coils of the other transformers in the system, and connected to the source of energy, and means whereby the current flowing in the supply conductors of one section will actuate a device in the next section, and thereby permit the working conductors of that section to be energized. 12th. In an electric railway system, the combination with a source of electricity, a plurality of independently located transformers, working conductors arranged as successive sections, insulated from each other, and each of said sections connected to the secondary terminals of a transformer, a vehicle and a propelling electro-motor thereon, and means for energizing and de-energizing said working sections, without altering their mechanical connection with the source of current, actuated by apparatus carried on the vehicle. 13th. In an electric railway system, the combination with a source of electricity, of a plurality of independently located current transformers, the primaries of which are coupled in series, working conductors arranged as successive sections, insulated from each other, and each of said sections connected to the secondary terminals of a transformer, a vehicle and a propelling electro-motor thereon, and means for energizing said motor from said working conductors, substantially as described. 14th. An electric railway divided into a number of independent distributing stations, each station comprising a current transformer, a sectional working conductor, a pair of supply conductors interposed between the section of the working conductor and the secondary terminals of the transformer, and a device for automatically short-circuiting the secondary coil of the transformer, at such times as when the working current is not required in the section of the working conductor supplied by it.

No. 45,413. Dynamo-Electric Machine.
(Machine dynamo-electrique.)

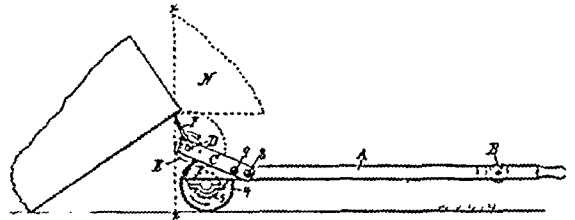


David Henry Wilson, Chicago, Illinois, U.S.A., 23rd February, 1894; 6 years.

Claim.—1st. In a dynamo-electric machine, an armature composed of a series of wedge-shaped sections carrying each a coil, said sections composed of a series of slotted wedged-shaped plates with rods therethrough to hold them together, said slots being so arranged that the coils can be slipped on or off the said sections, and a shaft with supporting plates thereon to which the rods are secured. 2nd. In a dynamo-electric machine, an armature consisting of a series of plates wedge-shaped in plan and slotted, coils parallel to the shaft and laid in such slots, said plates being held in place by rods fitting into slots at the top and bottom of such plates, and fastened to plates or spiders on the shaft. 3rd. In a dynamo-electric machine, the combination of an armature shaft with plates thereon, rods which pass into such plates being supported thereby and are parallel with the shaft, armature sections composed of transverse plates slotted, and coils resting in such slots, said plates adapted to rest on such

rods, and longitudinal bars between which and the rods such armature sections are secured. 4th. In a dynamo-electric machine, the combination of shunt, and series field-magnet windings wound so as to aid each other when the dynamo-electric machine is run as a motor, the series coils being used as a resistance in starting the motor. 5th. In an electric motor, the combination of shunt and series field-magnet windings, wound so as to aid each other, the series windings being in sections and of comparatively high resistance, said sections controlled by a switch so that they can be thrown out, one at a time, when starting the motor. 6th. In a dynamo-electric machine, the combination of two short magnets, united by an external yoke with two similar oppose-magnets, said magnets having inwardly projecting pole-pieces, and an armature consisting of two sets of coils, one set between each pair of poles, each set having one end attached to a common plate or spider, and a suitable shaft and commutator and connections from both sets of coils to such commutator.

No. 45,414. Truck. (Camion.)

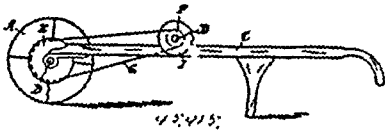


Henry Oris Thomas, Kimball, Nebraska, U.S.A., 23rd February, 1894; 6 years.

Claim. 1st. In a truck, in combination with the principal frame and its primary supporting wheels, a supplemental wheel or roller located in such position with respect to the principal wheels as to be off the ground and to extend above the plane of the load-supporting surface of the truck when the latter is horizontal, and on the ground when the truck is in a position of stable equilibrium approximately vertical over its wheels, substantially as set forth. 2nd. In a truck, in combination with the principal frame provided with more than two wheels and adapted to be supported by such wheels in stable equilibrium approximately vertical, and the shoe pivotally connected to the frame, whereby the point of the shoe may freely follow the ground when the truck moves forward resting on all its wheels, substantially as set forth. 3rd. In a truck, in combination with the primary wheels on which one end is supported, the wheel or roller journaled and having the periphery higher than the principal wheels when the truck is down, and the shoe pivoted to the frame and adapted to fold back toward the frame from a position approximately at right angles thereto, and having its point extending when at the first of said position higher than the periphery of said wheel or roller, whereby the load lifted upon the point of the shoe is carried over on to the wheel or roller as the shoe folds back toward the frame, substantially as set forth. 4th. In combination with the truck and the primary supporting wheels and pawl and ratchet mechanism by which the wheels may be locked against backward rotation, the wheel or roller and the shoes situated in relation to the principal wheels, substantially as described. 5th. In a truck, in combination with the truck frame and its principal supporting wheels, said wheels being provided with pawl and ratchet mechanism adapted, when engaged, to permit rotation in one direction only, a wheel or roller having its bearings supported upon the frame, said wheel or roller having pawl and ratchet mechanism adapted to permit it to rotate in a direction opposite to that of the main wheels, substantially as set forth. 6th. In combination with the principal frame and its main supporting wheels, said wheels having a pawl and ratchet mechanism adapted when engaged to permit rotation in one direction only, the wheel or roller having its bearings supported on the frame, said wheel or roller being provided with pawl and ratchet mechanism adapted when engaged to permit rotation in the opposite direction from the main wheels, and the shoes pivotally connected to the frame, substantially as set forth. 7th. In a truck, in combination with the frame and its wheels, the wheel or roller having its bearings supported on the frame, and pawl and ratchet mechanism connected with said roller adapted when engaged to permit the roller to rotate in one direction only, the shoes pivotally connected to the frame and adapted to fold back toward the same, and the roller journaled near the upper end of the frame, and provided with pawl and ratchet mechanism adapted when engaged to prevent rotation except in the same direction as the roller, substantially as set forth. 8th. In a truck, in combination with a longitudinal rod, the dog having the sleeve hung loosely and adapted to slide on the rod, and provided with a spur or claw at its free end, substantially as set forth. 9th. The combination with a suitable frame, provided with two supporting wheels, having pawls and ratchets, fixed brackets secured to said frame provided with a transverse roller having right and left handed ratchets, shoes pivotally secured to a shaft supporting said transverse roll, and a transverse roll within the upper end of said frame provided with a pawl and ratchet, and

a rod secured within said frame provided with a drop spur, all arranged substantially as and for the purpose set forth. 10th. The combination with a suitable frame provided with main supporting wheels, said wheels having pawls and ratchets permitting rotation in one direction, and auxiliary frame secured to said main frame, provided with a roll having pawls and ratchets permitting rotary motion in a direction opposite to that of the main wheels, and pivotal shoes secured within said auxiliary frame, and the drop spur 17, secondary roll provided with suitable ratchets, all substantially as and for the purpose set forth. 11th. In a hand truck, the combination of the main frame A, having braces 1, 2, the main supporting shaft 3, provided with the wheels 4, having pawls and ratchets, the fixed arms C secured to said frame A, provided with the shaft D, the roll E mounted upon said shaft and provided with the pawls and ratchets 10, 11, 12 and 13, and the shoes F pivoted upon the shaft D, and adapted to operate substantially as and for the purpose set forth.

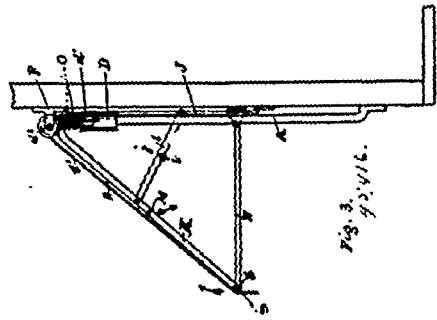
No. 45,415. Distributer for Paris Green, Etc.
(*Distributeur de vert de Paris.*)



Francis Lonsaw and Thomas E. Clark, both of Bothwell, Ontario, Canada, 23rd February, 1894; 6 years.

Claim.—1st. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of a perforated holder or holders I, in combination with and secured to a shaft D, and means for supporting and operating the latter, substantially as and for the purposes set forth. 2nd. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of the perforated holders I, adjustable lengthwise on, and in combination with the shaft D, means for retaining said holders at the position to which they are adjusted on said shaft, and means for supporting and operating said shaft, substantially as and for the purposes set forth. 3rd. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of the perforated holders I, each of which is provided with a collar J, and set screw K, in combination with the shaft D, and means for supporting and operating the latter, substantially as and for the purposes set forth. 4th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of a perforated holder I, in combination with a slatted cover, formed of the endless bands N, and slats M, substantially as and for the purposes set forth. 5th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of a perforated holder I, in combination with a slatted cover, formed of the endless bands N, and the slats M, formed with the extensions *m*, substantially as and for the purposes set forth. 6th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of a perforated holder I, in which a slot *d* is formed, in combination with the endless band N, in which a slot *b* is formed, substantially as and for the purposes set forth. 7th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of a perforated holder I, having a screw threaded bolt P, rigidly secured thereto, in combination with the endless band N, in which the slot *b* is formed, and the thumb nut R, substantially as and for the purposes set forth. 8th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of the perforated holders I, and a slatted cover, formed of the endless bands N, and slats M, in combination with the shaft D, and means for supporting and operating the latter, substantially as and for the purposes set forth. 9th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of the perforated holders I, and slatted cover, formed of the endless bands N, and slats M, provided with extensions *m*, *n*, in combination with the shaft D, and means for supporting and operating the latter, substantially as and for the purposes set forth. 10th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of the perforated holders I, I, and a slatted cover, consisting of the endless bands N, and slats M, in combination with the shaft D, pulleys E, F, belt G, wheel A, axle B, and frame C, substantially as and for the purposes set forth. 11th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of the perforated holders I, I, and a slatted cover, consisting of the endless bands N, and slats M, formed with extensions *m*, in combination with the shaft D, pulleys E, F, belt G, wheel A, axle B, and frame C, substantially as and for the purposes set forth. 12th. As a new article of manufacture, a distributer for paris green, plaster, etc., consisting of the perforated holders I, I, in each of which a slot *d* is formed, and a slatted cover, consisting of the endless bands N, in one of which a slot *b* is formed, and slats M, in combination with the shaft D, pulleys E, F, belt G, wheel A, axle B, and frame C, substantially as and for the purposes set forth.

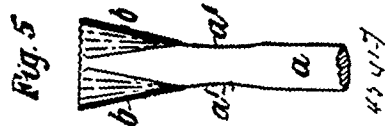
No. 45,416. Awning. (*Auvent.*)



Edward Fauteux, Montreal, Quebec, Canada, 24th February, 1894; 6 years.

Claim.—1st. In an awning, a frame composed of the brackets J, pieces N, jointed pieces I and K, and cross-bar P, substantially as described, and for the purposes set forth. 2nd. In an awning, the combination of the guides A weights C and D, springs O brass band *e*² and *d*², pulleys *e*¹ and *d*¹, roller E, and brackets F and G, with the ordinary canvass covering H, substantially as described, and for the purposes set forth.

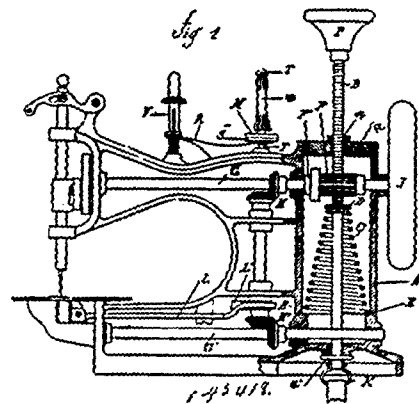
No. 45,417. Nail or Spike. (*Clou ou cheville.*)



William Shedlock, London, England, 24th February, 1894; 6 years.

Claim.—1st. A nail or spike, which is formed with one or more cutting edges or wedges on the underside of the head thereof, whereby, when the nail is driven into wood without rotation, the said cutting edges or wedges will displace or push aside the fibres of the wood and thus allow the head to enter the wood flush with the surface thereof, without injuring the said surface around the head, substantially as hereinbefore described. 2nd. A nail or spike designed to be driven into wood by a practically rectilinear motion and having cutting edges or wedges *b* under the head, substantially as for the purposes set forth.

No. 45,418. Sewing Machine. (*Machine à coudre.*)



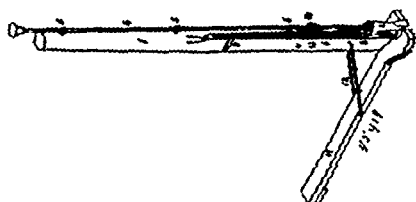
Augustin Avrial, Paris, France, 24th February, 1894; 18 years.

Claim.—1st. In a sewing machine, the combination with the ordinary mechanism for effecting the sewing placed operative, of means for imparting and transmitting motion in which the driving shaft is actuated by means of a rack or toothed bar worked in the one direction by hand, foot or otherwise, and moved in the other direction by the expansion of a spring or elastic body which is compressed by the previous part of the motion of the rack, substantially as hereinbefore described. 2nd. In a sewing machine, a device for giving tension to the thread comprising a reel-support adapted to prevent the reel from twining independently, a washer or bed of felt or other material upon which the reel-support rests, and means of bringing a regulated or controlling pressure upon the said washer so as to cause it to press with more or less force, against the reel-

support, and thereby regulate the tension of the thread, substantially as hereinbefore described. 3rd. In a sewing machine, the clutch or engaging and disengaging apparatus hereinbefore described, comprising a box forming part of the device to which the first motion is imparted, a disc or piece fixed on the shaft that works the sewing device, the said disc or piece having a notch or recess in its periphery, a roller-pin or wedge which becomes displaced in the said notch in the one direction or the other according to the direction of the movement of the said box, and a spring operating in connection with the said roller-pin or wedge, all substantially as hereinbefore described.

No. 45,410. Carpet Stretcher and Tacker.

(Machine à tendre les tapis et chasse-broquette combinés.)



Edward Lincoln McDivitt, Belvidere, Illinois, U.S.A., 24th February, 1894; 6 years.

Claim.—1st. A carpet tacker having a standard, a plunger secured thereto, a socket at the lower end of said standard, a rack for holding the tacks, a spring for moving the rack in one direction, and means operated by the plunger for moving it in the opposite direction. 2nd. A carpet tacker having a standard, a plunger secured thereto, a socket at the lower end of the standard, an escapement device at the lower end of the rack which is secured to the standard, a spring for moving the rack in one direction, and an angle lever secured to the standard which is operated upon by the plunger for moving the tack rack in the opposite direction. 3rd. A combined carpet stretcher and tacker having a standard, a plunger secured thereto, a socket at the lower end of said standard, a rack for holding the tacks, a spring for moving the rack in one direction, and means operated upon by the plunger for moving it in the opposite direction, and a stretcher having a link connection with the standard.

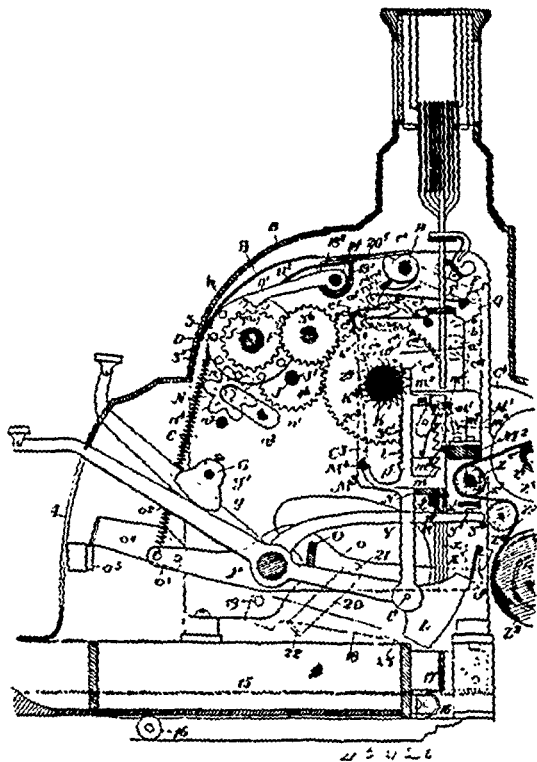
No. 45,420. Cash Indicator and Register.

(Indicateur et registre de monnaie.)

John Sharpe, Toronto, and Charles Raymond, Guelph, both of Ontario, Canada, 24th February, 1894; 6 years.

Claim.—1st. The combination of the registering discs, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves on one stroke of the ratchet bars, the carrying plates adjustably connected by links to the intermediate standard plate, the detent *c*, pivoted at the top of the spring-held carrying plate, and provided with pins *c*² and *c*³, and projections *c*³, the push bar *c*¹ pivoted at the bottom of the plate and provided with stops, the serrated disc with which the push dog engages, levers *c*⁶, pivoted on the intermediate standard plates and engaging with the projections *c*³, of the detent *c*, the pins on the gear-wheels attached to the ratchet sleeves designed to engage with the spring-held lever *c*⁶, to release the spring-pressed detent *c*, and the arm secured on the rock shaft *R*, designed to pass the released detent on their rearward throw but engage the detent *c* on their forward throw, and means for operating the arms to engage the detent upon the return stroke of the finger key, as and for the purpose specified. 2nd. The combination of the registering discs, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves on one stroke of the ratchet bars, the spring-held carrying plates adjustably connected by links to the intermediate standard plate, the detent *c*, pivoted at the top of the carrying plate and provided with pins *c*² and *c*³, and projections *c*³, the push lever *c*¹ pivoted at the bottom of the plate and provided with a stop, the serrated disc with which the push lever engages, levers *c*⁶, pivoted on the intermediate standard plates and engaging with the projections *c*³, of the detent *c*, the pins on the gear-wheels attached to the ratchet sleeves designed to engage with the spring-held lever *c*⁶, to release the detent *c*, and the arm secured on the rock shaft *R*, designed to pass the released detents on their rearward throw but engage the detents *c* on their forward throw, the arms *r* secured on the end of the rock shaft *R*, and connected by the rods *q* to the forward end *o*², of the brackets *o*, which are connected together by the pressure bar *O*, as and for the purpose specified. 3rd. The combination with the registering discs, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves on one stroke of the ratchet bars, the spring-held carrying plates adjustably connected by links to the intermediate standard plate, the detent *c*, pivoted at the top of the carrying plate and provided with pins *c*², and *c*³, and projections *c*³, the push lever *c*¹, pivoted at the bottom of the plates and provided with stops, the serrated disc with which the push dog engages, levers

*c*⁶, pivoted on the intermediate standard plates and engaging with the projection *c*³, of the detent *c*, the pins on the gear-wheels attached to the ratchet sleeves designed to engage with the spring-



held lever *c*⁶, to release the spring-pressed detent *c*, and the arms secured on the rock shaft *R*, designed to pass the released detent on their rearward throw but engage the detent *c*, on their forward throw, of the spring arms *c*¹, secured on the rock shaft *E*¹, and means for holding the spring arms down against the pins *c*³, of the detent *c*, as the shaft *D*, is being turned to restore the discs to zero as and for the purpose specified. 4th. The combination with the registering discs, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves on one stroke of the ratchet bars, the spring-held carrying plates adjustably connected by links to the intermediate standard plates, the detent *c*, pivoted at the top of the carrying plate and provided with pins *c*², and *c*³, and projections *c*³, the push lever *c*¹, pivoted at the bottom of the plate and provided with stops, the serrated disc with which the push dog engages, levers *c*⁶, pivoted on the intermediate standard plates and engaging with the projections *c*³, of the detent *c*, the pins on the gear-wheels attached to the ratchet sleeves designed to engage with the spring-held lever *c*⁶, to release the spring-held detent *c*, and the arms secured on the rock shaft *R*, designed to pass the released detent on their rearward throw but engage the detent *c*, on their forward throw, of the spring arms *c*¹, secured on the rock shaft *E*¹, the arm *E*², secured on the outside of the shaft *E*¹, the bar *E*³, lever *n*¹, provided with a tooth *n*², designed to engage the notch *m*¹, in the *e*³ attachment of the knob *E*, by which the shaft *D*, is turned as and for the purpose specified. 5th. The combination of the registering discs the ratchet sleeve geared thereto, the finger keys and ratchet bars to partly rotate the sleeves on one stroke of the ratchet bars and the curved forward projections *m*¹, extending out from the bottom end of the ratchet teeth *l*¹, as and for the purpose specified. 6th. The combination of the registering discs the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves at one stroke of the ratchet bars, the curved forward projections *m*¹, extending out from the bottom end of the ratchet bar *l*¹, and means whereby the ratchet bar is swung clear of the ratchet sleeves on its downward descent, as and for the purpose specified. 7th. The combination of the registering discs the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves at one stroke of the ratchet bars, the curved forward projections *m*¹, extending out from the bottom end of the ratchet bar *l*¹, and means whereby the ratchet bar is swung clear of the ratchet sleeves on its downward descent, as and for the purpose specified. 8th. The combination with the registering discs, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves at one stroke of the ratchet bars, of the swinging dog *m*¹, controlled by the stop pin *m*², slot *m*³, and spring *m*⁴, and the projection *m*⁵ designed to co-act with the swinging dog, as and for the purpose specified. 9th. The combination with the registering disc *h*, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves on one stroke of the ratchet bar, the pins *h*¹ secured on one

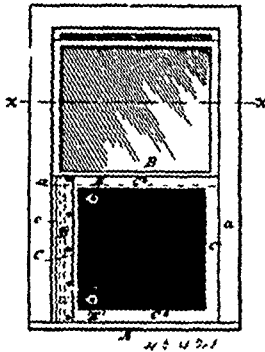
side of the sleeve, the cam collar P¹, and elongated ring P¹¹; having lugs p and p¹ to act upon the raised portion P², of the cam collar, the arm P¹¹ extending downwardly through a step notch p², p¹, toothed wheel N, journalled as specified and provided with teeth n², and laterally extending pin n⁴ engaged upon each rotation of the disc 4, by the arm p¹¹, and the pins 5¹ on the registering disc 5, designed to be moved forward one space by one of the teeth n² upon each revolution of the disc n⁴, as and for the purpose specified. 10th. The combination with the registering discs 1, 2, 3, 4, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves upon one stroke of the ratchet bars, of the registering discs 5, 6 and 7, provided with laterally extending pins 5¹, 6¹ and 7¹, the toothed wheels N, N¹, N¹¹, provided with laterally extending teeth n⁴, co-acting with the cam collar and elongated ring and arm, as specified, and supported upon the arm n⁴, on the spindle n¹¹, and held in engagement through the tension of the spring n⁹ on the end of the arm n⁶, secured on the outer end of the spindle n¹¹, as and for the purpose specified. 11th. The combination with the registering discs 1, 2, 3, 4, the ratchet sleeves geared thereto, the finger keys and ratchet bars to partly rotate the sleeves upon one stroke of the ratchet bars, of the registering discs 5, 6 and 7, provided with laterally extending pins 5¹, 6¹ and 7¹, the toothed wheels N, N¹, N¹¹, provided with laterally extending teeth n⁴, co-acting with the cam collar and elongated ring and arm, as specified, and supported upon the arm n⁴, on the spindles n¹¹ held in engagement through the tension of the spring n⁹, on the end of the arm n⁶, secured on the outer end of the shaft n¹¹, and the arm n¹ secured on the opposite end of the spindle n¹¹, as and for the purpose specified. 12th. The combination with the registering discs 1, 2, 3, 4, 5 and 6, operated as specified, of the step arms 9¹, 10¹, 11¹, 12¹, 13¹, 14¹, 15¹ and 16¹, held down by the spring fingers 9¹¹, 10¹¹, 11¹¹, 12¹¹, 13¹¹, 14¹¹, 15¹¹ and 16¹¹, forming part of the plate 18¹, secured to the sleeve 19¹, supported on the arm 18¹, and means whereby the pressure on the stop arms is relieved during the period that the key is being depressed and afterwards returned to its normal position, as and for the purpose specified. 13th. The combination with the registering discs 1, 2, 3, 4, 5 and 6, operated as specified, of the stop arms 9¹, 10¹, 11¹, 13¹, 14¹, 15¹ and 16¹, held down by the spring fingers 9¹¹, 10¹¹, 11¹¹, 13¹¹, 14¹¹, 15¹¹, and 16¹¹, forming part of the plate 18¹, secured to the sleeve 19¹, supported on the arm 18¹, and the rearward extension 20¹, engaging with the arm r⁵, on the rock shaft R, which is connected by the arm R¹, rods Q, forward extension o³, of the brackets o, to the bar O, connecting the brackets o, which is raised and lowered by the keys as shown and for the purpose specified. 14th. The combination with the shaft D, provided with a turning knob, a series of discs 1, 2, 3, 4, 5, 6 and 7, having a limited movement around the shaft in one direction, of the combination wheels Q¹, Q², Q³, equal in diameter, but each provided with a different number of teeth and meshing with the recess formed in the collars U¹, U², U³, as and for the purpose specified. 15th. The combination with a shaft D, a series of discs 1, 2, 3, 4, 5, 6 and 7, having a limited movement in the one direction around the shaft, of the turning disc E, provided with a notch e, and a handle E¹, the arm E², provided with a tooth E³, normally engaging the notch e, of the disc E, and having a tail E⁴, designed to come in contact with the stop shaft J¹, and connected by the spring E², to the standard plate, the bar E⁵, pivotally connected to the arm E², at E⁶, and having a tooth e², designed to engage with the notch E³, in the hub of the ratchet wheel E¹¹, which is engaged by the spring dog E⁴, of the crank E³, pivoted at e², and provided with a short arm e³, pivotally connected at e to the bar e², and provided with a lower hooked end e¹, designed to be brought beneath the pin o⁵, in the rear end e¹, of the bracket o, as and for the purpose specified. 17th. The combination with a shaft D, a series of discs 1, 2, 3, 4, 5, 6 and 7, having a limited movement in the one direction around the shaft, of the turning disc E, provided with an arm E¹, the hub E², connected to the said disc, and having a notch e², the bar E³, having a tooth e², fitting into the notch e², in the hub E², supported in position by a spring E¹¹, and the arm n², secured on the end of the shaft n¹¹, and provided with a pin n², which abuts the bar E³, as and for the purpose specified. 18th. The combination with upper and lower tiers of finger-keys, of the eccentric plates g g¹, adjustably secured on the rod G, as and for the purpose specified. 19th. The combination with the finger-keys, of the bar O, bracket o, provided with a forward extension o¹, supplemental extension o⁴, and the lock o⁵, arranged as and for the purpose specified. 20th. The combination with the finger-keys, the bar O, bracket o, having a bar 20, securely connected to the bracket, the pivoted arm 19, lever 20, drawer 15, having a stop plate 23, supported on rollers 16, and actuated as shown and for the purpose specified. 21st. The combination with the banks having a plurality of finger-keys, of the frame W, provided with a series of slots w, and the adjustable frame X, having a series of slots x, and blanks x¹, which are bevelled at x⁴, to the slot x, to co-act with a single key as described and means whereby the adjustable plate is restored to its normal position upon the return

of any single key in the bank, as and for the purpose specified. 22nd. The combination with the banks having a plurality of finger-keys, of the frame W, provided with a series of slots w, and the frame X, provided with horizontal slots x¹¹, through which pins x¹, secured to the frame W, extend and vertical slots x, and blanks x², which are bevelled at x⁴, to the slots x, and the spring w¹, secured to the plate W, between the plates W and X, and designed to press upon the pin x², secured to the plate X, all the parts being arranged to co-act with a single key, as and for the purpose specified. 23rd. The combination with the registering discs, the ratchet sleeves geared thereto, the finger-keys and ratchet bars to partly rotate the sleeves, of the brackets o, connected by the cross-bar O, having rearward extensions which are connected to the standard plate C, by the spiral springs o¹¹, as and for the purpose specified. 24th. The combination with the finger-keys, of a type-bar arranged one above each finger-key, and designed to be actuated simultaneously by each finger-key upon its downward depression to imprint upon a band of paper the corresponding numbers of marking to those shown on the finger-keys and by the tablets, as and for the purpose specified. 25th. The combination with the finger-keys, of a type-bar arranged one above each finger-key, and supported by a cross-rod y, and designed to be actuated simultaneously by each finger-key upon its downward depression and the notches z⁶, formed on the top of the slots x, through which the rear end of the type-bar extends, as and for the purpose specified. 26th. The combination with the finger-keys, of a type-bar arranged above each finger key and designed to be actuated simultaneously by each finger key upon its downward depression and the printing roller Z, designed to receive the band of paper and the printing ribbon situated between such band and the type bar, as and for the purpose specified. 27th. The combination, with the finger keys of a type bar, arranged above each finger key and designed to be actuated simultaneously by each finger key upon its downward depression, the printing roller Z, guiding roller Z⁴, band or roll of paper Z⁵, supported on the supply rollers Z¹¹, and secured in the feed roller Z¹, and means whereby the band of paper is caused to move forward one space upon the drawer being closed, after the finger key has been depressed, as and for the purpose specified. 28th. The combination, with the finger keys of a type bar arranged above each finger key and designed to be actuated simultaneously by each finger key upon its downward depression, the printing collar Z, guiding roller Z⁴, band or roll of paper Z⁵, supported on the supply roller Z¹¹, and secured in the feed roller Z¹, the discs Z⁹, secured on the ends of the feeding roller Z¹, the arms Z⁸, pivotally supported on the stud Z⁷, and held in position by the spiral springs Z, and means whereby the feed roller is caused to move forward one space at the bottom, as and for the purpose specified. 29th. The combination, with the finger keys, of a type bar arranged above each finger and designed to be actuated simultaneously by each finger key upon its downward depression, the printing collar Z, guiding roller Z⁴, band or roll of paper Z⁵, supported on the supply roller Z¹¹, and secured in the feed roller Z¹, the disc Z⁹, secured on the ends of the feeding roller Z¹, the arms Z⁸, pivotally supported on the studs Z⁷, and held in position by the spiral springs Z, the rubber discs Z¹⁰, secured on the end of the spindle Z¹¹, and means whereby the rubber discs are caused to frictionally rotate and drive the feed roller Z¹, as and for the purpose specified. 30th. The combination, with the finger keys, of a type bar arranged above each finger key and designed to be actuated simultaneously by each finger key upon its downward depression, the printing collar Z, guiding roller Z⁴, band or roll of paper Z⁵, supported on the supply roller Z¹¹, and secured in the feed roller Z¹, the disc Z⁹, secured on the ends of the feeding roller Z¹, the arms Z⁸, pivotally supported on the stud Z⁷, and held in position by the spiral springs Z¹⁰, the rubber disc Z¹⁰, secured on the end of the spindle Z¹¹, and the ratchet wheel Z¹², supported on the outer end of the spindle Z¹¹, the lever Z¹³, pivoted in the plate C⁴, and provided with a spring dog Z¹⁶, and means whereby the said lever is intermittently tilted on its pivot, as and for the purpose specified. 31st. The combination, with the finger keys of a type bar, arranged above each finger key and designed to be actuated simultaneously by each finger key upon its downward depression the printing collar Z, guiding roller Z⁴, band or roll of paper Z⁵, supported on the supply roller Z², and secured in the feed roller Z¹, the disc Z⁹, secured on the ends of the feeding roller Z¹, the arms Z⁸, pivotally supported on the stud Z⁷, and held in position by the spiral springs Z, the rubber disc Z¹⁰, secured on the ends of the spindle Z¹¹, the ratchet wheel Z¹², supported on the outer end of the spindle Z¹¹, the lever Z¹³, pivoted in the plate C⁴, and provided with a spring dog Z¹⁵, the spiral spring Z¹⁶, and drawer 15, designed to actuate the lever 13, as shown and for the purpose specified. 32nd. The combination with the finger keys, bar O, extending between the brackets o, over the finger keys, and means whereby all the finger keys are locked upon the outward movement of the drawer as and for the purpose specified. 33rd. The combination with the finger keys, bar O, extending between the bracket o, over the finger keys, the pin 24, secured in the rearward extension o³, hanger 25, provided with a notch 27, and the drawer 15, designed to remove the notch 27, from above the pin when it is being closed but allow of the hanger of its own gravity bringing the said notch over the pin immediately upon the opening of the drawer, as and for the purpose specified. 34th. The combination with the finger keys, bar O, extending between the bracket o, over the finger keys,

the pin 23, secured in the rearward extension of hanger 25, provided with a notch 27, and a forwardly extending upper end 28, and the lever 29, arranged as and for the purpose specified.

No. 45,421. Window Screen (Store de fenêtre.)

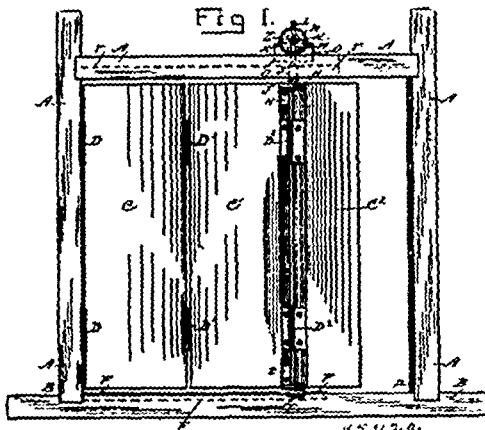
Charles C. Wheeler, Marysville, Kansas, U.S.A., 24th February, 1894; 6 years.



Claim.—1st. A window screen comprising a frame, across which the screen material is stretched, a movable frame section extending along one side of the screen frame, screws engaged in screw-threaded nuts or sockets in the stationary side of the frame, and locked to the said movable frame section, so as to turn freely and at the same time move the movable section positively toward and away from the stationary section as the screw is advanced or caused to recede in its threaded socket, and a lip

fixed to the stationary frame and overlapping the joint between the stationary and movable frame sections, substantially as set forth.

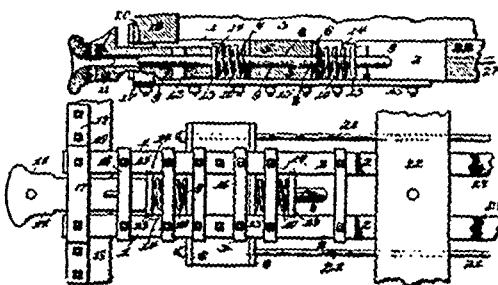
No. 45,422. Folding Door. (Porte pliante.)



Vickers H. Peart, and William Tuck, both of Burlington, Ontario, Canada, 24th February, 1894; 6 years.

Claim.—1st. In a portable hinged folding door, the sections C, C¹ and C² having their hinges D, D¹ and D², frame A, track F, inserted in floor B, and the swivel slide E, in combination with the upper bracket H, having vertical swivel pin I, with cross-arms K, and rollers L, the adjustable nuts N, the flanged swivel slide O, and the horizontal slot T, in upper frame, substantially as described and set forth. 2nd. The combination of the framework A, having horizontal slots T, and provided with hinged sections of door, the track F, inserted in floor, and the swivel slide E, the upper bracket H, having vertical swivel-pin, with cross-arms, provided with rollers L, the nuts N, the flanged swivel slide O, and the vertical roller J, substantially as described and set forth. 3rd. The bracket H, having vertical swivel pin I, the cross-arms K, provided with rollers L, the flanged swivel slide O, and the vertical roller J, in combination with frame A, and sections of door, substantially as described and set forth.

No. 45,423. Draw-gear for Cars. (Barre d'engrenage pour chars.)



Andrew J. Shaw, Connellsville, Pennsylvania, U.S.A., 24th February, 1894; 6 years.

Claim.—1st. The combination of a car, a transverse block secured to the centre sills thereof, and provided with an opening disposed

longitudinally of the car, draw-timbers secured to the centre sills of the car, and arranged parallel and located in advance, and in rear of the transverse block and provided with recesses at their inner opposed faces, a draw-bar arranged in the opening of the transverse block and extending forward and rearward therefrom, a draw-head attached to the front end of the draw-bar, buffer springs arranged on the draw-bar, and located in advance, and in rear of the transverse block, and follower plates connected with the draw-bar, and arranged at the outer extremities of the buffer springs, and having their ends arranged in the recesses of the draw-timbers, substantially as described. 2nd. The combination of a car, a transverse block secured to the centre sills thereof, and projecting laterally from said sills, draw-timbers arranged in advance, and in rear of the transverse block, a draw-bar passing through the transverse block and extending forward and rearward therefrom, a draw-head attached to the front end of the draw-bar, follower plates connected with the draw-bar, buffer springs interposed between the transverse block and the follower plates, and longitudinally disposed tie-rods connected to the ends of the transverse block, substantially as described. 3rd. The combination of a car, a transverse block secured to the centre sills thereof, and provided on its upper face with ribs arranged at the outer sides of the centre sills, said block having its ends extended beyond the sills, and tie-rods connected to the extended ends of the transverse block, substantially as described. 4th. The combination of a car, a transverse block secured to the centre sills thereof, and provided on its upper face with ribs arranged at the outer sides of the centre sills, said block having its ends extended beyond the sills, draw-timbers arranged in advance and in rear of the transverse block and secured to the centre sills, and tie-rods connected to the extended ends of the transverse block, substantially as described.

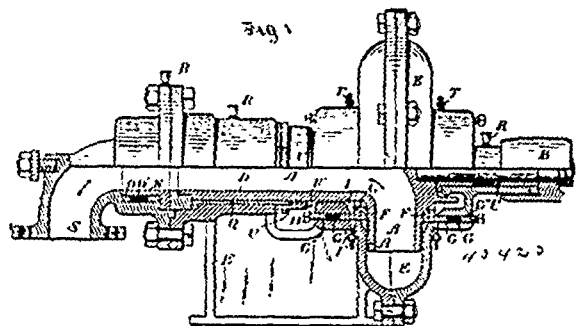
No. 45,424. Cutter Bar for Mowing Machines. (Souche de lames pour faucheuses.)



Joseph W. Vermilion, Frank A. Vermilion, Stephen L. Vermilion and Perry P. Vermilion, all of Newark, Ohio, U.S.A., 24th February, 1894; 6 years.

Claim.—The combination of a cutter-bar provided with transverse dove-tailed seats and a subjacent longitudinally disposed channel or guide, a locking-bar slidably fitted in said channel or guide, and provided with spaced longitudinally-tapered ribs or keys which project above the plane of said seats, knives having stems or shanks which are dove-tailed in section to fit in the seats and are provided in their under surfaces with tapered kerfs which extend entirely across the stems or shanks to receive the ribs or keys carried by the locking-bar, and means for operating the locking-bar, substantially as specified.

No. 45,425. Centrifugal Pump. (Pompe centrifuge.)

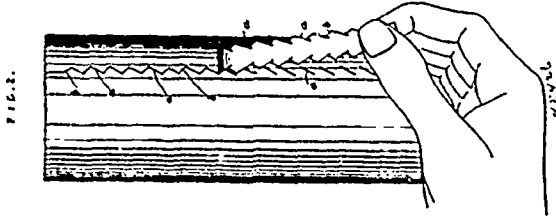


Edward Seitz and Richard Pickup Park, both of Blackburn, Victoria, Australia, 24th February, 1894; 6 years.

Claim.—1st. In centrifugal pumps, an adjustable annular plate or ring as G, for the purpose of preventing grit or frictional matter from hindering its way to bearing surfaces or glands, and for preventing the circulation from one part of the pump to the other, and also for adjusting or equalizing the thrust pressure of the runner, substantially as described and explained. 2nd. In centrifugal pumps, annular plates or turned faces as F, placed at any portion of the diameter of a centrifugal runner, in combination with a faced annular plate or ring as G, as and for the purposes described and

explained. 3rd. In centrifugal pumps, the combination with an adjustable annular plate or ring, as G, of means for adjusting same by the action of the screw bolts as H, and intermediary parts, substantially as and for the purpose described and as illustrated on the accompanying drawings. 4th. In centrifugal pumps, the combination with rings as G², of bolts or plugs arranged in such a manner as to adjust the movement and position of the said rings, substantially as and for the purposes described and explained. 5th. In centrifugal pumps, the combination with an annular faced plate or ring as G, of an annular liquid or gaseous pressure chamber as M, substantially as and for the purposes described. 6th. In centrifugal pumps, the combination of an aqueous or pneumatic pressure chamber M, annular ring as G², and packing as G¹, with an annular faced plate or ring as G, substantially as and for the purposes herebefore set forth. 7th. In centrifugal pumps, an annular plate or ring as N, in combination with any approved means of adjustment, such as O and P, substantially as and for the purposes herebefore described and explained. 8th. In centrifugal pumps, the combination of the bolts P, plate P¹, and adjustable bolt and nut P², substantially as and for the purposes described and as illustrated in the accompanying drawings. 9th. In centrifugal pumps, a chamber as I, supplied with lead-away ducts as I¹, and a cock-trap or shutter at its bottom, as and for the purposes described and substantially as illustrated. 10th. In centrifugal pumps, the general combination, mechanical construction and arrangement of the whole of the parts illustrated on figure 2, forming a complete double action grit resisting centrifugal pump.

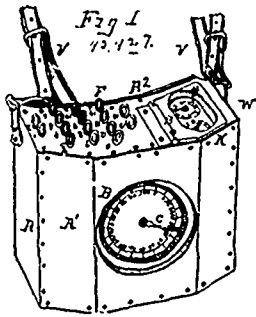
No. 45,426. Envelope. (Enveloppe, etc.)



Percy John Ogle, London, England, 26th February, 1894; 6 years.

Claim.—A wrapper or envelope or enclosing or securing device having slits, cut perforations, slots or the like disposed substantially as hereinbefore described and illustrated for the purpose of enabling a strip to be removed therefrom by tearing in, unfastening or removing the said wrapper or envelope or enclosing or securing device.

No. 45,427. Lumber Meter. (Mesureur de bois.)

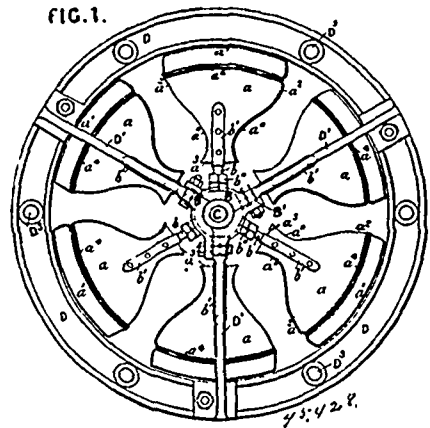


William H Emerson, Chatham, Ontario, Canada, 26th February, 1894; 6 years.

Claim.—1st. A meter having in combination a registering wheel, having its shaft journaled in suitable bearings, keys to rotate said registering wheel, a dial and an index finger upon said shaft traversing said dial, substantially as set forth. 2nd. A meter having in combination a case, a registering wheel, a swinging crate to operate said wheel, keys extending through the case to operate said crate, a dial, and an index finger operated by said registering wheel, traversing said dial, substantially as set forth. 3rd. A meter having in combination a case, a rotary registering wheel, a swinging crate to operate said wheel, keys to operate said crate, and means to limit the movement of said keys, substantially as set forth. 4th. A meter having in combination a case, a primary registering wheel, keys to operate said wheel, a dial, an index finger on the shaft of said wheel reversing said dial, an additional registering wheel operated by the revolution of said primary wheel, an additional dial and an index finger on the shaft of the registering wheel traversing said additional dial, substantially as set forth. 5th. A meter having in combination a case, a primary registering wheel, a swinging crate provided with a pawl to operate said registering wheel, keys to lift said crate, and means to limit the lift of the respective keys, substantially as set forth. 6th. A meter having in combination a case,

a primary registering wheel, a swinging crate arranged to operate said wheel, and keys to operate the crate, said crate provided with bearings or pins, and said key constructed respectively with an elongated recess in which said bearings or pins are engaged, substantially as set forth. 7th. A meter having in combination a case, a registering wheel, a swinging crate arranged to operate said wheel, and keys to operate said crate, said keys constructed with arms f¹, f², one of said arms forming a stop to limit the movement of the key, substantially as set forth. 8th. A meter having in combination a case, a rotatable registering wheel mounted upon a shaft, a swinging crate to operate said wheel, keys to lift said crate, means to prevent the opposite rotation of said registering wheel, a dial, and an index finger operated by said shaft traversing said dial, substantially as set forth. 9th. A meter having in combination a case, a primary registering wheel, keys arranged to operate said registering wheel, a second registering wheel operated by the primary wheel, a third registering wheel, operated by the second registering wheel, dials corresponding to each of the said registering wheels, and index fingers operated by said registering wheels respectively, and transversing said dials, substantially as set forth. 10th. A meter, having in combination a case, a primary registering wheel, a swinging crate to operate said wheel, keys to operate said crate, a second registering wheel, an eccentric upon the shaft of the primary wheel, a pawl operated by said eccentric actuating the second registering wheel, means to prevent a reverse movement of said registering wheels, dials corresponding to said registering wheels, and indexing fingers operated by said registering wheels and transversing said dials, substantially as set forth. 11th. A meter, having in combination a case, a primary registering wheel to register from one to one hundred, keys to operate said wheel, a second registering wheel operated by the primary wheel, to register from one to ten hundred inclusive, and a third registering wheel operated by the second registering wheel to register thousands, and dials to indicate said registration, substantially as set forth.

No. 45,428. Ventilating Fan. (Eventail ventilateur.)



John Duncan Gray Thompson, London, England, 26th February, 1894; 6 years.

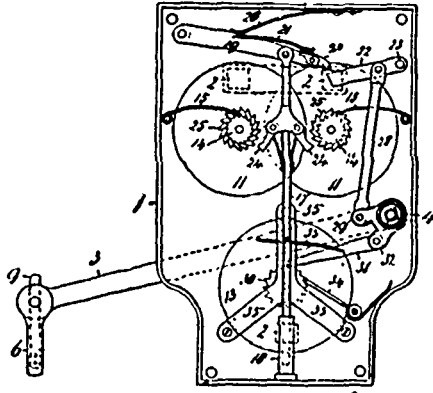
Claim.—1st. The constructing of the blades of fans in the improved manner herein described in reference to and shown at a, a¹, a¹¹, a² and a⁴, in the accompanying drawings. 2nd. The arrangement and combination of the parts a to a⁴, B, C, of the improved fans with their carrying frames D to D⁴, and adjustable fittings b to b¹¹, substantially as herein described in reference to and shown in the accompanying drawings. 3rd. The combination, with the improved fan of ball bearings c, between the rotating central axis C, and fixed frame c¹, substantially as shown in figure 3 of the accompanying drawings.

No. 45,429. Indicator for Detecting and Registering the Opening of Car Doors. (Indicateur et registre pour portes de chars.)

James R. Layton, Ottawa, Ontario, Canada, 26th February, 1894; 6 years.

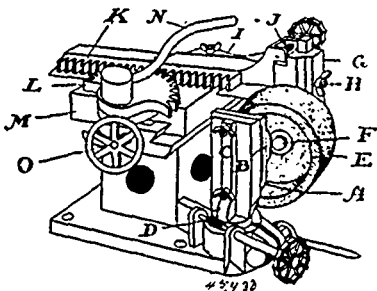
Claim.—1st. The combination, with a case or shell 1, provided with observing apertures 2, of a series of rotary dials each provided with a ratchet wheel, a lever or arm having one end adapted to connect with a car door and the other end connected to a rocking hub or follower journaled in said case, and connecting mechanism operating said ratchet wheels when said lever is moved, whereby the dials are rotated, as set forth, for the purpose described. 2nd. The combination, with a case or shell 1, having observing apertures 2, of rotating dials 11, 11, 13, having figures or letters visible through said apertures, said dials provided with ratchet wheels, a reciprocating rod 17, provided with spring pawls 24, to engage the ratchet wheel of said dials 11, 11, and arm 13, provided with a spring finger

20, and sustaining said rod, a spring 26, to depress said rod, and arm for rotating said dials 11, 11, a tripping lever or arm 22, engaging said finger, a hub or follower 4, journaled in said case and operating said tripping lever by a connecting rod 28, a push pawl



31, operating dial 13, at each operation of the other dials, and an arm or lever 3, connected to said follower or hub, and provided with a pin 6, or other suitable means for attachment to a car or other door, whereby the dials 11, 11, spin freely on their axes, and the dial 13, is moved one notch when said arm or lever 3, is moved or detached from a car door, as set forth, for the purpose described. 3rd. The combination with a shell or case 1, having observing apertures 2, therein, of the dials 11, 11, provided with a ratchet wheel or wheels at the back, and axially rotating in said case, a lever or arm 3, connected at one end to a hub or follower 4, journaled to rock within said case, a reciprocating rod 17, provided with a double pawl 24, to engage said ratchet wheels, said rod 17, hung to a supporting arm 19, pivoted within the case, a tripping lever 22, engaging said arm to reciprocate said rod 17, upwardly, and a rod 28, connecting said arm and hub, whereby said lever on arm 3, when moved, causes said rod 17 to be reciprocated and by gravitation set the dials in motion, said dials then freely rotating on their axes and stopping indefinitely, as and for the purpose set forth. 4th. The combination with a case or shell 11, having observing apertures 2, of two rotary dials having alphabetical letters inscribed thereon, and a third rotating dial inscribed with consecutive numerals, said three dials provided with a ratchet wheel or wheels at the back, the two dials alphabetically lettered, operated by a gravitating rod provided with a double pawl hung to a pivoted arm engaged by a tripping lever or arm to lift said reciprocating rod, and a lever or arm exterior to the case and connected to a hub or follower 4, journaled to rock within said case, and the figured dial operated by a pawl connected to a moving part of the mechanism operating the lettered dials, as set forth for the purpose described. 5th. The combination with a car 8, having a door 7, of an indicator or detector, comprising a case 1, having observing apertures and secured to the car near the door, said case enclosing a series of rotating dials, each having letters or figures registering with said apertures, and provided with a ratchet wheel at the back to effect rotation, a lever or arm exterior of the case, one end of said arm or lever connecting with the car door when closed and the other end of said lever or arm connecting with a hub or follower journaled to rock within said case, a tripping arm or lever operated by said hub and engaging an arm pivoted to the case internally, a reciprocating rod hung loosely to said arm and provided with a push pawl connected to a moving portion of the mechanism operating said rod, whereby all the dials are operated simultaneously, when the lever or arm is being detached from the door, to show change of combination of the exposed letters and figures on the dials, for the purpose set forth.

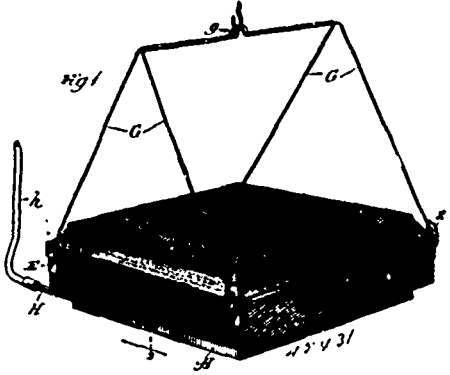
No. 45,430. Machine for Sharpening Clippers.
(Machine pour affûter les cisailles.)



David S. Henderson, Brantford, Ontario, Canada, 26th February, 1894; 6 years.
Claim.—1st. As an improved machine for sharpening clippers and adjustable plate to which the clipper is cemented, in combination

with a revolving emery wheel set so that the edge of its periphery shall act upon the surface of the clipper, substantially as and for the purpose specified. 2nd. A plate fixed to a post which is vertically and revolvably adjustable, an emery wheel fixed to a revolving spindle carried in a bearing box carried by an adjustable head on a slide, in combination with a quadrant geared to a rack on a slide and operated by a hand lever, substantially as and for the purpose specified.

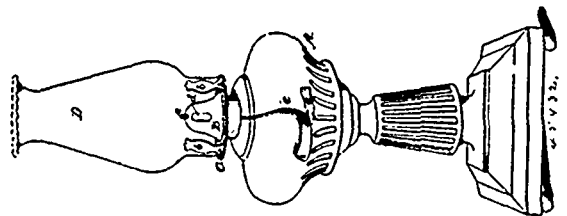
No. 45,431. Process, Apparatus and Compound for Disinfecting Sewers. (Procédé, appareil et composé pour désinfecter les égouts.)



William Martin, Chicago, Illinois, U.S.A., 26th February, 1894; 6 years.

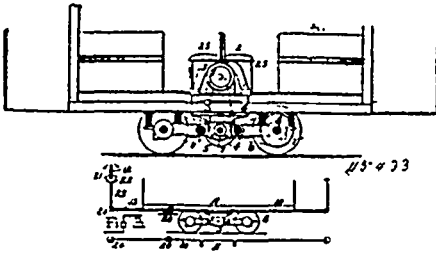
Claim.—1st. The herein described process of disinfecting sewers, which consists in heating chemicals in the sewer vault until they evolve a disinfecting gas which, mingling with the noxious gases, destroys any germ life therein contained, substantially as described. 2nd. The herein described process of disinfecting sewers, which consists in heating sulphur and chloride of lime in the sewer vault until they evolve a disinfecting gas which, mingling with the noxious gases, destroys any germ life therein contained, substantially as described. 3rd. In an apparatus for disinfecting purposes, the combination of a main pan having reticulated sides, lugs attached to the same, bales for suspending such pan, and a supplementary pan supported in and above the main pan and provided with a reticulated cover, substantially as described. 4th. In apparatus for disinfecting purposes, the combination of a main pan, having reticulated sides, lugs attached to the same, bales for suspending such pan, a supplementary pan supported in and above the main pan and provided with a reticulated cover, and a tube for furnishing a supply of oxygen to the main pan, substantially as described. 5th. The herein described compound for disinfecting, composed of a mixture of sulphur and chloride of lime, substantially as described. 6th. The herein described compound for disinfecting, composed of equal parts of sulphur and chloride of lime, substantially as described.

No. 45,432. Lamp Chimney and support therefor.
(Cheminée de lampe et support.)



Thomas Hitchcock Ambrose, London, England, 26th February, 1894; 6 years.

Claim.—1st. A lamp chimney provided at or near its lower end with a lighting aperture in its side, substantially as specified. 2nd. The combination, with a lamp burner, of a laterally perforated lamp chimney, the perforation in which is adapted to give ingress through the side of the chimney to a lighted match or lighter for inflaming the wick passing upwardly through the burner, substantially as described. 3rd. The combination, with a lamp burner, and lower chimney support of perforated or broken construction on its sides, forming claws or projections for holding the lamp chimney in place, of a lamp chimney provided with a lighting aperture in its side under cover and exposure of and by said claws or projections, substantially as and for the purposes herein set forth.

No. 45,433. Electric Car. (*Char électrique.*)

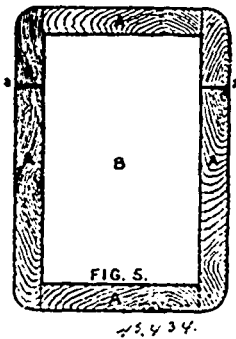
Ernest Egger, New York, Ferdinand August Wessel, Yonkers and Aaron Naumburg, New York, all in the State of New York, U.S.A., 27th February, 1894; 6 years.

Claim.—1st. In an electric car, the combination with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving-belt, and means for tightening and shifting the belt along the lengths of said pulleys. 2nd. In an electric car, the combination with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving-belt, and means for tightening and shifting the belt along the lengths of said pulleys, said means consisting of a slide movable along a guide bar, levers pivoted to said slide and carrying rollers which bear upon said belt, a spring connecting the levers, a handle and gearing connecting the handle to the slide. 3rd. In an electric car, the combination with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving-belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller, and means for operating, simultaneously, the said belt shifter and said circuit controller. 4th. In an electric car, the combination with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving-belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller, and means for operating, simultaneously, the said belt shifter and said circuit controller, said means consisting of a handle, on the platform of the car, a shaft extending under the car having cranks, and geared to said handle, pivoted rods connecting the cranks to said belt shifter and gearing connecting said shaft to said circuit controller. 5th. In an electric car, the combination with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller, and means for operating, simultaneously, the said belt shifter and the said circuit controller, said means consisting of a handle on the platform of the car, a shaft extending under the car having cranks, and geared to said handle, pivoted rods connecting said cranks to said belt shifter, and gearing connecting said shaft to said circuit controller, said circuit controller consisting of means for including more and more resistance in circuit with the field magnet of the motor, when said handle is turned further and further in either direction, and for reversing the motor when said handle is turned in opposite directions. 6th. In an electric car, the combination with an electric motor having conical pulley and with a car having a conical pulley arranged parallel to the first, of a belt connecting the pulleys, a belt shifter for the belt, a swinging handle on the platform of the car carrying a bevel gear, an upright shaft carrying a bevel gear which gears with the first gear, a horizontal shaft gearing with the upright shaft, cranks belonging to the horizontal shaft and having pivoted rods, a slide connecting said rods, and carrying said belt shifter and a guide bar upon which the slide is movable. 7th. In an electric car, the combination with an electric motor having a conical pulley and with a car having a conical pulley arranged parallel to the first, of a belt connecting the pulleys, a belt shifter for the belt, a swinging handle on the platform of the car carrying a bevel gear, an upright shaft carrying a bevel gear which gears with the first gear, a horizontal shaft, gearing with the upright shaft, cranks belonging to the horizontal shaft and having pivoted rods, a slide connecting said rods, and carrying said belt shifter and a guide bar upon which the slide is movable and a circuit controller in circuit with said motor and geared to said horizontal shaft, for the purpose, as set forth, of throwing more and more resistance into the circuit with the field magnet of the motor as the belt shifter is thrown further and further along the pulleys by the mere operation of said swinging handle. 8th. In an electric car, the combination, with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving belt and means for tightening and shifting the belt along the lengths of said pulleys and a loose pulley at the end of one of said conical pulleys. 9th. In an electric car, the combination, with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor, connected by a driving belt, and means for tightening and shifting the belt along the lengths of said pulleys, said means consisting of a slide movable along a guide bar, levers pivoted to said slide and carrying rollers which bear upon said belt, a spring connecting

the levers, a handle and gearing connecting the handle to the slide, and a loose pulley at the end of one of the said conical pulleys. 10th. In an electric car, the combination, with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller and means for operating simultaneously the said belt shifter and the said circuit controller, and a loose pulley at the end of one of the said conical pulleys. 11th. In an electric car, the combination, with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller and means for operating simultaneously the said belt shifter and the said circuit controller, said means consisting of a handle on the platform of the car, a shaft extending under the car, having cranks and geared to said handle, pivoted rods connecting said cranks to said belt shifter, and gearing connecting said shaft to said circuit controller, and a loose pulley at the end of one of said conical pulleys. 12th. In an electric car, the combination with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller and means for operating simultaneously the said belt shifter and the said circuit controller, said means consisting of a handle on the platform of the car, a shaft extending under the car having cranks, and geared to said handle, pivoted rods connecting said cranks to said belt shifter and gearing connecting said shaft to said circuit controller, said circuit controller consisting of means for including more and more resistance in circuit with the field magnet of the motor when said handle is turned further and further in either direction, and for reversing the motor when said handle is turned in opposite directions, and a loose pulley at the end of one of said conical pulleys. 13th. In an electric car, the combination, with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller and means for operating, simultaneously, the said belt shifter and the said circuit controller, said means consisting of a handle on the platform of the car, a shaft extending under the car, having cranks, and geared to said handle, pivoted rods connecting said cranks to said belt shifter and gearing connecting said shaft to said circuit controller, said circuit controller consisting of means for including more and more resistance in circuit with the field magnet of the motor, when said handle is turned further and further in either direction, and for reversing the motor when said handle is turned in opposite directions, a brake-magnet in circuit with said circuit controller, and with the field-magnet of said motor, and a loose pulley at the end of one of said conical pulleys. 14th. In an electric car, the combination with a constant speed electric motor and with the wheels of an electric car, of conical pulleys respectively therefor connected by a driving-belt, a belt shifter for tightening and shifting the belt along the lengths of said pulleys, a circuit controller, and means for operating, simultaneously, the said belt shifter and the said circuit controller, said means consisting of a handle, on the platform of the car, a shaft extending under the car having cranks, and geared to said handle, pivoted rods connecting said cranks to said belt shifter, and gearing connecting said shaft to said circuit controller, said circuit controller consisting of means for including more and more resistance in circuit with the field-magnet of the motor, when said handle is turned further and further in either direction, and for reversing the motor when said handle is turned in opposite directions, a brake-magnet in circuit with said circuit controller, and with the field-magnet of said motor. 15th. In an electric car, the combination with an electric motor having a conical pulley and with a car having a conical pulley, and a loose pulley arranged parallel to the first, of a belt connecting the pulleys, a belt shifter for the belt, a swinging handle on the platform of the car carrying a bevel gear, an upright shaft carrying a bevel gear, which gears with the first gear, a horizontal shaft, gearing with the upright shaft, cranks belonging to the horizontal shaft, and having pivoted rods, a slide connecting said rods, and carrying said belt shifter, and a guide-bar upon which the slide is movable. 16th. In an electric car, the combination with an electric motor having a conical pulley, and with a car having a conical pulley, and a loose pulley arranged parallel to the first, of a belt connecting the pulleys, a belt shifter for the belt, a swinging handle on the platform of the car carrying a bevel gear, which gears with the first gear, a horizontal shaft gearing with the upright shaft, cranks belonging to the horizontal shaft, and having pivoted rods, a slide connecting said rods, and carrying said belt shifter, and a guide-bar upon which the slide is movable and a circuit controller in circuit with said motor and geared to said horizontal shaft, for the purpose, as set forth of throwing more and more resistance into the circuit with the field magnet of the motor, as the belt shifter is thrown further and further along the pulleys by the mere operation of the swinging handle. 17th. In an electric car, the combination with pulleys, and a driving-belt connecting the same, of means for increasing the pressure of the belt upon the pulley in proportion to the tension of the taut portion of the belt. 18th. In an electric car, the combination with pulleys and a driving

belt connecting the same, of rollers pressing upon the belt on the opposite side from the pulleys, levers connecting said rollers and pivots for said levers, located in a plane which coincides with the axes of said pulleys, 19th. In an electric car, the combination with pulleys and with a driving-belt, connecting the same, of bent levers *d, e*, carrying rollers which bear upon the sides of the belt opposite to the pulleys and pivots for the levers, located between said pulleys, 20th. In an electric car, the combination with pulleys, and a driving belt connecting the same, of means for holding the belt in contact with a constant length of the periphery of said pulleys, whereby the pressure on said pulleys is increased, as the tension of the taut portion of the belt is increased. 21st. In an electric car, an armature consisting of the combination of a core having grooves, insulated plates fitting in said grooves, and conductors wound between the plates and on the core. 22nd. In an electric car, an armature consisting of the combination of a cylindrical core provided with grooves cut in the surface of the core, insulated plates fitting in said grooves and projecting beyond the ends of the core, and wires around the core and between said plates thereof, parallel to the axis of the core. 23rd. In an electric car, an armature consisting of the combination of a cylindrical core provided with grooves cut in the surface of the core, insulated plates fitting in said grooves and projecting beyond the ends of the core, and wires around the core and between said plates thereof, parallel to the axis of the core. 24th. In an electric car, an armature consisting of the combination of the cylinder core provided with grooves cut in the surface of the core, insulated plates fitting in said grooves, and wires around the core and between said plates thereof, parallel to the axis of the core. 25th. In an electric car, the combination with a car truck frame and with the axes of the car, of levers hinged to said frame and to said axes, and springs connecting both ends of the levers with the said frame. 26th. In an electric car, the combination with the frame of a car truck and with the car-wheel axle, of posts rigidly connected with and suspended from said frame, lugs projecting from said posts, and located substantially in the same horizontal plane as said axes, levers pivoted both upon said lugs and upon said axes, and springs at or near said axes and connecting the levers to said frame.

No. 45,434. Slate. (Ardoise.)



Godfrey Julien Robinson, Alfred Victor Ainsworth, Albert Arthur Ainsworth, John Harry Ainsworth, all of Chester, and John Hilton, Lancaster, all in England, 27th February, 1894; 6 years.

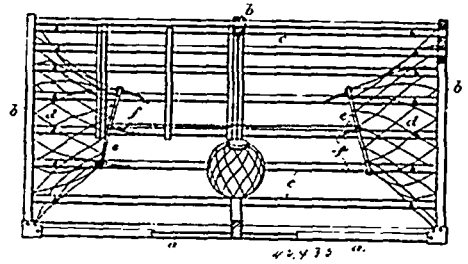
Claim.—1st. Providing the frames of school slates with a deep cut groove or slit to receive the edge of a drawing lesson or test card and hold it upright, substantially as described. 2nd. A school slate provided with a deep groove or slit in the frame into which the edge of the drawing lesson or test card is inserted to hold it in an upright position. 3rd. In a school slate, the combination with the slate *B*, of the frame *A* provided with a deep groove or slit *a* to receive the edge of the lesson or test card and hold it upright. 4th. In a school slate, the combination of the slate *B*, the frame *A* surrounding same, provided with a slit to receive the edge of the lesson card, and the lesson card *C* with its edge inserted in the slit *a*, and held upright thereby, substantially as described.

No. 45,435. Lobster Trap. (Parc à homard.)

Edwin Duncan Rankin and William Henry Dane, both of Yarmouth, Nova Scotia, Canada, 27th February, 1894; 6 years.

Claim.—1st. A lobster pot or trap provided with a luminous bait, as described. 2nd. A lobster pot or trap provided with a hermetically sealed luminous bait, as described. 3rd. A lobster pot or trap consisting of the open-ended crate or frame, netting connected therewith, centrally arranged rings connected with the inner edge of the netting, and inwardly extended fingers connected with the rings, as set forth. 4th. A lobster pot or trap consisting of the base bars forming a rectangular frame, the bow or arched bars connected at their ends with the base bars, and the longitudinal bars *c* which extend through the bowed or arched bars and are secured therein, as set forth. 5th. A lobster pot or trap consisting of the base bars

forming a rectangular frame, the bowed or arched bars, and the longitudinal dowel bars *c*, which at their ends are doweled in the



arched bars, as set forth. 6th. A lobster pot or trap consisting of a dowel-constructed crate, and metallic caps or knees *h* at the corners, as described.

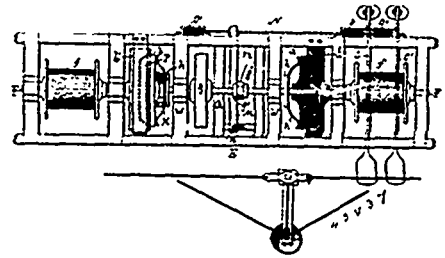
No. 45,436. Milk Coagulating Ferments. (Présure.)

The Nutrimet Company, assignee of Clarence Preston Eyre, all of Chicago, Illinois, U.S.A., 27th February, 1894; 6 years.

Claim. The described rennet product, being a milk-coagulating ferment, calculated in solid form practically free from pepsin, trypsin, etc., whereby the specific milk-coagulating action of the rennet alone is obtained from any given quantity, substantially as described.

No. 45,437. Hoisting Apparatus. (Monte-charges.)

(Monte-charges.)



Lorenzo M. Smith, Asbestos, and Allen P. Morrill, Nicolet Falls, both in Quebec, Canada, 27th February, 1894; 6 years.

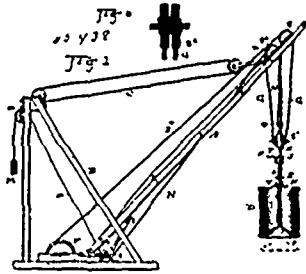
Claim.—1st. A winding mechanism for hoisting apparatus comprising a central shaft, a secondary independent spool-carrying shaft upon each side of said central shaft, and means whereby connection may be established between the central shaft and either of said side shafts, substantially as described. 2nd. A winding-drum for hoisting apparatus comprising a central shaft, a secondary spool-carrying shaft upon each side of said central shaft, means whereby said central shaft may be thrown into connection with either of said side shafts, projections upon said central shaft, a plate fitting upon the central shaft, and having no lateral movement with respect to the frame of the drum, and springs fastened at one part to the plate and at another bearing against the projections upon the shaft, substantially as described. 3rd. A hoisting apparatus comprising a derrick, a boom attached thereto, a winding-drum having a pulley thereon, connections between said drum and the boom for raising the same, a secondary drum frame, a central shaft in said frame, a pulley upon said central shaft, a belt connecting the pulley upon the winding-drum with the pulley upon the central shaft, a secondary spool-carrying pulley upon each side of the central shaft, a rope running from each side of said spools to opposite sides of the boom, a truncated cone pulley upon each end of the central shaft, a corresponding hollow-faced pulley upon each secondary shaft, shoulders upon said central shaft, a block fitting between said shoulders, said block being attached to a lever pivoted at one end to the frame of the drum, a rope attached to the other end of said lever, one end of the rope passing to the right to a lever *O*, and the other end passing to the left, then to a lever *O'*, a brake upon each of the secondary shafts, a plate fitting upon the central shaft, one near each end thereof, said plates being prevented from lateral movement with respect to the frame, and springs between said plates and the pulleys upon the central shaft, substantially as described.

No. 45,438. Bucket Hoisting and Tripping Apparatus. (Ascenseur et baille à bascule.)

William E. Ludlow, Cleveland, Ohio, U.S.A., 27th February, 1894; 6 years.

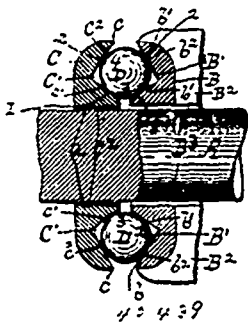
Claim.—1st. The body of the bucket and the bottom thereof and separate suspensory mechanisms for said parts, the mechanism supporting one of said parts constructed to slide on the mechanism supporting the other part, and separate cables for said mechanisms and parts, respectively, substantially as set forth. 2nd. The bucket body and mechanism supporting the body, having guides

provided with stops, the bucket body suspended from a frame sliding on said guides, and cables from which said parts are



separately suspended, substantially as set forth. 3rd. A bucket made in two parts, two different lines of mechanism supporting said parts, and one line constructed to slide on the other, a separate cable for each line of mechanism, and separate drums for said cables, substantially as set forth. 4th. A bucket body, and a supporting cable therefor and mechanism connecting the cable with said body, in combination with the bucket bottom, a frame from which the bottom is suspended, and having a sheave journaled therein and a cable about said sheave serving to carry said bottom, substantially as set forth. 5th. The bucket bottom and the cable and mechanism carrying the bottom, said mechanism having one end of the cable fixed thereto, and a sheave in said mechanism over which the said cable passes, in combination with the bucket body, and mechanism supporting said body, constructed to guide and limit the movements of the mechanism carrying the bottom, substantially as set forth. 6th. The two separate mechanisms for supporting the bucket, consisting of a pair of guides rigidly connected at their top and having the bucket body suspended from their ends, and a supporting cable connected with the said guides, in combination with the bottom of the bucket and suspensory frame therefor, having a sliding connection with the said guides, and a separate cable connected with its top and running over a sheave journaled in said frame, substantially as set forth. 7th. The bucket bottom and the suspensory mechanism therefor, having a frame with a sheave therein and link connections between said bottom and said frame, in combination with the bucket body, mechanism from which said body is suspended, having sliding connection with the said frame, and means to disconnect the bucket body and the bottom from their supports, substantially as set forth. 8th. The bucket body and the bucket bottom having separate lines of suspensory mechanism sliding on one another, and each line of mechanism constructed to release the part of the bucket suspended therefrom, whereby buckets can be exchanged in the operations of the apparatus, substantially as set forth.

No. 45,430. Ball Bearing. (Cousinet à boule.)

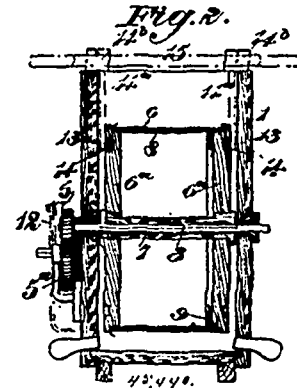


Henry La Casse, Rochester, New York, U.S.A., 27th February, 1894; 6 years.

Claim.—1st. The combination of the shaft A, the grooved section C fast on said shaft, the stationary grooved section B, and the balls D interposed between the sections C, B, and located in the grooves thereof, the points at which each ball contacts with the faces of the grooves in the sections lying in the face of an imaginary cone whose vertex is substantially at the centre of the shaft, said points of contact being arranged symmetrically with relation to the axis of the cone, and all of the points of contact on one side of said axis being in the section fast on the shaft and all of the points of contact on the opposite side of said axis being in the stationary section, substantially as set forth. 2nd. The combination of the shaft A, the grooved section C, fast on said shaft, the stationary grooved section B, one of said sections being adjustable toward the other, the balls D interposed between the sections C, B, and located in the grooves thereof, the point at which each ball contacts with the faces of the grooves in the sections lying in the face of an imaginary cone whose vertex is substantially at the centre of the shaft,

said points of contact being arranged symmetrically with relation to the axis of the cone, and all of the points of contact on one side of said axis being in the section fast on the shaft and all of the points of contact on the opposite side of said axis being in the stationary section, substantially as described. 3rd. The combination of the shaft A, the grooved section C, fast on said shaft, the stationary grooved section B having its face separated from the adjacent face of the section C, the balls D interposed between the sections and located in the grooves thereof, the points at which each ball contacts with the faces of the grooves in the sections lying in the face of an imaginary cone whose vertex is at the centre of the shaft, said points of contact being arranged symmetrically with relation to the axis of the cone, and all of the points of contact on one side of said axis being in the section fast on the shaft and all of the points of contact on the opposite side of said section being in the stationary section substantially as and for the purpose set forth.

No. 45,440. Churn. (Baratte.)



John Henry Hill Duncan, 39 Coleman St., London, England, 27th February, 1894; 6 years.

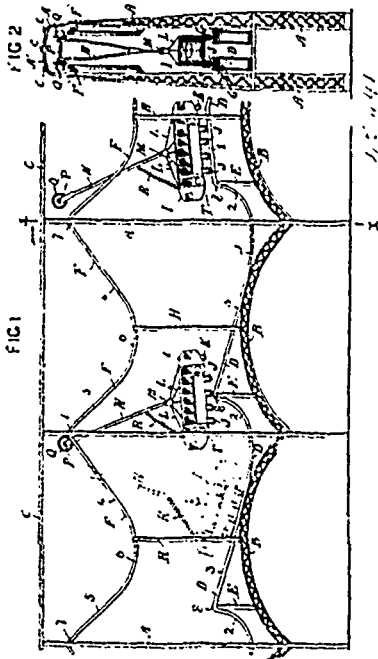
Claim.—1st. A centrifugal butter drying machine, having a perforated basket mounted to be rapidly rotated about a horizontal axis, substantially as herein described for the purpose specified. 2nd. In apparatus for use in the manufacture of butter, a portable centrifugal basket so constructed and arranged that it is adapted to be supported with its axis horizontal within a churning vessel in lieu of the rotary churning body ordinarily used in said vessel for churning purposes, and means for rapidly rotating said basket, substantially as herein described. 3rd. The combination with a churning and washing vessel of the kind herein described, a horizontal spindle adapted to support and rotate a removable rotary body with which it is normally fitted for churning and washing purposes, and gearing for rapidly rotating said body, of a portable centrifugal basket adapted to be supported within said vessel with its axis horizontal and in driving connection with said spindle, substantially as herein described for the purposes specified. 4th. A portable centrifugal basket for a butter drying machine formed with a perforated or reticulated periphery and adapted to be supported between the sides of a churning vessel, so that it can be rotated at a high speed about a horizontal axis, substantially as herein described. 5th. A portable centrifugal basket for a butter drying machine formed with a perforated or reticulated periphery, and adapted to be supported between the sides of a churning vessel, so that it can be rotated at a high speed about a horizontal axis, said basket being provided with a normally closed opening to admit of the insertion of a lining of woven material and of the butter granules to be dried, substantially as herein described. 6th. For a butter drying machine, a portable centrifugal basket having a perforated or reticulated periphery, and a detachable end wall, said basket being adapted at its sides to be supported between the sides of a churning vessel, substantially as herein described for the purpose specified. 7th. A portable centrifugal basket constructed, substantially as hereinbefore described with reference respectively to and shown in Figs. 1 to 7 inclusive and in Fig. 8, of the drawings annexed. 8th. Combined churning and butter drying machines constructed arranged and operating, substantially as described and shown in Fig. 9 of the drawings.

No. 45,441. Aerial Railway. (Chemin de fer arien.)

Hosea W. Libbey, Boston, Massachusetts, U.S.A., 27th February, 1894; 6 years.

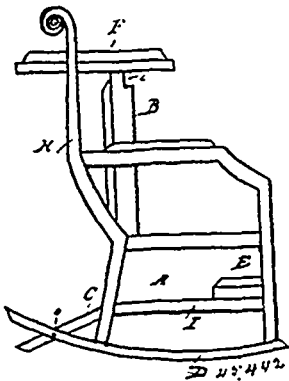
Claim.—1st. An automatic aerial railroad, having two sets of tracks, an upper and lower one of undulating form, said tracks being supported at a proper distance apart, substantially as set forth. 2nd. An automatic aerial railroad, consisting of a lower track D, having inclined surfaces 3, in combination with an upper track F, having inclined surfaces 4, and suitable supports, all arranged substantially as set forth. 3rd. An automatic aerial railroad, consisting of a track D, having stopping places 1, and inclined surfaces 3, up which the cars are caused to run, and an upper track F, having inclined surfaces 4, from which the cars are suspended

when they leave the lower incline 3, substantially as set forth. 4th. An automatic railroad, consisting of a lower track D, having stop-



ping places 1, and inclined surfaces 3, and an upper track having inclined surfaces 4, in combination with a car 1, having wedge-shaped ends, and fitted with wheels to adapt it to run up the inclines 3, and a rod or bar X, attached to the roof, the upper end of said rod embracing an axle P, to which wheels Q, are secured, and means for drawing said bar forward when the wheels Q, are off the incline 4, substantially as set forth.

No. 45,442. Chair. (Fauteuil.)



Catherine Schulte, Port Huron, Michigan, U.S.A., 27th February, 1894; 6 years.

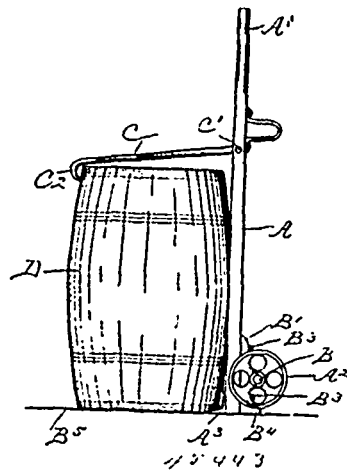
Claim.—In a convertible rocking chair, the combination of the frame, the hinged back adapted to swing to a horizontal position, the hinged bottom adapted to swing to a vertical position and support said back, the rockers, the braces pivoted thereto and means connecting said braces with the hinged bottom, whereby when said bottom is raised said braces are thrown into position to block the rockers, substantially as and for the purpose specified.

No. 45,443. Hand Truck. (Camion.)

Harlow E. Spaulding, Saratoga, New York, U.S.A., 27th February, 1894; 6 years.

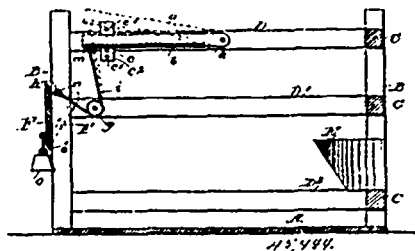
Claim. 1st. In a hand truck, the combination, with a body part, having at its forward end a transverse supporting base projecting downwardly in front of the wheels, of a grappling-hook secured to the body part, and a pair of spurs projecting upwardly from the body part, substantially as described. 2nd. In a hand truck, the combination, with the truck body and a grappling-hook secured

thereon, of fulcrum feet projecting downwardly from the body and forwardly of the wheels, and a pair of spurs projecting oppositely t



the feet, the plane of the feet and spurs being approximately at angles to the body, substantially as described.

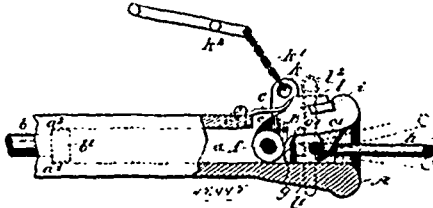
No. 45,444. Excrement Catcher for Cow Stalls. (Réceptacle d'excrément pour stalles de vaches.)



Joseph Ardron, Mandan, North Dakota, U.S.A., 28th February, 1894; 6 years.

Claim.—1st. In a cow governor, the combination with a frame, of an adjustable and securable presser piece at the top of the frame, substantially as described. 2nd. In a cow governor, the combination with a frame having a plurality of posts, and horizontal top pieces connecting the posts, of a rocking frame between the top pieces, and adapted for vibration or secured adjustment, substantially as described. 3rd. In a cow governor, the combination with a fixed frame, a rocking frame pivoted to vibrate within the fixed frame at the upper part thereof, and means to secure the rocking frame from vibration, of a weighted rocking chute plate between the rear posts of the fixed frame, and connections between the rocking frame and the chute plate, adapted to rock said plate when the rocking frame is lifted, substantially as described. 4th. In a cow governor, the combination with a fixed frame comprising corner posts and side beams thereon, of a rocking frame between the side beams, near the top of the fixed frame, a weighted rocking chute between the rear posts of the fixed frame, and flexible connections between the chute plate and rocking frame, adapted to rock the chute plate when the rocking frame is lifted, substantially as described. 5th. In a cow governor, the combination with a fixed frame comprising corner posts and spaced beams thereon at each side, a rocking frame pivoted between the side beams at the top of the frame, and means to support said frame or secure it from vibration, of a chute plate located within the fixed frame at its rear end, adjustable pivoting devices for said plate, which permit the plate to rock from its lower edge and to be removed at will, a weight at the lower edge of the plate, pulleys on the side beams of the frame, and detachable flexible connections between the rocking frame and chute plate engaging said pulleys, substantially as described. 6th. In a cow governor, the combination with a fixed frame comprising corner posts and side beams thereon, a rocking frame having a transverse presser piece and pivoted at the top of the frame between two of the side beams, and pins adapted to enter holes in the side beams and rocking frame to support or lock it, of a chute plate, boxes on the rear posts of the frame, pivots engaging said boxes and which are adapted to permit the removal of the plate from across the fixed frame, a pendent weight on the plate, pulleys on the side beams, and detachable flexible connections between the chute plate and rocking frame, substantially as described.

No. 45,445. Car Coupler. (Attelage de chars.)



Denis A. Mullaue, New Orleans, Louisiana, U.S.A., 28th February, 1894; 6 years.

Claim.—1st. In a car coupling the combination with a draw-head having a recess therein, of a hook catch located in said recess, a bolt for pivotally supporting said hook catch, a trunnion carried by said hook catch, and shoulders on the draw-head against which said trunnion is adapted to bear, substantially as set forth. 2nd. In a car coupling, the combination with a draw-head having a recess, of a hook catch, a trunnion carried by said hook catch, a shoulder on the draw-head adjacent to said trunnion, and a pivot bolt passing through said trunnion and draw-head, substantially as set forth. 3rd. In a car coupling, the combination with a draw-head having a recess therein, of a hook catch located in said recess, a trunnion carried by said hook catch, a shoulder on the draw-head adjacent to said trunnion, and a bolt passing through said trunnion and draw-head and adapted at one end to be passed through or be screwed into said draw-head, substantially as set forth. 4th. In a car coupling, the combination with a draw-head having a recess therein, of a pivoted hook catch in said recess, and lugs projecting from said hook catch and adapted to enter seats in the upper end of the draw-head, substantially as set forth. 5th. In a car coupling, the combination with a draw-head having a recess therein, of a hook catch, a trunnion carried by said hook catch, a shoulder on the draw-head adjacent to said trunnion, a pivot bolt passing through said trunnion and draw-head, and lugs projecting from said hook catch and adapted to enter seats or recesses in the draw-head, substantially as set forth. 6th. The combination with a draw-head, of a hook pivoted therein, said hook and floor of the draw-head being provided with holes for the reception of coupling pins, substantially as set forth. 7th. In a car coupling the combination with a draw-head having a recess therein, of a hook catch located in said recess and provided with a vertical perforation adapted to align with perforations in the draw-head for the reception of a coupling pin, and means for preventing undue strain on the connection of said hook catch with the draw-head, substantially as set forth. 8th. In a car coupling, the combination with a draw-head having a recess therein, of a hook catch pivotally supported in said recess, a seat for the reception of a link, in proximity to the rear end of said hook catch and below the axis thereof, and an inclined face extending from said seat to the bottom face of the hook catch in rear of the hook proper, substantially as set forth.

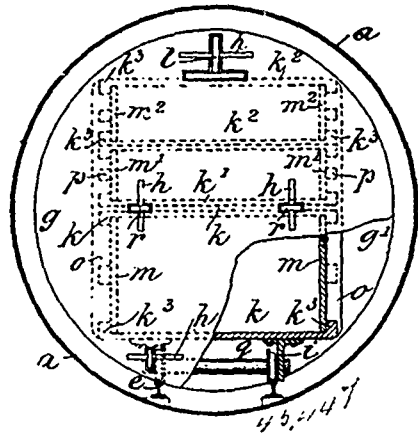
No. 45,446. Hame-Tug. (Mancelle.)



Julius C. Clausen, Hensall, Ontario, Canada, 28th February, 1894; 6 years.

Claim.—1st. A hame-tug, comprising an elongated skeleton frame having means for attachment to a hame and provided with cross-rods and bars, and a hook fastened to a trace and adapted to engage the cross-rods and bars, substantially as described. 2nd. A hame-tug, comprising a skeleton frame, having a strap pivoted to its front end for engagement with a hame, a series of cross-rods and cross-bars arranged in pairs on the frame, the cross-bars having notches on their inner sides, and a fastening hook secured to a trace and provided on its rear end with a tongue to engage the notches of the cross-bars, and on the outer side with a groove to engage the cross-rods, substantially as described. 3rd. A hame-tug, comprising a skeleton frame, having at its front end means for attaching it to a hame, a series of cross-bars and cross-rods arranged in pairs on the frame, the cross-bars, having on their inner sides notches with inclined walls, and a fastening hook attached to a trace, the hook having on its rear end a tongue to engage the inclined notches of the cross-bars, and an outwardly curved front end, and transversely grooved on its outer side to engage the cross rods, substantially as described.

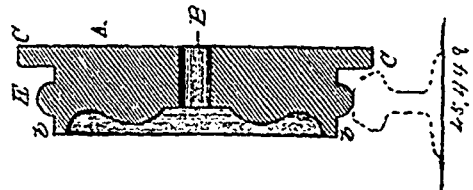
No. 45,447. Moulding Boxes for the Manufacture of Artificial Sandstone. (Boite de moulage pour la fabrication de pierre artificielle.)



Ernst A. R. Avenarius, Gauelgesheim, Rheinland, Germany, 28th February, 1894; 6 years.

Claim.—1st. A moulding box for the manufacture of sandstone, in which the sides $m, k, (m^1, k^1, m^2, k^2)$ can be detached from each other, substantially as and for the purpose set forth. 2nd. The application of rails l, i , which press together and retain securely in a certain position the two bottoms, substantially as set forth. 3rd. The application of external projections or lugs k^2 , for securing the sides to each other, substantially as set forth. 4th. The application of a number of moulding boxes which are closed by two end plates g, g^1 , substantially as set forth. 5th. The application of wheels mounted in corresponding projections or rails l , on the sides for the purpose of rendering the moulding box or boxes movable, substantially as set forth. 6th. The combination of a movable moulding box or boxes with a steam boiler a , furnished with rails, into which can be run a single or built up moulding box, substantially as and for the purpose set forth. 7th. The combination of a movable moulding box or boxes, with a steam boiler a , furnished with rails, in which can be run a single or built up moulding-box, the steam boiler a , being furnished with a movable end carried by a wheel, which facilitate its removal, substantially as set forth. 8th. A system of moulding boxes, built of readily exchangeable loose bottom, end and side plates $m^1, k, m^2, k^1, m^2, k^2$, which is held together by two strong circular plates g, g^1 , formed with slots and positioned opposite the ends of the steam cylinder a , and is strengthened by ties l, p , passing through the said circular plates and drawn tight by collars in such a manner that it can be run as one part into the steam cylinder a , adapted to be closed and filled with the material used for the manufacture of artificial stones, will resist the force of expansion of the lime slacking under the influence of the hot water and steam admitted for the purpose of producing solid and durable artificial stones.

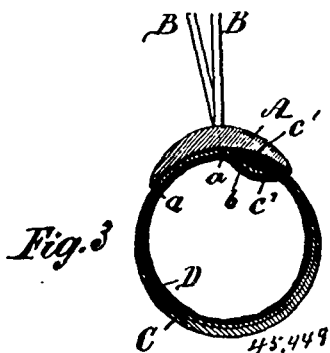
No. 45,448. Car Wheel. (Roue de chars.)



Henry Nenocles Zimmerman, La Salle, Illinois, U.S.A., 28th February, 1894; 6 years.

Claim.—1st. A car wheel consisting of the web, the inner annular flange and the peripheral bead or rim, substantially as described. 2nd. A car wheel consisting of the web, the inner annular flange having its outer face and edge formed with ridges or corrugations, and the peripheral bead intermediate of said flange and the outer face of the wheel, substantially as described.

No. 45,449. Pneumatic Tire.
(*Bandage pneumatique.*)



Francis George Gray, Ottawa, Ontario, Canada, 28th February, 1894; 6 years.

Claim.—1st. A pneumatic tire, consisting of the wheel rim A, cemented to a flexible tire C, having interlocking meeting edges c¹,

c², on opposite sides, and an inflating tube D, enclosed by said tire and holding said meeting edges interlocked when said tube is inflated, as set forth. 2nd. The combination with the wheel rim A, and inflating tube D, of the flexible tire C, having a longitudinal section cemented to said rim and provided with interlocking meeting edges c¹, c², as set forth. 3rd. The combination with the wheel rim A, of the flexible tire C, cemented thereto from a to a, thereby forming a flap or loose edge b, the opposite or meeting edges of said tire having interlocking beads or projections c¹, c², and the inflating tube D, enclosed by said tire and holding said meeting edges locked together, as set forth. 4th. The combination of the wheel rim A, having a thickened annular shoulder or projection a², the tire C, cemented along one edge to a portion of said rim, and having a bead or projection c², engaging said shoulder, and an inflating tube D, enclosed by said tire, as set forth. 5th. The combination of the rim A, having an annular groove a¹, the tire C, cemented to an annular section of said rim, said tire having an uncemented section b, provided with a bead or projection c², along the free edge of said section, and oppositely coinciding with said annular groove, said tire having oppositely projecting edges c², to engage said bead and groove, and an inflating tube D, enclosed by said tire, as set forth.

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

3251. JAMES G. CUTLER, 2nd five years of No. 30,689, from the 2nd day of February, 1894. Improvements in Letter Box Connections, 1st February, 1894.
3252. ROBERT PATRICK and JOSEPH WILSON, 3rd five years of No. 19,056, from the 4th day of April, 1894. Improvements in Machines for Pressing Cloth, 1st February, 1894.
3253. CHARLES RAYMOND, 2nd five years of No. 30,737, from 8th day of February, 1894. Improved Cabinet for Sewing Machines, 1st February, 1894.
3254. JAMES T. HALL, 2nd five years of No. 30,697, from the 4th day of February, 1894. Improvements on Cattle-Guards, 3rd February, 1894.
3255. GEORGE W. MILLER and HORACE G. HAINES, 3rd five years of No. 18,652, from the 8th day of February, 1894. Improvements in Railway Velocipedes, 3rd February, 1894.
3256. THOMAS J. SWEENEY, 2nd five years of No. 30,906, from the 8th day of March, 1894. Improvements in Steam Injectors, 3rd February, 1894.
3257. CARTER & CO. (assignees), 3rd five years of No. 18,624, from the 7th day of February, 1894. Improvements in Duplicate Memorandum or Sale Slips, 6th February, 1894.
3258. DORR B. BURNHAM, 2nd five years of No. 30,730, from the 7th day of February, 1894. Improvements in Steam Pumps, 7th February, 1894.
3259. OLIVIER DUROCHER, PIERRE H. CHABOT and TARTULIEN LEMAY, 3rd five years of No. 30,764, from the 8th day of February, 1894. Improvements in Ballot Slips, 8th February, 1894.
3260. GUSTAVE H. GRIMM, 2nd five years of No. 30,778, from the 14th day of February, 1894. Improvements in Evaporating Pans, 8th February, 1894.
3261. GEORGE F. RONALD, 2nd five years of No. 30,800, from the 15th day of February, 1894. Improvements in Book Covers, 8th February, 1894.
3262. EDWARD W. RATHBUN, 2nd five years of No. 33,547, from the 1st day of January, 1895. Improvements in Condensers for Condensing the Products of the Distillation of Wood, 8th February, 1894.
3263. EDWARD W. RATHBUN, 2nd five years of No. 33,583, from the 4th day of February, 1895. Improvements in Charcoal Kilns, 8th February, 1894.
3264. THE JAMES SMART MANUFACTURING COMPANY, (assignees), 2nd five years of No. 31,437, from the 25th day of May, 1894. Improvements in Casters, 10th February, 1894.
3265. SAMUEL G. EMERSON, 2nd five years of No. 30,784, from the 14th day of February, 1894. Improvements in Sectional locking Pulleys for hoisting apparatus, designed for handling Shirred Slings or Forks, 10th February, 1894.
3266. WILLIAM D. ELGER and WILLIAM MYERS, 2nd five years of No. 30,767, from the 12th day of February, 1894. Improvements in machines for Punching Checks, Drafts, etc., 12th February, 1894.
3267. THE BROWN BROTHERS, (assignees) 2nd five years of No. 30,834, from the 20th day of February, 1894. Improvements in Book Binding and Books, 13th February, 1894.
3268. DAVID M. MACPHERSON, 2nd five years of No. 30,796, from the 15th day of February, 1894. Improvements in Hand Trucks, 14th February, 1894.
3269. THE CANADIAN GENERAL ELECTRIC COMPANY, (assignees) 2nd five years of No. 30,802, from the 16th day of February, 1894. Dynamo Electric Machine or Motor, 15th February, 1894.
3270. THE CANADIAN GENERAL ELECTRIC COMPANY, (assignees), 2nd five years of No. 30,803, from the 16th day of February, 1894. Electro-Mechanical Movements, 15th February, 1894.
3271. THE CANADIAN GENERAL ELECTRIC COMPANY, (assignees) 2nd five years of No. 30,804, from the 16th day of February, 1894. Electric Meter, 15th February, 1894.
3272. JOHN MACKENZIE, 2nd five years of No. 30,794, from the 15th day of February, 1894. Improvements in Aerial Cable Railways, 15th February, 1894.
3273. WILLIAM KUHN, 2nd five years of No. 31,175, from the 20th day of April, 1894. Improvements relating to the treatment of Beer and other Fermentable and Effervescent Liquids, and to apparatus therefor, 16th February, 1894.
3274. C. F. CARDON, 2nd and 3rd five years of No. 37,226, from the 27th day of August, 1896. Improvements in Rotary Knitting Machines, 16th February, 1894.
3275. JOSEPH E. GEARHART, 2nd and 3rd six years of No. 41,829, from the 6th day of February, 1899. Improvements in Moulds for Casting Knitting Machine Cylinders, 16th February, 1894.
3276. JOSEPH E. GEARHART, 2nd and 3rd six years of No. 43,473, from the 5th day of July, 1899. Improvements in Circular Knitting Machines, 16th February, 1894.
3277. GEORGE B. FESSENDEN, 2nd five years of No. 31,331, from the 10th day of May, 1894. Improvements in Tell-Tale Apparatus or Time Detector, 17th February, 1894.
3278. DANIEL STEWART, 2nd five years of No. 30,816, from the 19th day of February, 1894. Improvements on Saw Sets for Cross Cut Saws, 17th February, 1894.
3279. LEWIS E. WATERMAN, 3rd five years of No. 18,774, from the 5th day of March, 1894. Improvement in Fountain Pens, 17th February, 1894.
3280. T. B. HERZOG, 3rd five years of No. 18,706, from the 18th day of February, 1894. Improvements in Telephone Signalling Apparatus, 17th February, 1894.
3281. JOHN RICHMOND, 2nd five years of No. 30,817, from the 19th day of February, 1894. Improvements in Attachments to the Cutting Bars of Reapers or Mowers, commonly known as lifters and used in cutting Peas or other Lodged Grain or Lodged Grass, 19th February, 1894.
3282. JOHN A. MARKLE, 2nd five years of No. 30,833, from the 20th day of February, 1894. Doubletree, 19th February, 1894.
3283. ELISHA GRAY, 2nd five years of No. 30,812, from the 19th day of February, 1894. Improvements on the Art of Telegraphy, 19th February, 1894.
3284. ELISHA GRAY, 2nd five years of No. 30,830, from the 20th day of February, 1894. Improvements on Telautographs, 19th February, 1894.

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| 3285. ALEXANDER McKAY and HENRY A. BELL, 2nd five years of No. 30,841, from the 20th day of February, 1894. Improvements in the Manufacture of Panel Doors, 19th February, 1894. | 3289. GEORGE B. DEWHURST, 2nd five years of No. 31,011, from the 30th day of March, 1894. Improvements in Apparatus for Marking folded piece goods with Trade Marks and other Marks and Devices, and for printing and colouring such Marks and Devices at a single operation, part of the said improvements being applicable to the rollers used in ordinary calico printing, 27th February, 1894. |
| 3286. FREDERICK CROMPTON, 2nd and 3rd five years of No. 32,359, from the 19th day of September, 1894. Improvements in Stiffening Blades, 20th February, 1894. | 3290. WALLACE DAWSON, 2nd and 3rd five years of No. 32,342, from the 19th day of September, 1894. Improved Medicinal Compound. 27th February, 1894. |
| 3287. GEORGE D. PEARSON, 2nd five years of No. 30,854, from the 27th day of February, 1894. Improvements in Chimney Cows, 26th February, 1894. | 3291. WILLIAM BELLINGHAM, 2nd five years of No. 30,853, from the 27th day of February, 1894. Improvements in Appliances for Filling Bags, 27th February, 1894. |
| 3288. THE INGERSOLL SERGEANT DRILL COMPANY (assignees), 2nd five years of No. 30,883, from the 7th day of March, 1894. Improvements in Rock Drills, 26th February, 1894. | |
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TRADE MARKS

Registered during the month of February, 1894, at the Department of Agriculture—
Copyright and Trade Mark Branch.

4861. REINHARDT & CO., of Toronto, Ont. Beer and other Beverages, 1st February, 1894.
4862. T. McAVITY & SONS, of St. John, N.B. Emery Wheels, 3rd February, 1894.
4863. EGBERT W. GILLET, of Chicago, Illinois, U.S.A. Yeast Cakes, 6th February, 1894.
4864. THE DRUMMOND TOBACCO CO., of St. Louis, Missouri, U.S.A. Plug Tobacco, 9th February, 1894.
4865. ABILAH R. PRATT, of Hastings, County of Barry, Michigan, U.S.A. A Cure for Catarrh, 10th February, 1894.
4866. GEORGE HENRY WILSON, of Toronto, Ont. Boating Serge, 10th February, 1894.
4867. JOHN HAWLEY, of Toronto, Ont. Jams and Jellies, 15th February, 1894.
4868. HERBERT W. FLEURY, of Aurora, County of York, Ont. Plough Shares, 15th February, 1894.
4869. TURNER, BEETON & CO., of Victoria, B.C. Canned Salmon, 16th February, 1894.
4870. HENDERSON & GLASS, of Rumbold Place, Liverpool, England. All kinds of tin plates, terne plates, Canada plates, black plates, tin and black taggers, hoops, wire, bars, rails, bolts, sheets or plates of iron, steel, lead, copper, zinc, tin, bismuth and antimony, galvanized iron and steel, 17th February, 1894.
4871. THE H. O. (Horaby's Oatmeal) CO., of New York, N. Y., U.S.A. Oatmeal and similar Oat Foods, 21st February, 1894.
4872. THE CANADIAN PACKING CO., of London, Ont. Bacon, Hams, Lard and Cheese, 21st February, 1894.
4873. ANTHONY WILLIAM ALLEN, of Toronto, Ont., trading under the name and style of the ALPINE DAIRY Co. Farm and Dairy Produce, 21st February, 1894.
4874. JOHN TAYLOR, of Toronto, Ont. Chemicals, Dye stuffs and Aniline Colours, 22nd February, 1894.
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Copyright and Trade Mark Branch.

7255. MILESTONE MOODS AND MEMORIES. Poems and Songs by Donald McCaig. Collingwood, Ont., 1st February, 1894.
7256. THE PUBLIC SCHOOL EUCLID AND ALGEBRA. Authorized by the Department of Education. Hunter, Rose & Co., Toronto, Ont., 1st February, 1894.
7257. MOORE'S CHEESE DAY BOOK AND LEDGER COMBINED. J. W. Moore, Peterborough, Ont., 1st February, 1894.
7258. ALL NIGHT POLKA, by Carrie Sanders. A. & S. Nordheimer, Toronto, Ont., 1st February, 1894.
7259. THE TORONTO CITY DIRECTORY, 1894. The Might Directory Co., Toronto, Ont., 2nd February, 1894.
7260. PLANT SCHEDULE—PTERIDOPHYTES, by D. P. Penhallow, Montreal, Que., 3rd February, 1894.
7261. INSURANCE PLANS OF ST. JOHN'S, HARBOUR GRACE AND CARBONAR, NEWFOUNDLAND. Charles Edward Goad, Montreal, Que., 3rd February, 1894.
7262. INSURANCE PLANS OF BRACEBRIDGE, DESERONTO, FRANKFORT, HUNTSVILLE, MARMORA, ODESSA, PICTON, RAT PORTAGE, TRENTON, WEBBWOOD and YARKER, ONTARIO; ANNAPOLIS, BRIDGETOWN, BRIDGEWATER, CANNINGTON, CHESTER, DIGBY, KENTVILLE, LIVERPOOL, LUNENBURG, SHELBURNE and WOLFFVILLE, NOVA SCOTIA; MOUNT STEWART and VICTORIA, PRINCE EDWARD ISLAND; BUCTOUCHE, MARYSVILLE and SACKVILLE, NEW BRUNSWICK. Charles Edward Goad, Montreal, Que., 3rd February, 1894.
7263. THE DESBRISAY ANALYTICAL LATIN METHOD, LESSON XI. Charles T. DesBrisay, Toronto, Ont., 5th February, 1894.
7264. THE VOLPENNA VERTICAL WRITING LESSONS. A. F. Newlands and R. H. Row, Kingston, Ont., 8th February, 1894.
7265. LINGER LONGER LOO. Song and Dance. Words by Willie Young. Music by Sidney Jones. The Anglo-Canadian Music Publishers' Association, Limited, London, England, 8th February, 1894.
7266. VALSE WISTERIA. For Piano, by Gwendolyn Roberts. Whaley, Royce & Co., Toronto, Ont., 8th February, 1894.
7267. THE WESTERN WORLD, Illustrated. Volume V., No. 47, January, 1894. Acton Burrows, Winnipeg, Man., 8th February, 1894.
7268. BELL TELEPHONE COMPANY OF CANADA, LIMITED, WESTERN EXCHANGES, SUBSCRIBERS' DIRECTORY, ONTARIO DEPARTMENT, DECEMBER, 1893. The Bell Telephone Company of Canada, Ltd., Montreal, Que., 8th February, 1894.
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